LIMITED PHASE II
ENVIRONMENTAL SITE ASSESSMENT REPORT

WATER LINE REPLACEMENT IN SPRING WOODS SOUTH AREA
HOUSTON, HARRIS COUNTY, TEXAS

WBS NO. S-000035-0181-3

PREPARED FOR:

VAN DEWIELE & VOGLER, INC.
ON BEHALF OF THE CITY OF HOUSTON

BY:

BERG ♦ OLIVER ASSOCIATES, INC.
HOUSTON, TEXAS

REPORT NO: 8496YPT12
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BERG ◆ OLIVER ASSOCIATES, INC.
Environmental Science, Engineering & Land Use Consultants
14701 St. Mary's Lane, Suite 400, Houston, Texas 77079
(281) 589-0898 fax: (281) 589-0007
Houston ◊ Austin ◊ www.bergoliver.com

April 10, 2013

Mr. Michael Martin, PE
Van DeWiele & Vogler, Inc.
2925 Briarpark Drive, Suite 275
Houston, Texas 770042-3720

RE: Limited Phase II Environmental Site Assessment (ESA) Report
Water Line Replacement in Spring Woods South Area
Houston, Harris County, Texas

BOA Project No.: 8496YPT12

Mr. Martin:

EXECUTIVE SUMMARY

Berg◆Oliver Associates, Inc. is pleased to present our report summarizing the findings and conclusions of the Limited Phase II ESA conducted on the Water Line Replacement in Spring Woods South project in Houston, Harris County, Texas. The following provides a brief summary of the Phase II ESA:

Twenty-four soil borings were completed to a depth of 16 feet at the eight sites of Recognized Environmental Conditions (RECs). Eighteen regulatory facilities and/or historical facilities with the potential to have environmental conditions were evaluated at the eight REC locations and are depicted on seven figures. 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).

Soil Laboratory Analytical

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

- Based on the sampling and laboratory analytical results, no special handling practices of the soil is required. Additionally, the laboratory analytical results indicate that the soil is not significantly hydrocarbon-affected and is not a concern to construction workers. Special handling practices of the soil also are not required. Some minor J value detections were reported. A "J" value is an estimated concentration between the method detection limit (MDL) and practical quantitation limit (PQL).

- Due to reported J values at all eight REC locations, please refer to the following recommendations

Groundwater

Groundwater was not encountered to 16 feet below ground surface.

Recommendations

Based on the laboratory analytical results and field observations of the Limited Phase II ESA for the Water Line Replacement in the Spring Woods South Area project in Harris County, Texas, the following is recommended:

- No special handling practices for soil and groundwater are required. Based on the soil laboratory analytical results, the soil was determined not to be a concern to construction workers. Confined space protocols still apply. No additional environmental assessment work is warranted. However, the following is noted:

  Timber Oak Drive

  - Minor J values were reported for select BTEX constituents in soil boring soil sample SB-2 at 4-6 feet below ground surface (bgs) and SB-5 at 12-14 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 2*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
    - The Station No. range is from 21+50 to 23+00.

  Haddington Drive

  - Minor J values were reported for select VOC constituents in soil boring soil samples SB-4 at 8-10 feet bgs, SB-5 at 4-6 feet and SB-6 at 14-16 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 3*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
    - The Station No. range is from 20+75 to 23+00.

  Warwana Drive

  - Minor J values were reported for select VOC constituents in soil boring soil samples SB-7 at 4-6 feet bgs, SB-8 at 8-10 feet and SB-9 at 14-16 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 3*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
    - The Station No. range is from 2+00 to 4+50.

Lazy Oaks Drive

- Minor J values were reported for select VOC constituents in soil boring soil samples SB-10 at 4-6 feet bgs, SB-11 at 8-10 feet and SB-12 at 14-16 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 4*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
    - The Station No. range is from 2+50 to 3+50.

Whiteside Lane

- Minor J values were reported for select VOC constituents in soil boring soil samples SB-13 at 12-14 feet bgs, SB-14 at 4-6 feet and SB-15 at 6-8 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 5*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
    - The Station No. range is from 1+75 to 3+50.

Hanka Drive

- Minor J values were reported for select BTEX constituents in soil boring soil samples SB-16 at 2-4 feet bgs, SB-17 at 12-14 feet and SB-18 at 6-8 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 5*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
    - The Station No. range is from 1+75 to 4+00.

Long Point Road at N. Gessner Road

- Minor J values were reported for select BTEX constituents in soil boring soil samples SB-19 at 4-6 feet bgs and SB-21 at 12-14 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 6*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
    - The Station No. range is from 2+50 to 4+50.

Long Point Road at Witte Road

- Minor J values were reported for select BTEX or VOC constituents in soil boring soil samples SB-23 at 4-6 feet bgs and SB-24 at 6-8 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location.

The constraints of the special pipe and gaskets are presented on *Figure 7*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.

The Station No. range is from 15+00 to Station End.

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

Water lines are proposed to be replaced in the Spring Woods South Area. The water line alignment project area is east of North Gessner Road. Location maps (Key Map©® and United States Geological Survey Topographic Map), FIGURE 1A and 1B identifies the project area and are presented in the Figures attachments of this report. The project area will typically be referred to as the "project alignment" in this document.

2.0 SCOPE-OF-WORK

Berg♦Oliver Associates, Inc. (BOA) was retained by Van DeWiele & Vogler, Inc. to evaluate whether the project alignment has been affected by several historical gasoline service stations, three active gasoline service stations and active and historical dry cleaners along the project alignment as follows:

Timber Oak Drive at N. Gessner Road

1. Former Diamond Shamrock No. 302 (1657 N. Gesssner Road)
2. Gessner Road Conoco/former Texaco (1653 N. Gessner Road)

Haddington Drive at N. Gessner Road

3. Jerry's Dry Cleaner & Laundry (1636 N. Gessner Road)
4. TxVCP facility/site (1649 N. Gessner Road)

Warwana Drive at N. Gessner Road

5. Former Fashion Cleaners (1614 N. Gessner Road)
6. Former U Pump It (1612 N. Gessner Road)

Lazy Oaks Drive at N. Gessner Road

7. Former Fashion Cleaners (1614 N. Gessner Road)
8. Former U Pump It (1612 N. Gessner Road)
9. Sunny's Food Store (1603 N. Gessner Road)
10. Former Gessner Exxon (1531 N. Gessner Road)

Whiteside Lane at N. Gessner Road

11. Supreme Cleaners (1431 N. Gessner Road)

Hanka Drive at N. Gessner Road

12. CJ Sounds Unlimited, Inc. (1418 N. Gessner Road)

Long Point Road at N. Gessner Road

13. Auto Brokers/former gas station (10090 Long Point Road)
14. National Floral Center/former gas station (1341 N. Gessner Road)
15. Spring Branch Rentals Memorial/former gas station (10102 Long Point Road)
16. Smile Mart/Chevron (10101 Long Point Road)

Long Point Road at Witte Road

17. Historical dry cleaner (10082 Long Point Road)
18. EZ Food Store (9941 Long Point Road)

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

- Conducted an investigation of facilities with the potential for environmental conditions as identified in a previously conducted Phase I ESA for the project alignment.
- Completed a Texas Excavation Safety (Texas 811) notification.
- Placing soil borings for soil sampling at equidistant locations 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 24 soil borings at the project alignment. Converting up to 8 soil borings to temporary well points for the collection of shallow groundwater, if groundwater encountered during drilling.
- Submitted soil samples for laboratory analyses of volatile organic compounds (VOCs) and/or methyl tert-butyl ether/benzene, toluene, ethyl-benzene and total xylenes (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 investigation report.

3.0 PHASE II ESA ACTIVITIES

On January 7 and 11, 2013, BOA completed twenty-four soil borings, SB-1 through SB-24 at select locations along the project alignment. The soil borings were completed to a depth of 16 feet below ground surface (bgs).

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 screening ranged from non-detect (0.0 ppm) to 3.7 ppm. Geologic stratigraphy (lithology) and subsurface characteristics were recorded by the field geologist. FIGURES 2 through 7 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 head space screening. The second soil sample was placed in two separate 4-ounce sterile glass containers equipped with a 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°C prior to submission to Xenco Laboratories in Houston, Texas for laboratory analyses. Chain-of-custody documentation accompanied the samples in accordance with standard quality assurance and quality control measures.

3.1 SOIL SAMPLING (1653 & 1657 N. Gessner Rd.)

Three soil borings, SB-1, SB-2 and SB-3 were completed in Timber Oak Drive east of the Gessner Road Conoco/former Texaco (1653 N. Gessner Road) and former Diamond Shamrock No. 302 (1657 N. Gessner Road). One facility was located at the northwest corner of N. Gessner Road and Timber Oak Drive and the other facility is situated on the southwest corner of N. Gessner Road and Timber Oak Drive.

PID readings were non-detect (0.0 ppm to 0.2 ppm). The soil sample interval exhibiting the greatest PID reading from each soil boring, if any, was submitted for laboratory analyses; and one soil sample was submitted from each soil boring. If no field screening detections were encountered in the soil cores from the soil boring, a default soil sample was submitted. FIGURE 2 provides site details and soil boring locations. Groundwater was not encountered to 16 feet below ground surface.

The Gessner Road Conoco/old Texaco gas station (1653 Gessner Road) is active (Fac. ID No. 18651). One 8,000 gallon gasoline, two 4,000 gallon gasoline steel USTs and one 500 gallon used oil FRP UST are active at the facility. The former Diamond Shamrock No. 302 (1657 N. Gessner Road) is no longer active (Fac. ID No. 40150). One 8,000 gallon gasoline and two 4,000 gallon gasoline steel have been permanently removed from the ground at the facility. The facility also has had an LPST event and was reported to have groundwater impact (LPST ID No. 105228).

3.2 SOIL SAMPLING (1614, 1636 & 1649 N. Gessner Rd.)

Three soil borings, SB-4, SB-5 and SB-6 were completed in Haddington Drive adjoining and north of Jerry's Dry Cleaner & Laundry (1636 N. Gessner Road) and to the east of a Texas Voluntary Cleanup Program (TxVCP) site (1649 N. Gessner Road). Three soil borings, SB-7, SB-8 and SB-9 were completed in Warwana Drive south of Jerry's Dry Cleaner & Laundry (1636 N. Gessner Road) and to the north of a historical dry cleaner, Fashion Cleaners (1614 N. Gessner Road). PID readings were non-detect (0.0 ppm to 0.2 ppm). FIGURE 3 provides site details and soil boring locations.

Jerry's Dry Cleaner & Laundry (1636 N. Gessner Road) conducts dry

cleaning on-site (RN104097688) based on the regulatory information provided for the facility. Fashion Cleaners (1614 N. Gessner Rd.) is a historical dry cleaner and regulatory information is not available, but is suspect for conducting dry cleaning on-site. The TxVCP facility/site, Gessner Shopping Center (1649 Gessner Road) was reported to have volatile organic compound (VOC)-affected groundwater. The facility has been issued a certificate of completion on March 10, 2010.

3.3 SOIL SAMPLING (1531, 1603 & 1612 N. Gessner Rd.)

Three soil borings, SB-10, SB-11 and SB-12 were completed in Lazy Oaks Drive south of a former gas station, former U Pump It (1612 N. Gessner Road) and to the east of an active gas station, Sunny Food Store (1614 N. Gessner Road) and another historic gas station, Gessner Exxon (1531 N. Gessner Road).

PID readings were non-detect (0.0 ppm to 0.1 ppm). Groundwater was not encountered to 16 feet bgs. FIGURE 4 provides site details and soil boring locations.

The former Gessner Exxon (1531 N. Gessner Road) and former U Pump It (1612 N. Gessner Road) are historical and regulatory information is not available. Sunny Food Store (1603 N. Gessner Road) is active (Facility ID No. 36600). Two 6,000 gallon gasoline steel underground storage tanks (USTs) have been permanently removed from the ground at the facility. One 20,000 gallon gasoline composite (steel with plastic laminate and fiberglass coating) is in-use at the facility.

3.4 SOIL SAMPLING (1418 & 1431 N. Gessner Rd.)

Three soil borings, SB-13, SB-14 and SB-15 were completed in Whiteside Lane east of Supreme Cleaners (1431 N. Gessner Road). Three soil borings, SB-16, SB-17 and SB-18 were completed in Hanka Drive adjoining and north of CJ Sounds Unlimited, Inc./former gas station (1418 N. Gessner Road).

PID readings ranged from non-detect (0.0 ppm) to 3.7 ppm in the soil boring soil cores. A minor hydrocarbon odor was encountered in soil boring SB-18 at 12 feet bgs. Groundwater was not encountered to 16 feet bgs. FIGURE 5 provides site details and soil boring locations.

CJ Sounds Unlimited, Inc. (1418 N. Gessner Road) was the location of a former gas station facility. The facility was reported to have groundwater impact (LPST ID No. 115860). The facility has since been issued a case closure concurrence by the TCEQ. Information concerning the USTs was not indicated. Supreme Cleaners (1431 North Gessner Road) has generated regulated waste (TCEQ IHW No. 51226).

3.5 SOIL SAMPLING (10070/90, 10101, 10102 Long Point & 1340 N. Gessner)

Three soil borings, SB-19, SB-20 and SB-21 were completed in Long Point Road south of Auto Brokers/former gas station (1431 N. Gessner Road), north of National Floral Centers/former gas station (1340 N. Gessner Road), east of Spring Branch Rentals Memorial/former petroleum storage tank facility (10102 Long Point Road) and active Smile Mart/Chevron gas station (10101 Long Point Road).

PID readings were non-detect (0.0 ppm) for all the soil boring soil cores. Default soil samples were collected and submitted for laboratory analyses. Groundwater was not encountered to 16 feet bgs. FIGURE 6 provides site details and soil boring locations.

A former gas station (10090 Long Point Road) was present at Auto Brokers (Fac. ID No. 53783). Four 6,000 gallon steel USTs have been permanently removed from the ground at the facility. The facility has had an LPST event was reported to have soil contamination only (LPST ID No. 98828).

Smile Mart/Chevron (10101 Long Point Road) is active (Fac. ID No. 11847). One 10,000 gallon gasoline composite and two 8,000 gallon gasoline composite USTs are active at the facility. One 5,000 gallon gasoline, one 2,000 gallon gasoline, one 4,000 gallon (contents not indicated) and one 550 gallon (contents not indicated) steel USTs have been permanently removed from the ground at the facility. One 550 gallon tank also has been abandoned-in-place (permanently-filled-in-place) at the facility.

Spring Branch Memorial Rentals (10102 Long Point Road) no longer is a petroleum storage tank facility (Fac. ID No. 6748). Two 6,000 gallon gasoline FRP and one 500 gallon used oil steel USTs have been permanently removed from the ground at the facility. The facility has had an LPST event and was reported to have groundwater impact (LPST ID No. 92321).

A gasoline station was formerly present at the property now used by National Floral Services (1340 Gessner Road). Four, unspecified steel USTs have been abandoned-in-place (filled-in-place) at the facility (Fac. ID No. 47885).

3.6 SOIL SAMPLING (9941 & 10082 Long Point Road)

Three soil borings, SB-22, SB-23 and SB-24 were completed in Long Point Road south of a former dry cleaner (10082 Long Point Road) and north/west of an active gas station, EZ Food Store (9941 Long Point Road). A convenience store is still present at the location, but the facility no longer markets fuel.

PID readings were non-detect (0.0 ppm) for the soil boring soil cores. Default soil samples were collected and submitted for laboratory analyses.

Groundwater was not encountered to 16 feet bgs. FIGURE 7 provides site details and soil boring locations.

EZ Food Store (9941 Long Point Road) is active (Fac. ID No. 46603). One 20,000 gallon compartmentalized steel UST is active at the facility. The facility has had an LPST event and groundwater impact was not indicated (LPST ID No. 111927). A historical dry cleaner (10082 Long Point) was noted in city directories and regulatory information is not available for the site, but is suspect for conducting dry cleaning on-site.

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.

VOCs and/or MTBE/BTEX 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 LABORATORY ANALYTICAL RESULTS

A total of twenty-five soil samples were collected from the twenty-four 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 SW846-8260. The following details the laboratory methodology:

5.1 LABORATORY ANALYTICAL METHODS

Methyl tert-butyl ether/benzene, toluene, ethylbenzene, and xylene (MTBE/BTEX) and/or VOCs 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 12-14 feet; SB-4 at 8-10 feet, SB-5 at 4-6 feet, SB-6 at 14-16 feet; SB-7 at 4-6 feet, SB-8 at 8-10 feet; SB-9 at 12-14 feet, SB-10 at 4-6 feet, SB-11 at 8-10 feet, SB-12 at 14-16 feet, SB-13 at 12-14 feet, SB-14 at 4-6 feet, SB-15 at 6-8 feet, SB-16 at 2-4 feet, SB-17 at 12-14 feet and SB-18 at 6-8 feet and SB-18 at 14-16 feet, SB-19 at 4-6 feet, SB-20 at 8-10 feet SB-21 at 12-14 feet, SB-22 at 9.5-10.5 feet, SB-23 at 4-6 feet and SB-24 at 6-8 feet bgs were submitted for TPH, VOCs or MTBE/BTEX analyses from the soil borings (24 total). 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.

5.2.1 LAB ANALYTICAL RESULTS (1653 & 1657 N. Gessner Rd.)

Three soil samples, SB-1 at 6-8 feet bgs, SB-2 at 4-6 feet bgs and SB-3 at 12-14 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 and ranged from <0.000995 mg/kg to <0.00113 mg/kg.
- Benzene concentrations were determined to be non-detect and ranged from <0.000469 mg/kg to <0.000530 mg/kg.
- Toluene concentrations were determined to range from non-detect (<0.000487 mg/kg) to a J value of 0.000978 mg/kg J.
- Ethyl-benzene concentrations were determined to be non-detect and ranged from <0.000365 mg/kg to <0.000412 mg/kg.
- Total xylene concentrations were determined to be non-detect and ranged from <0.000215 mg/kg to <0.000243 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 and ranged from <9.37 mg/kg to <10.6 mg/kg.
- TPH carbon ranges >C_{12}-C_{28} were determined to be non-detect and

ranged from<9.37 mg/kg to <10.6 mg/kg.

- TPH carbon ranges $>C_{28}$-C_{35} were determined to be non-detect and ranged from<9.37 mg/kg to <10.6 mg/kg..

TPH concentrations were determined to be non-detect at this REC location. MTBE/BTEX constituents were predominantly below the sample detection limit. A few J values were reported for toluene. A "J" value is an estimated concentration between the MDL and PQL. None of the soil laboratory analytical concentrations exceed the TCEQ $^{Tot}Soil_{Comb}$ or TCEQ $^{Tot}Soil_{Comb}$ PCLs and are not a health concern to construction workers. During construction activities air monitoring is not required. Special handling practices of the soil are not required. However, special pipe and gaskets will be required at the REC location. A copy of the laboratory analytical results is presented in APPENDIX B. Photographs of some of the field activities are presented in APPENDIX C.

5.2.2 LAB ANALYTICAL RESULTS (1614, 1636 & 1649 N. Gessner)

Six soil samples, SB-4 at 8-10 feet bgs, SB-5 at 4-6 feet bgs, SB-6 at 14-16 feet bgs, SB-7 at 4-6 feet bgs, SB-8 at 8-10 feet bgs and SB-9 at 12-14 feet bgs, were submitted and analyzed for this REC location. The following was reported for VOCs constituents for the soil samples:

- With the exception of minor J values reported for methylene chloride, benzene and toluene, all other VOC analytes were non-detect. Since methylene chloride is typically laboratory introduced (related to sample preparation), the detections are not a recognized environmental condition to the project and additional discussion is not warranted. Additionally, the benzene and toluene J values are not an environmental concern.

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 and ranged from <10.0 mg/kg to <10.8 mg/kg.
- TPH carbon ranges $>C_{12}$-C_{28} were determined to be non-detect and ranged from <10.0 mg/kg to <10.8 mg/kg.
- TPH carbon ranges $>C_{28}$-C_{35} were determined to be non-detect and ranged from <10.0 mg/kg to <10.8 mg/kg.

TPH concentrations were determined to be non-detect at this REC location. Generally, VOC constituents were not detected above the sample detection limit. A few J values were reported. A "J" value is an estimated concentration between the MDL and PQL. None of the soil laboratory analytical concentrations exceed the TCEQ $^{Tot}Soil_{Comb}$ or $^{Tot}Soil_{Comb}$ PCLs and are not a health concern to construction workers. During construction activities air monitoring is not required. Special handling practices of the soil are not required. However, special pipe and gaskets will be required at the REC location.

5.2.3 LAB ANALYTICAL RESULTS (1531, 1603 & 1612 N. Gessner)

Three soil samples, SB-10 at 4-6 feet bgs, SB-11 at 8-10 feet bgs and SB-12 at 14-16 feet bgs, were submitted and analyzed for this REC location. The following was reported for VOCs constituents for the soil samples:

- With the exception of minor J values reported for benzene and toluene, all other VOC analytes were non-detect. The J values are not a recognized environmental condition to the project and are not an environmental concern to construction workers.

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 and ranged from <9.79 mg/kg to <10.5 mg/kg.
- TPH carbon ranges >C_{12}-C_{28} were determined to be non-detect and ranged from <9.79 mg/kg to <10.5 mg/kg.
- TPH carbon ranges >C_{28}-C_{35} were determined to be non-detect and ranged from <9.79 mg/kg to <10.5 mg/kg.

TPH concentrations were determined to be non-detect at this REC location. Generally, VOC constituents were not detected above the sample detection limit with the exception of the above noted analytes. A few J values were reported. A "J" value is an estimated concentration between the MDL and PQL. None of the soil laboratory analytical concentrations exceed the TCEQ $^{Tot}Soil_{Comb}$ or $^{Tot}Soil_{Comb}$ PCLs and are not a health concern to construction workers. During construction activities air monitoring is not required. Special handling practices of the soil are not required. However, special pipe and gaskets will be required at the REC location.

5.2.4 LAB ANALYTICAL RESULTS (1418 & 1431 N. Gessner)

Six soil samples, SB-13 at 12-14 feet bgs, SB-14 at 4-6 feet bgs, SB-15 at 6-8 feet bgs, SB-16 at 2-4 feet bgs, SB-17 at 12-14 feet bgs and SB-18 at 6-8 feet bgs and SB-18 at 14-16 feet bgs, were submitted and analyzed for this area. The following was reported for VOCs or MTBE/BTEX constituents for the soil samples:

- With the exception of minor J values reported for benzene and toluene, all other VOC and/or MTBE/BTEX analytes were non-detect. The J values are not a recognized environmental condition to the project and are not an environmental concern to construction workers.

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 and ranged from <9.5 mg/kg to <11.0 mg/kg.
- TPH carbon ranges >C_{12}-C_{28} were determined to be non-detect and

ranged from<9.5 mg/kg to <11.0 mg/kg.

- TPH carbon ranges >C_{28}-C_{35} were determined to be non-detect and ranged from <9.5 mg/kg to <11.0 mg/kg.

TPH concentrations were determined to be non-detect at this REC location. Generally, VOC or MTBE/BTEX constituents were not detected above the sample detection limit with the exception of the above noted analytes. A few J values were reported. A "J" value is an estimated concentration between the MDL and PQL. None of the soil laboratory analytical concentrations exceed the TCEQ $^{Tot}Soil_{Comb}$ or $^{Tot}Soil_{Comb}$ PCLs and are not a health concern to construction workers. During construction activities air monitoring is not required. Special handling practices of the soil are not required. However, special pipe and gaskets will be required at the REC location.

5.2.5 LAB ANALYTICAL RESULTS (N. Gessner at Long Point)

Three soil samples, SB-19 at 4-6 feet bgs, SB-20 at 8-10 feet bgs and SB-21 at 12-14 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 and ranged from <0.00108 mg/kg to <0.00110 mg/kg.
- Benzene concentrations were determined to range from non-detect (<0.000510 mg/kg) to a J value of 0.00151 mg/kg J.
- Toluene concentrations were determined to be non-detect and ranged from <0.000480 mg/kg to <0.000493 mg/kg.
- Ethyl-benzene concentrations were determined to be non-detect and ranged from <0.000396 mg/kg to <0.000403 mg/kg.
- Total xylene concentrations were determined to be non-detect and ranged from <0.000233 mg/kg to <0.000237 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 and ranged from <10.2 mg/kg to <10.4 mg/kg.
- TPH carbon ranges >C_{12}-C_{28} were determined to be non-detect and ranged from <10.2 mg/kg to <10.4 mg/kg.
- TPH carbon ranges >C_{28}-C_{35} were determined to be non-detect and ranged from <10.2 mg/kg to <10.4 mg/kg.

TPH concentrations were determined to be non-detect at this REC location. Generally, MTBE/BTEX constituents were not detected above the sample detection limit with the exception of benzene. A few J values were reported. A "J" value is an estimated concentration between the MDL and PQL. None of the soil laboratory analytical concentrations exceed the TCEQ $^{Tot}Soil_{Comb}$ or $^{Tot}Soil_{Comb}$ PCLs and are not a health concern to construction workers. During

construction activities air monitoring is not required. Special handling practices of the soil are not required. However, special pipe and gaskets will be required at the REC location.

5.2.6 LAB ANALYTICAL RESULTS (9941 & 10082 Long Point)

Three soil samples, SB-22 at 9.5-10.5 feet bgs, SB-23 at 4-6 feet bgs and SB-24 at 6-8 feet bgs, were submitted and analyzed for this REC location. The following was reported for VOCs or MTBE/BTEX constituents for the soil samples:

- With the exception of minor J values reported for benzene and toluene, all other VOC and/or MTBE/BTEX analytes were non-detect. The J values are not a recognized environmental condition to the project and are not an environmental concern to construction workers.

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 and ranged from <4.8 mg/kg to <5.3 mg/kg.
- TPH carbon ranges >C_{12}-C_{28} were determined to be non-detect and ranged from <4.8 mg/kg to <5.3 mg/kg.
- TPH carbon ranges >C_{28}-C_{35} were determined to be non-detect and ranged from <4.8 mg/kg to <5.3 mg/kg.

TPH concentrations were determined to be non-detect at this REC location. Generally, VOC or MTBE/BTEX constituents were not detected above the sample detection limit with the exception of the above noted analytes. A few J values were reported. A "J" value is an estimated concentration between the MDL and PQL. None of the soil laboratory analytical concentrations exceed the TCEQ $^{Tot}Soil_{Comb}$ or $^{Tot}Soil_{Comb}$ PCLs and are not a health concern to construction workers. During construction activities air monitoring is not required. Special handling practices of the soil are not required. However, special pipe and gaskets will be required at the REC location.

6.0 AIR MONITORING/WASTE MANAGEMENT PRACTICES

Based on the results of the Phase II ESA, air monitoring is not warranted at these areas of the project. Confined space protocol still applies.

No "*special handling practices*" of the soil and groundwater are required for the investigated areas.

7.0 INVESTIGATIVE DERIVED WASTE

One composite soil sample of investigative derived waste (IDW), was collected from the contents of the 55-gallon drum of soil cores generated from the sampling activities. The composite soil sample was analyzed for VOCs and TPH. Based on the

laboratory analytical results, the soil will be disposed of as general waste. A copy of the laboratory analytical results is presented in APPENDIX B.

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 July 28, 2012. 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 Analytical

- Based on the sampling and laboratory analytical results, no special handling practices of the soil is required. Additionally, the laboratory analytical results indicate that the soil is not significantly hydrocarbon-affected and is not a concern to construction workers. Special handling practices of the soil also are not required. Some minor J value detections were reported. A "J" value is an estimated concentration between the method detection limit (MDL) and practical quantitation limit (PQL).
- Due to reported J values at all eight REC locations, please refer to the following recommendations

Groundwater Analytical

Groundwater was not encountered to 16 feet bgs.

9.0 RECOMMENDATIONS

Based on the laboratory analytical results and field observations of the Limited Phase II Environmental Site Assessment for the Water Line Replacement in Spring Woods South Area project in Harris County, Texas, the following is noted:

- No special handling practices for soil and groundwater are required. Based on the soil laboratory analytical results, the soil was determined not to be a concern to construction workers. Confined space protocols still apply. No additional environmental assessment work is warranted. However, the following is noted:

  Timber Oak Drive

  - Minor J values were reported for select BTEX constituents in soil boring soil sample SB-2 at 4-6 feet below ground surface (bgs) and SB-5 at 12-14 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 2*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.

- The Station No. range is from 21+50 to 23+00.

Haddington Drive

- Minor J values were reported for select VOC constituents in soil boring soil samples SB-4 at 8-10 feet bgs, SB-5 at 4-6 feet and SB-6 at 14-16 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 3*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
  - The Station No. range is from 20+75 to 23+00.

Warwana Drive

- Minor J values were reported for select VOC constituents in soil boring soil samples SB-7 at 4-6 feet bgs, SB-8 at 8-10 feet and SB-9 at 14-16 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 3*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
  - The Station No. range is from 2+00 to 4+50.

Lazy Oaks Drive

- Minor J values were reported for select VOC constituents in soil boring soil samples SB-10 at 4-6 feet bgs, SB-11 at 8-10 feet and SB-12 at 14-16 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 4*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
  - The Station No. range is from 2+50 to 3+50.

Whiteside Lane

- Minor J values were reported for select VOC constituents in soil boring soil samples SB-13 at 12-14 feet bgs, SB-14 at 4-6 feet and SB-15 at 6-8 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 5*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.
  - The Station No. range is from 1+75 to 3+50.

Hanka Drive

- Minor J values were reported for select BTEX constituents in soil boring soil samples SB-16 at 2-4 feet bgs, SB-17 at 12-14 feet and SB-18 at 6-8

feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 5*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.

- The Station No. range is from 1+75 to 4+00.

Long Point Road at N. Gessner Road

- Minor J values were reported for select BTEX constituents in soil boring soil samples SB-19 at 4-6 feet bgs and SB-21 at 12-14 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 6*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.

  - The Station No. range is from 2+50 to 4+50.

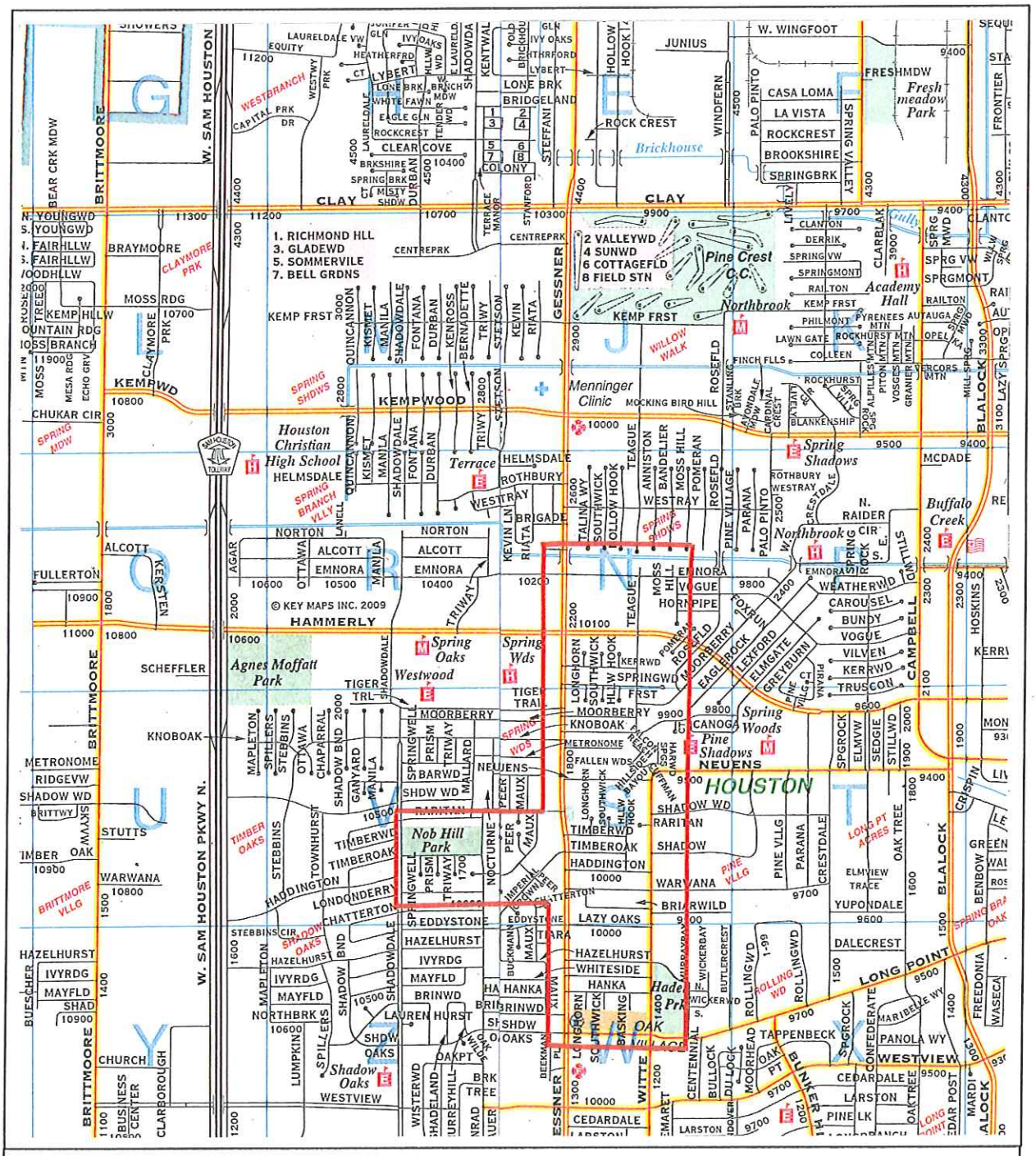
Long Point Road at Witte Road

- Minor J values were reported for select BTEX or VOC constituents in soil boring soil samples SB-23 at 4-6 feet bgs and SB-24 at 6-8 feet bgs. Based on the city of Houston Guide Specification 02105, Section 1.4-B, solvent resistant piper and gaskets will be required at the REC location. The constraints of the special pipe and gaskets are presented on *Figure 7*. The area is identified as a Potentially Petroleum Contaminated Area-Special Pipe and Gaskets only.

The Station No. range is from 15+00 to Station End.

FIGURES

FIGURE 1A



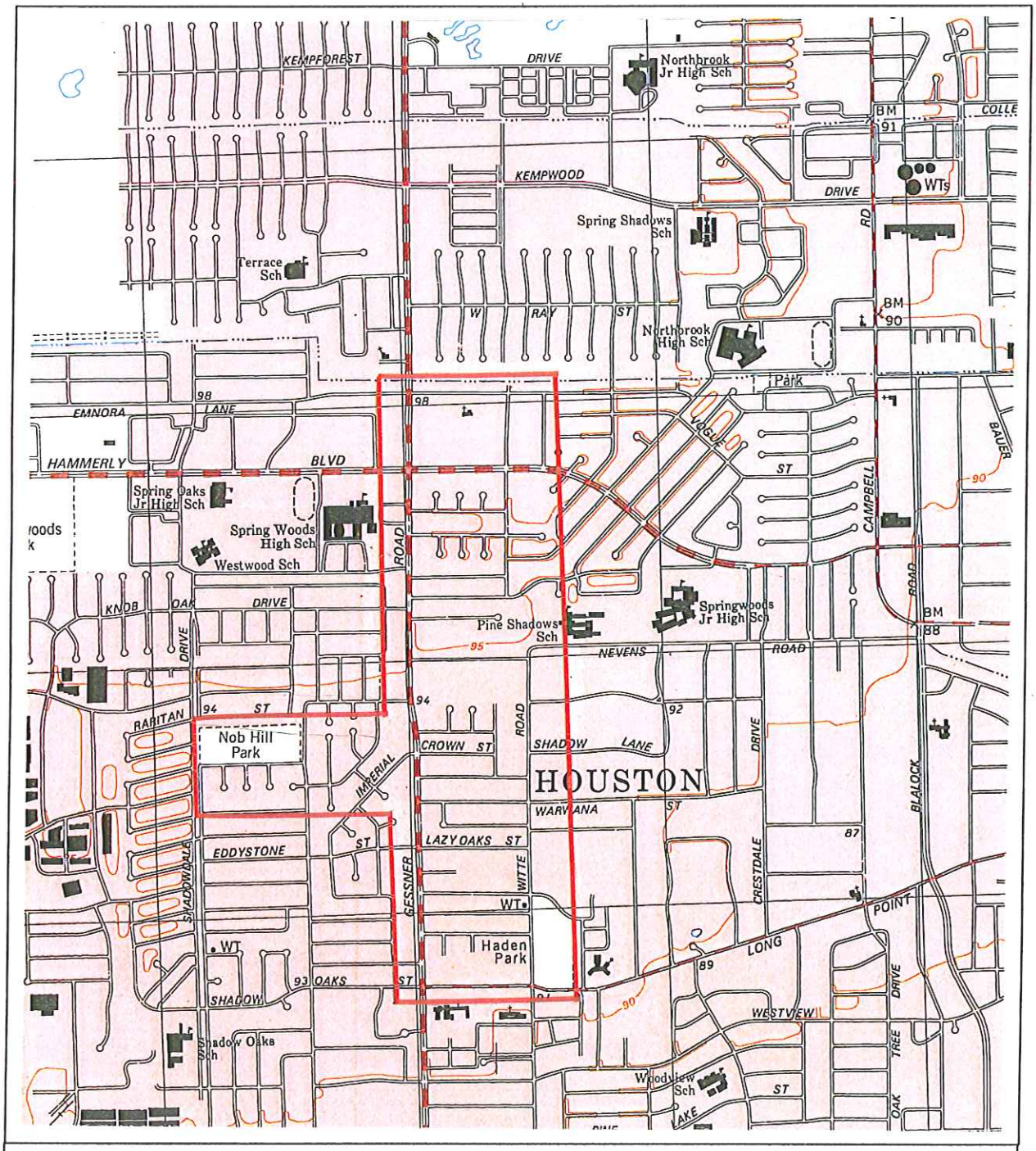
HARRIS COUNTY KEY MAP

PAGE 449 AND 450

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

BERG-OLIVER ASSOCIATES, INC.

FIGURE 1B



U.S. DEPARTMENT OF INTERIOR GEOLOGICAL SURVEY

HEDWIG VILLAGE QUADRANGLE
HARRIS COUNTY, TEXAS

7.5 MINUTE SERIES (TOPOGRAPHIC)

BERG-OLIVER ASSOCIATES, INC.

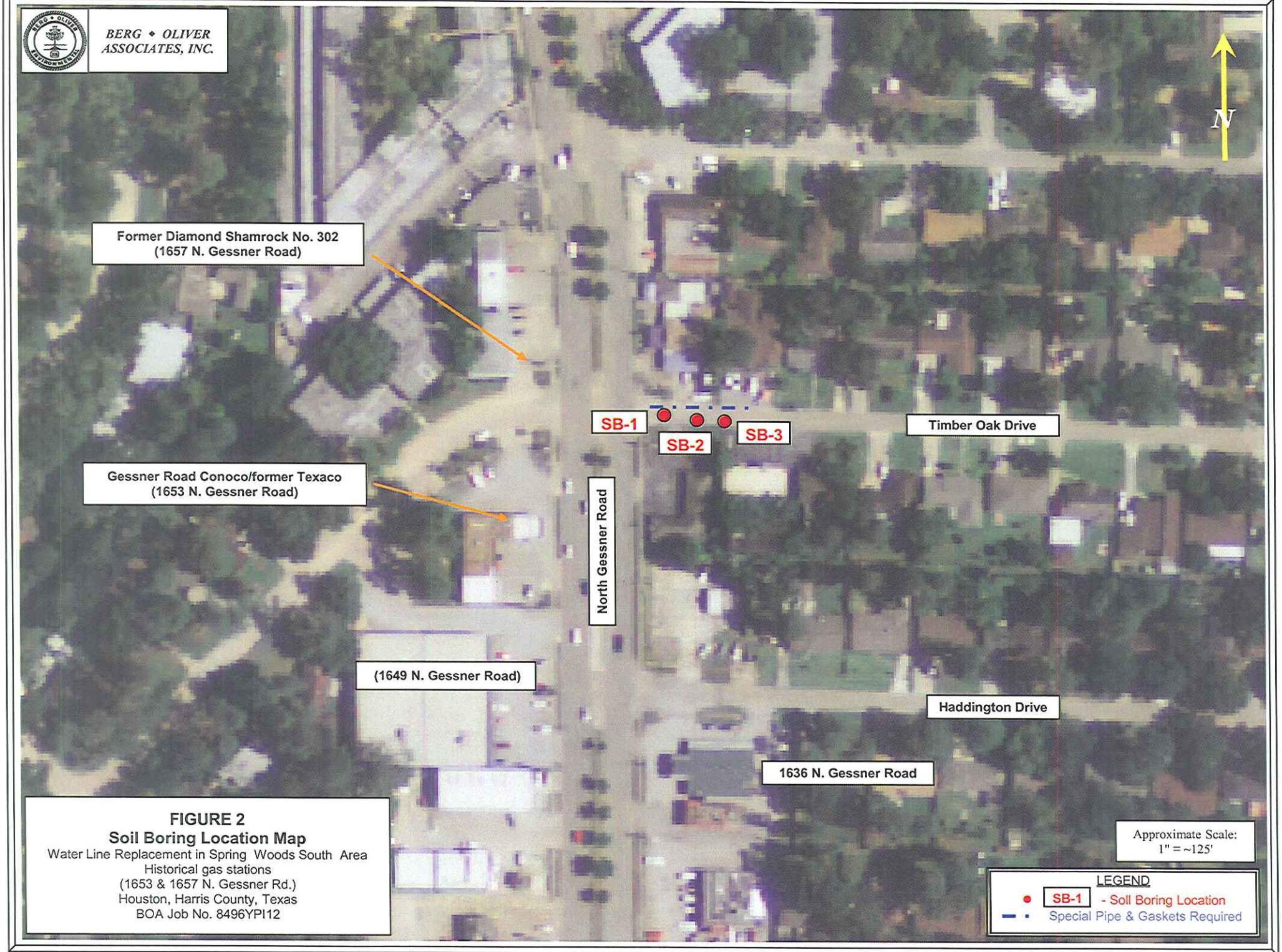


FIGURE 2
Soil Boring Location Map
Water Line Replacement in Spring Woods South Area
Historical gas stations
(1653 & 1657 N. Gessner Rd.)
Houston, Harris County, Texas
BOA Job No. 8496YPI12

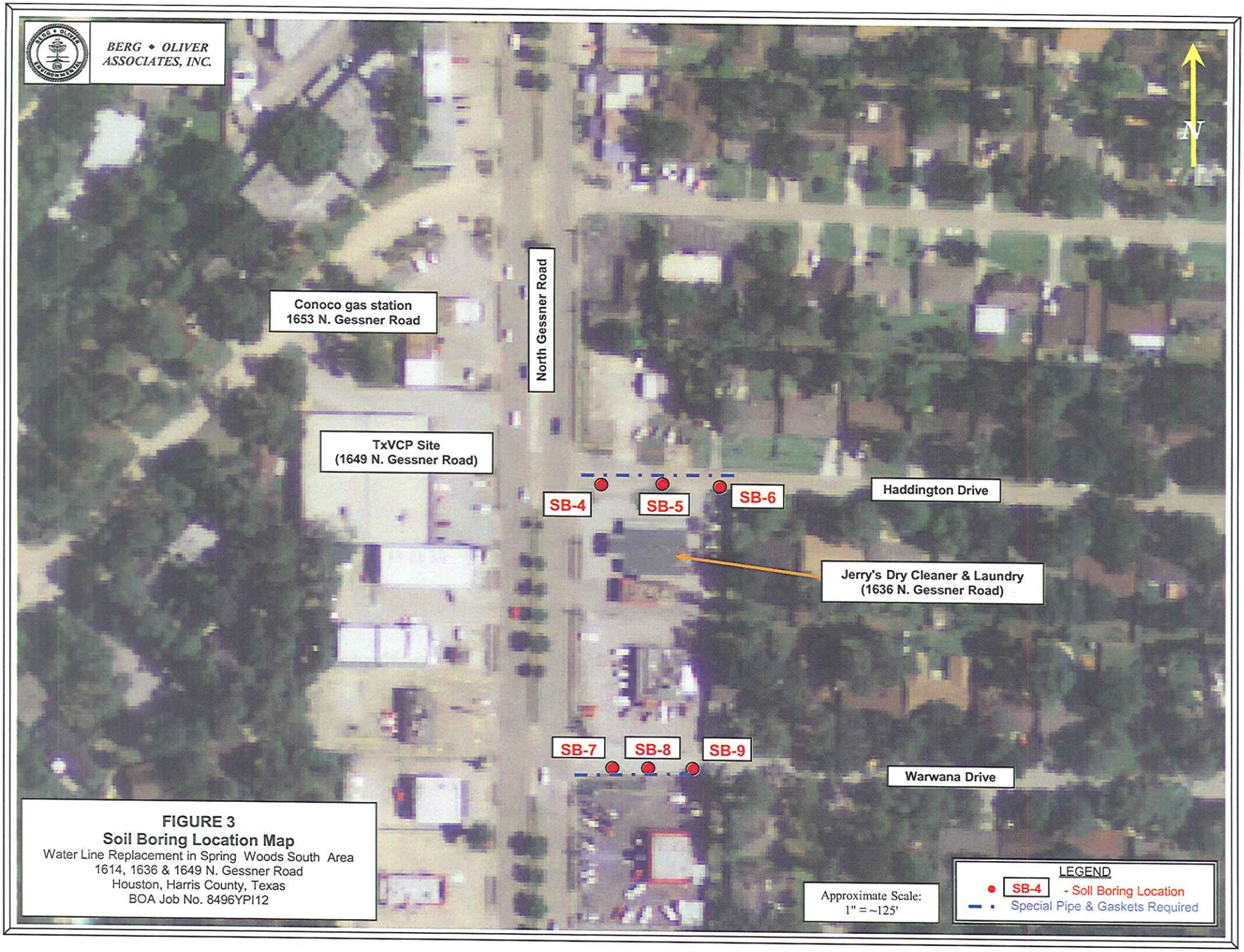


FIGURE 3
Soil Boring Location Map
Water Line Replacement in Spring Woods South Area
1614, 1636 & 1649 N. Gessner Road
Houston, Harris County, Texas
BOA Job No. 8496YPI12

FIGURE 4
Soil Boring Location Map
Water Line Replacement in Spring Woods South Area
1531, 1603, 1612 & 1614 N. Gessner Road
Houston, Harris County, Texas
BOA Job No. 8496YPI12

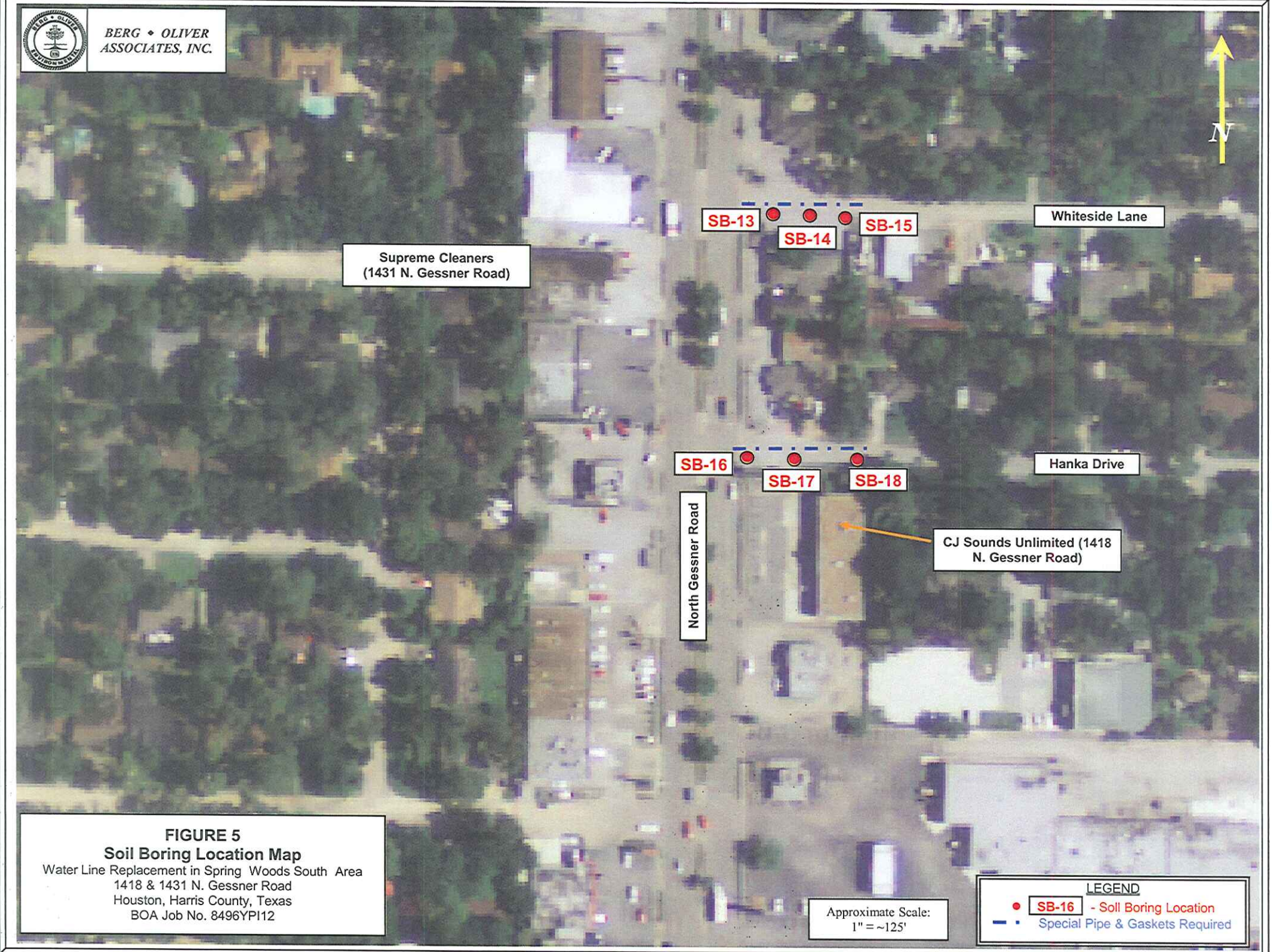


FIGURE 5
Soil Boring Location Map
Water Line Replacement in Spring Woods South Area
1418 & 1431 N. Gessner Road
Houston, Harris County, Texas
BOA Job No. 8496YPI12

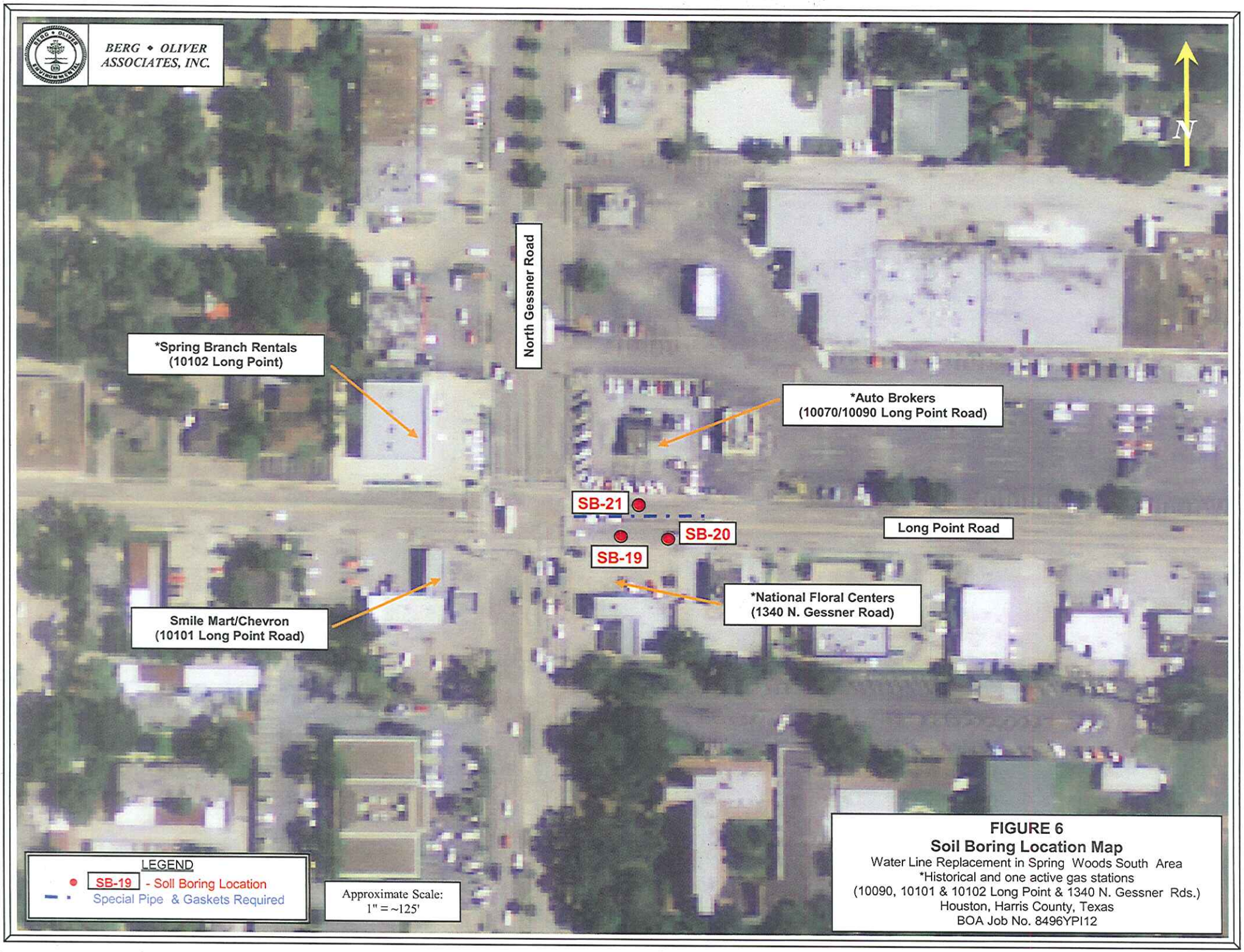


FIGURE 6
Soil Boring Location Map
Water Line Replacement in Spring Woods South Area
*Historical and one active gas stations
(10090, 10101 & 10102 Long Point & 1340 N. Gessner Rds.)
Houston, Harris County, Texas
BOA Job No. 8496YPI12

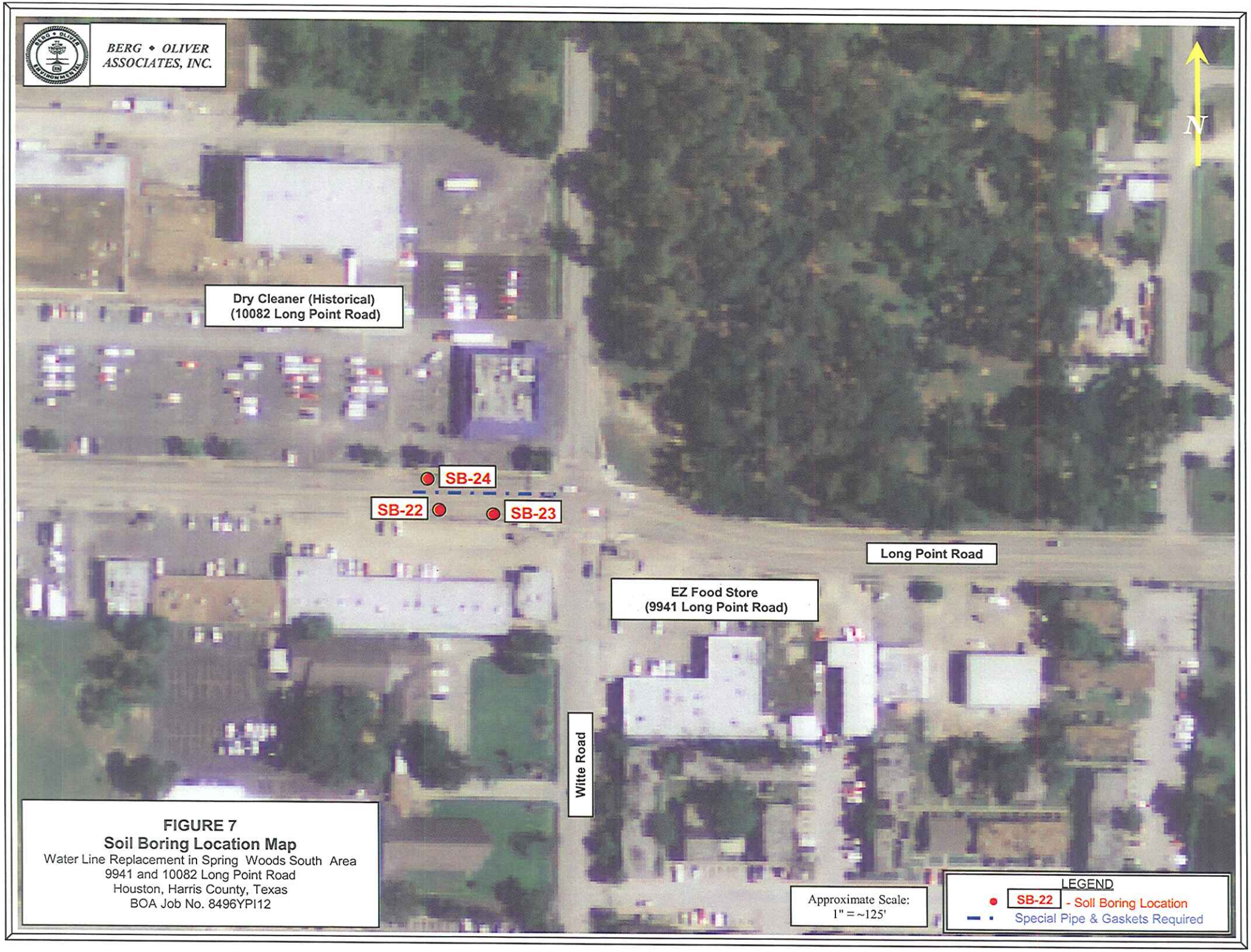


FIGURE 7
Soil Boring Location Map
Water Line Replacement in Spring Woods South Area
9941 and 10082 Long Point Road
Houston, Harris County, Texas
BOA Job No. 8496YPI12

APPENDIX A

Soil Boring Logs

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-1 TEMP. WELL NUMBER: _____

FACILITY ADDRESS: Timber Oak Drive

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

DRILLER: Isidro

DATE: (START/FINISH) 01/07/2012 @ 9:20 to 9:37

LOGGED BY: T. Murphy

TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.0			Fill	Concrete/asphalt (4"); Fill, Shell and light-brown sand (4 inches to 2 feet)	
5	0.0, 0.0, 0.0, 0.0	X		CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-13 feet)	SB-1 @ 6-8'; 9:33, 1-4 oz
10	0.0, 0.0, 0.0					
15	0.0			SM	Sand; Light-brown (tan) sand, medium-grained, moist (13-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Concrete coring 9:16 AM.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-2 **TEMP. WELL NUMBER:** _____

FACILITY ADDRESS: Timber Oak Drive

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

DRILLER: Isidro **DATE: (START/FINISH)** 01/07/2012 @ 9:50 to 10:03

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

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0					Fill; Topsoil with gravel (0-4 inches)	
	0.2					
	0.2					
5	0.2	X		CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (4 inches to 12 feet)	SB-2 @ 4-6'; 9:58, 1-4 oz
	0.1					
	0.1					
10						
	0.1					
	0.1			SM	Sand; Light-brown (tan) sand, medium-grained, moist (12-16 feet)	
15	0.1					
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	**BORING NUMBER :** SB-3 **TEMP. WELL NUMBER :**
FACILITY ADDRESS: Timber Oak Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/07/2012 @ 10:12 to 10:26
LOGGED BY: T. Murphy	**TOP OF CASING ELEVATION:** N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.2			CL	Fill; Topsoil with gravel (0-3 inches)	
	0.2				Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (3 inches to 9 feet)	
5	0.2					
	0.2					
	0.2					
10	0.2			SM	Sand; Light-brown (tan) sand, medium-grained, moist (9-16 feet)	SB-3 @ 12-14'; 10:25, 1-4 oz
	0.2	X				
15	0.2					
					Total Depth = 16 ft	
20					Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER : SB-4 TEMP. WELL NUMBER :
FACILITY ADDRESS: Haddington Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/07/2012 @ 10:38 to 11:01
LOGGED BY: T. Murphy	**TOP OF CASING ELEVATION:** N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.2			Fill	Concrete/asphalt (3"); Fill, Shell and light-brown sand (3 inches to 2 feet)	
	0.2			CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-13 feet)	SB-4 @ 8-10'; 10:56, 1-4 oz
5	0.2					
	0.2					
	0.2	X				
10	0.2					
	0.2			SM	Sand; Light-brown (tan) sand, medium-grained, moist (13-15 feet)	
15	0.2			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (15-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 10:36 AM.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER : SB-5 TEMP. WELL NUMBER :
FACILITY ADDRESS: Haddington Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/07/2012 @ 11:10 to 11:27
LOGGED BY: T. Murphy	**TOP OF CASING ELEVATION:** N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY Ground Surface	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.1				Fill; Topsoil with gravel (0-5 inches)	
	0.1					
5	0.2	X		CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (5 inches to 11 feet)	SB-5 @ 4-6'; 11:22, 1-4 oz
	0.1					
	0.1					
10	0.1					
	0.1			SM	Sand; Light-brown (tan) sand, medium-grained, moist with sand lenses at 12-12.5 and 15.5-16 (12-16 feet)	
15	0.1					
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER : SB-6 TEMP. WELL NUMBER :
FACILITY ADDRESS: Haddington Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/07/2012 @ 11:41 to 11:59
LOGGED BY: T. Murphy	**TOP OF CASING ELEVATION:** N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.1				Fill; Topsoil with gravel (0-5 inches)	
	0.1					
5	0.1			CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (5 inches to 14 feet)	
	0.1					
	0.1					
10	0.1					
	0.2					SB-6 @ 14-16'; 11:59, 1-4 oz
15	0.2	X		SM	Sand; Light-brown (tan) sand, medium-grained, moist (14-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	**BORING NUMBER :** SB-7 **TEMP. WELL NUMBER :**
FACILITY ADDRESS: Warwana Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/07/2012 @ 13:02 to 13:16
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	Concrete/asphalt (3"); Fill, Topsoil, gravel and light-brown sand (3 inches to 3 feet)	
	0.0					
5	0.0	X		CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (3-11 feet)	SB-4 @ 4-6'; 13:10, 1-4 oz
	0.0					
10	0.0					
	0.0			SC	Clayey sand; Light-brown (tan) sand, medium-grained, moist (11-12 feet); Brown clay (12-13 feet) and Tan sand (13-14 feet)	
	0.0					
15	0.0			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (14-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 13:01.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER: SB-8 TEMP. WELL NUMBER:
FACILITY ADDRESS: Warwana Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	DATE: (START/FINISH) 01/07/2012 @ 13:25 to 13:40
LOGGED BY: T. Murphy	TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.1			Fill	Concrete/asphalt (2"); Fill, Shell and light-brown sand (2 inches to 2 feet)	
5	0.1, 0.1, 0.1, 0.1, 0.1	X		CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-12 feet)	SB-8 @ 8-10'; 13:37, 1-4 oz
10	0.1, 0.1			SM	Sand; Light-brown (tan) sand, medium-grained, moist (12-15 feet)	
15	0.1			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (15-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 13:22.	
25						
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FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	**BORING NUMBER :** SB-9 **TEMP. WELL NUMBER :**
FACILITY ADDRESS: Warwana Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/07/2012 @ 13:45 to 13:59
LOGGED BY: T. Murphy	**TOP OF CASING ELEVATION:** N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0				Fill	Fill, Topsoil (2"); Gravel and light-brown sand (3 inches to 1-foot)	
	0.0					
	0.0					
5	0.1					
	0.1			CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-12 feet)	
	0.0					
10	0.0					
	0.1	X		SM	Sand; Light-brown (tan) sand, medium-grained, moist (12-15 feet)	SB-9 @ 12-14'; 13:58, 1-4 oz
15	0.0			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (15-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 13:22.	
25						
30						
35						
40						
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FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-10 TEMP. WELL NUMBER: _____

FACILITY ADDRESS: Lazy Oaks Drive

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

DRILLER: Isidro

DATE: (START/FINISH) 01/07/2012 @ 14:20 to 14:30

LOGGED BY: T. Murphy

TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.0			Fill	Asphalt (3"); Fill, Topsoil, gravel and light-brown sand (3 inches to 2 feet)	
	0.0					
5	0.1	X		CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-12 feet)	SB-10 @ 4-6'; 14:24, 1-4 oz
	0.1					
10	0.0					
	0.0					
	0.1			SM	Sand; Light-brown (tan) sand, medium-grained, moist (12-16 feet)	
15	0.0					
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 14:12.	
25						
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35						
40						
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FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-11 TEMP. WELL NUMBER: _____

FACILITY ADDRESS: Lazy Oaks Drive

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

DRILLER: Isidro

DATE: (START/FINISH) 01/07/2012 @ 14:41 to 14:52

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	0.1			Fill	Asphalt (2"); Fill, Topsoil, gravel and light-brown sand (2 inches to 2 feet)	
5	0.1			CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-12 feet)	SB-11 @ 8-10'; 14:48, 1-4 oz
10	0.1			SM	Sand; Light-brown (tan) sand, medium-grained, moist (12-16 feet)	
15	0.1					
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 14:39.	
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FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-12 TEMP. WELL NUMBER: _____

FACILITY ADDRESS: Lazy Oaks Drive

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

DRILLER: Isidro

DATE: (START/FINISH) 01/07/2012 @ 14:55 to 15:09.

LOGGED BY: T. Murphy

TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.1			Fill	Asphalt (2"); Fill, Topsoil, gravel and light-brown sand (2 inches to 2 feet)	
5	0.1, 0.1, 0.1, 0.1, 0.1			CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-12 feet)	
10	0.1, 0.1					
15	0.1, 0.1	X		SM	Sand; Light-brown (tan) sand, medium-grained, moist (12-16 feet)	SB-12 @ 14-16'; 15:09, 1-4 oz
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 14:51.	
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FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-13 TEMP. WELL NUMBER: ____

FACILITY ADDRESS: Whiteside Lane

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

DRILLER: Isidro

DATE: (START/FINISH) 01/11/2012 @ 8:20 to 9:02.

LOGGED BY: T. Murphy

TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.0			Fill	Asphalt (3"); Fill, Gravel and light-brown sand (3 inches to 2 feet)	
	0.0			CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-13 feet)	
5	0.0					
	0.0					
	0.0					
10	0.0					
	0.0	X				SB-13 @ 12-14'; 9:01, 1-4 oz
				SC	Clayey Sand; Light-brown (tan) and reddish-orange clayey sand, medium-grained, moist (13-15 feet)	
15	0.0			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (15-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 8:15.	
25						
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35						
40						
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FILTER SAND | BENTONITE SEAL | GROUT / CONCRETE SURFACE | ▼ WATER ENCOUNTERED

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER: SB-14 TEMP. WELL NUMBER:
FACILITY ADDRESS: Whiteside Lane	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	DATE: (START/FINISH) 01/11/2012 @ 9:05 to 9:19.
LOGGED BY: T. Murphy	TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.0			Fill	Asphalt (3"); Fill, Gravel and light-brown sand (3 inches to 2 feet)	
5	0.0, 0.0, 0.0, 0.0, 0.0, 0.0	X		CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-13 feet)	SB-14 @ 4-6'; 9:10, 1-4 oz
10	0.0, 0.0			SC	Clayey Sand; Light-brown (tan) and reddish-orange clayey sand, medium-grained, moist (13-15 feet)	
15	0.0			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (15-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 9:02.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-15 TEMP. WELL NUMBER: _____

FACILITY ADDRESS: Whiteside Lane

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

DRILLER: Isidro

DATE: (START/FINISH) 01/11/2012 @ 9:33 to 9:48.

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	Fill, Gravel, shell and light-brown sand (surface to 2 feet)	
	0.0					
5	0.0					
	0.0	X		CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-12 feet)	SB-15 @ 6-8'; 9:43, 1-4 oz
	0.0					
10	0.0					
	0.0			SC	Clayey Sand; Light-brown (tan) and reddish-orange clayey sand, moist with clay lenses (12-16 feet)	
15	0.0					
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER : SB-16 TEMP. WELL NUMBER :
FACILITY ADDRESS: Hanka Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/11/2012 @ 10:05 to 10:20.
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 (3"); Fill, Topsoil, gravel and light-brown sand (3 inches to 2 feet)	SB-16 @ 2-4'; 10:08, 1-4 oz
	0.0	X				
5	0.0					
	0.0			CL	Sandy clay; Dark brown, bBrown, reddish-orange and light gray sandy clay, fines, soft, moist (2-12 feet)	
	0.0					
10	0.0					
	0.0			SC	Clayey Sand; Light-brown (tan) and reddish-orange clayey sand, medium-grained, moist (13-15 feet)	
15	0.0			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (15-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet. Asphalt coring 10:03. Minor quantiy of groundwater was at 12.5 feet, but did not yield water for sampling purposes.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-17 TEMP. WELL NUMBER: _____

FACILITY ADDRESS: Hanka Drive

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

DRILLER: Isidro

DATE: (START/FINISH) 01/11/2012 @ 10:36 to 10:49.

LOGGED BY: T. Murphy

TOP OF CASING ELEVATION: N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.1			Fill	Fill, Gravel and light-brown sand (surface to 2 feet)	
	0.1			CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-16 feet)	
5	0.1					
	0.1					
	0.0					
10	0.0					
	0.1	X				SB-17 @ 12-14'; 10:48, 1-4 oz
15	0.0					
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER : SB-18 TEMP. WELL NUMBER :
FACILITY ADDRESS: Hanka Drive	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/11/2012 @ 10:51 to 11:12.
LOGGED BY: T. Murphy	**TOP OF CASING ELEVATION:** N/Appl.

DEPTH (FEET)	PID	SAMPLE INTERVAL	STRATIGRAPHY (Ground Surface)	USCS	SOIL DESCRIPTION AND COMMENT (CLASSIFICATION, GRAIN SIZE, COLOR, MOISTURE, ODOR, OTHER)	NOTES
0	0.0			Fill	Fill, Gravel and light-brown sand (surface to 1-foot)	
	0.0			CL	Sandy clay; Brown, reddish-orange and light gray sandy clay, fines, soft, moist (2-14 feet)	
5	0.0					
	0.0	X				SB-18 @ 6-8'; 11:08, 1-4 oz
	0.0					
10	0.0					
	3.1					SB-18 @ 14-16'; 11:12, 1-4 oz
15	3.7	X		SM	Sand; Light-brown (tan) sand, medium-grained, moist (14-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER : SB-19 TEMP. WELL NUMBER :
FACILITY ADDRESS: N. Gessner at Long Point Roads	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/11/2012 @ 11:35 to 11:48.
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		Concrete (6")	
	0.0					
	0.0			CL	Sandy clay; Light brown and reddish-orange sandy clay, fines, soft, moist (surface to 8 feet)	SB-19 @ 4-6'; 11:41, 1-4 oz
5	0.0	X				
	0.0					
	0.0					
10	0.0			SC	Clayey Sand; Light-brown (tan) and reddish-orange clayey sand, medium-grained, moist (8-16 feet)	
	0.0					
15	0.0					
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER : SB-20 TEMP. WELL NUMBER :

FACILITY ADDRESS: N. Gessner at Long Point Roads

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

DRILLER: Isidro

DATE: (START/FINISH) 01/11/2012 @ 11:35 to 11:48.

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		Concrete (6")	
	0.0					
	0.0			CL	Sandy clay; Dark brown and brown sandy clay, fines, soft, moist with Fe staining (surface to 8 feet)	
5	0.0					
	0.0					SB-20 @ 8-10'; 12:04, 1-4 oz
	0.0	X				
10	0.0			SC	Clayey Sand; Gray clayey sand with Fe staining and tan sand, medium-grained, moist (8-16 feet)	
	0.0					
15	0.0					
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	BORING NUMBER : SB-21 TEMP. WELL NUMBER :
FACILITY ADDRESS: N. Gessner at Long Point Roads	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/11/2012 @ 12:12 to 12:39.
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					Concrete (6")	
	0.0					
	0.0					
5	0.0			CL	Sandy clay; Dark brown, brown, reddish-orange and light gray sandy clay, fines, soft, moist (surface to 12 feet)	
	0.0					
	0.0					
10	0.0					
	0.0	X		SC	Clayey Sand; Tan, gray and brown clayey sand, medium-grained, moist (12-16 feet)	SB-21 @ 12-14'; 12:21, 1-4 oz
15	0.0					
					Total Depth = 16 ft	
20					Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER: SB-22 TEMP. WELL NUMBER: _____

FACILITY ADDRESS: Long Point at Witte Roads

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

DRILLER: Isidro

DATE: (START/FINISH) 01/11/2012 @ 13:34 to 13:47.

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 (6")	
	0.0					
5	0.0			CL	Sandy clay; Dark brown, brown, reddish-orange and light gray sandy clay, fines, soft, moist (surface to 10 feet)	
	0.0					
	0.0					
10	0.0	X		SM	Sand; Light-brown (tan) sand, medium-grained, moist (10-13 feet)	SB-22 @ 9.5-10.5'; 13:43, 1-4 oz
	0.0					
15	0.0			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (12-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12	☒ BOREHOLE ☐ MONITOR WELL
SITE NAME: Water Line Replacement in Spring Woods South Area	**BORING NUMBER :** SB-23 **TEMP. WELL NUMBER :**
FACILITY ADDRESS: Long Point at Witte Roads	
DRILLING COMPANY / METHOD / RIG: Alpine Services/Truck-Mounted Hydraulically-Driven Push Probe	
DRILLER: Isidro	**DATE: (START/FINISH)** 01/11/2012 @ 13:55 to 14:07.
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					Concrete (6")	
	0.0					
	0.0			CL	Sandy clay; Dark brown and brown sandy clay, fines, soft, moist (surface to 10 feet)	SB-23 @ 4-6'; 14:02, 1-4 oz
5	0.0	X				
	0.0					
	0.0					
10						
	0.0			SM	Sand; Light-brown (tan) sand, medium-grained, moist (10-14 feet)	
	0.0					
15	0.0			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (14-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

PROJECT NO: 8496YPT12

SITE NAME: Water Line Replacement in Spring Woods South Area

☒ BOREHOLE ☐ MONITOR WELL

BORING NUMBER : SB-24 **TEMP. WELL NUMBER :** _____

FACILITY ADDRESS: Long Point at Witte Roads

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

DRILLER: Isidro **DATE: (START/FINISH)** 01/11/2012 @ 14:18 to 14:29.

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					Concrete (6")	
	0.0					
	0.0			CL	Sandy clay; Dark brown and brown sandy clay, fines, soft, moist (surface to 10 feet)	
5	0.0					
	0.0	X				SB-24 @ 6-8'; 14:25, 1-4 oz
	0.0					
10						
	0.0			SM	Sand; Light-brown (tan) sand, medium-grained, moist (10-14 feet)	
	0.0					
15	0.0			CL	Sandy clay; Reddish-orange and light gray sandy clay, fines, soft, moist (14-16 feet)	
20					Total Depth = 16 ft Note: No groundwater encountered to 16 feet.	
25						
30						
35						
40						
45						

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

Berg ♦ Oliver Associates, Inc.

TOTAL DEPTH: 16'

SEAL MATERIAL: (TYPE/INTERVAL) Bentonite to surface

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

SHEET 1 OF 1

APPENDIX B

Laboratory Analytical Results

Analytical Report 455243

for

Berg - Oliver Associates

Project Manager: Tom Murphy

Spring Woods South

8496y

16-JAN-13

Collected By: Client

4143 Greenbriar Dr., Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

16-JAN-13

Project Manager: **Tom Murphy**
Berg - Oliver Associates
14701 St. Mary's Lane, Suite 400
Houston, TX 77079

Reference: XENCO Report No(s): **455243**
Spring Woods South
Project Address:

Tom Murphy:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 455243. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 455243 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Debbie Simmons

Debbie Simmons
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

Sample Cross Reference 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB-1	S	01-07-13 09:33	6 - 8 ft	455243-001
SB-2	S	01-07-13 09:58	4 - 6 ft	455243-002
SB-3	S	01-07-13 10:25	12 - 14 ft	455243-003
SB-4	S	01-07-13 10:56	8 - 10 ft	455243-004
SB-5	S	01-07-13 11:22	4 - 6 ft	455243-005
SB-6	S	01-07-13 11:59	14 - 16 ft	455243-006
SB-7	S	01-07-13 13:10	4 - 6 ft	455243-007
SB-8	S	01-07-13 13:37	8 - 10 ft	455243-008
SB-9	S	01-07-13 13:58	12 - 14 ft	455243-009
SB-10	S	01-07-13 14:24	4 - 6 ft	455243-010
SB-11	S	01-07-13 12:48	8 - 10 ft	455243-011
SB-12	S	01-07-13 15:09	14 - 16 ft	455243-012

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-1 | Matrix: Soil | Sample Depth: 6 - 8 ft

Lab Sample Id: 455243-001 | Date Collected: 01.07.13 09.33 | Date Received: 01.08.13 14.25

Analytical Method: **BTEX-MTBE by SW 8260B** | % Moist: 11.9 | Prep Method: 5030B

Date Anal: 01.12.13 19.02 | Analyst: MCH | Date Prep: 01.12.13 14.46 | Tech: MCH

Anal seq: 904595 | Prep seq: 632324

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00568	0.00108	mg/kg	U	1
Benzene	71-43-2	U	0.00114	0.000511	mg/kg	U	1
Toluene	108-88-3	U	0.00114	0.000487	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00114	0.000397	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00227	0.000498	mg/kg	U	1
o-Xylene	95-47-6	U	0.00114	0.000234	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000234	mg/kg	U	
Total BTEX		U		0.000234	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	85	74 - 126	%	
1,2-Dichloroethane-D4	83	80 - 120	%	
Toluene-D8	100	73 - 132	%	
4-Bromofluorobenzene	85	58 - 152	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: 11.9 | Prep Method: 1005

Date Anal: 01.10.13 17.27 | Analyst: VIC | Date Prep: 01.10.13 10.40 | Tech: VIC

Anal seq: 904459 | Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	56.8	10.2	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	56.8	10.2	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	56.8	10.2	mg/kg	U	1
Total TPH 1005	PHC635	U		10.2	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	107	70 - 130	%	
1-Chlorooctane	110	70 - 130	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-1**	Matrix: Soil	Sample Depth: 6 - 8 ft
Lab Sample Id:	**455243-001**	Date Collected: 01.07.13 09.33	Date Received: 01.08.13 14.25

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:	
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:		Tech: RKO
Anal seq:	904373		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**11.9**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-2 | Matrix: Soil | Sample Depth: 4 - 6 ft

Lab Sample Id: **455243-002** | Date Collected: 01.07.13 09.58 | Date Received: 01.08.13 14.25

Analytical Method: **BTEX-MTBE by SW 8260B** | % Moist: 15.13 | Prep Method: 5030B

Date Anal: 01.12.13 19.24 | Analyst: MCH | Date Prep: 01.12.13 14.48 | Tech: MCH

Anal seq: 904595 | Prep seq: 632324

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00589	0.00113	mg/kg	U	1
Benzene	71-43-2	U	0.00118	0.000530	mg/kg	U	1
Toluene	108-88-3	**0.000978**	0.00118	0.000505	mg/kg	J	1
Ethylbenzene	100-41-4	U	0.00118	0.000412	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00236	0.000517	mg/kg	U	1
o-Xylene	95-47-6	U	0.00118	0.000243	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000243	mg/kg	U	
Total BTEX		**0.000978**		0.000243	mg/kg	J	

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	76	74 - 126	%	
1,2-Dichloroethane-D4	83	80 - 120	%	
Toluene-D8	98	73 - 132	%	
4-Bromofluorobenzene	89	58 - 152	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: 15.13 | Prep Method: 1005

Date Anal: 01.10.13 17.49 | Analyst: VIC | Date Prep: 01.10.13 10.43 | Tech: VIC

Anal seq: 904459 | Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	58.6	10.6	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	58.6	10.6	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	58.6	10.6	mg/kg	U	1
Total TPH 1005	PHC635	U		10.6	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	107	70 - 130	%	
1-Chlorooctane	110	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-2**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455243-002**	Date Collected: 01.07.13 09.58	Date Received: 01.08.13 14.25

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:		Tech: RKO
Anal seq:	904373		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**15.1**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-3 | Matrix: Soil | Sample Depth: 12 - 14 ft

Lab Sample Id: **455243-003** | Date Collected: 01.07.13 10.25 | Date Received: 01.08.13 14.25

Analytical Method: **BTEX-MTBE by SW 8260B** | % Moist: 4.19 | Prep Method: 5030B

Date Anal: 01.12.13 14.06 | Analyst: MCH | Date Prep: 01.12.13 13.30 | Tech: MCH

Anal seq: 904595 | Prep seq: 632324

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00521	0.000995	mg/kg	U	1
Benzene	71-43-2	U	0.00104	0.000469	mg/kg	U	1
Toluene	108-88-3	**0.000833**	0.00104	0.000447	mg/kg	J	1
Ethylbenzene	100-41-4	U	0.00104	0.000365	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00208	0.000457	mg/kg	U	1
o-Xylene	95-47-6	U	0.00104	0.000215	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000215	mg/kg	U	
Total BTEX		**0.000833**		0.000215	mg/kg	J	

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	84	74 - 126	%	
1,2-Dichloroethane-D4	84	80 - 120	%	
Toluene-D8	95	73 - 132	%	
4-Bromofluorobenzene	90	58 - 152	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: 4.19 | Prep Method: 1005

Date Anal: 01.10.13 18.10 | Analyst: VIC | Date Prep: 01.10.13 10.46 | Tech: VIC

Anal seq: 904459 | Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	52.1	9.37	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	52.1	9.37	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	52.1	9.37	mg/kg	U	1
Total TPH 1005	PHC635	U		9.37	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	102	70 - 130	%	
1-Chlorooctane	104	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-3**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455243-003**	Date Collected: 01.07.13 10.25	Date Received: 01.08.13 14.25

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:		Tech: RKO
Anal seq:	904373		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**4.19**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-4**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455243-004**	Date Collected: 01.07.13 10.56	Date Received: 01.08.13 14.25

Analytical Method:	**EDB by EPA 8011**		% Moist: 13.78	Prep Method:
Date Anal:	01.11.13 19.00	Analyst: KKO	Date Prep: 01.11.13 14.47	Tech: KKO
Anal seq:	904728		Prep seq: 632191	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000406	0.000128	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000406	0.000172	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000406	0.000361	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	104	60 - 140	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-4 | Matrix: Soil | Sample Depth: 8 - 10 ft

Lab Sample Id: **455243-004** | Date Collected: 01.07.13 10.56 | Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** | % Moist: 13.78 | Prep Method: 5030B

Date Anal: 01.10.13 18.56 | Analyst: MCH | Date Prep: 01.10.13 16.04 | Tech: MCH

Anal seq: 904511 | Prep seq: 632275

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.000609**	0.00586	0.000351	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00586	0.000232	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00586	0.000252	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00586	0.000218	mg/kg	U	1
Bromoform	75-25-2	U	0.00586	0.000460	mg/kg	U	1
Bromomethane	74-83-9	U	0.00586	0.000321	mg/kg	U	1
MTBE	1634-04-4	U	0.00586	0.000166	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00586	0.000105	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00586	0.000142	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00586	0.000116	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00586	0.000155	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00586	0.000122	mg/kg	U	1
Chloroethane	75-00-3	U	0.0117	0.000298	mg/kg	U	1
Chloroform	67-66-3	U	0.00586	0.000163	mg/kg	U	1
Chloromethane	74-87-3	U	0.0117	0.000377	mg/kg	UH	1
2-Chlorotoluene	95-49-8	U	0.00586	0.000254	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00586	0.000138	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00586	0.0000937	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00586	0.000494	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00586	0.000305	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00586	0.000151	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00586	0.000186	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00586	0.000114	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00586	0.000567	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00586	0.000207	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00586	0.000146	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00586	0.000144	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00586	0.000193	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00586	0.000225	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00586	0.000149	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00586	0.000266	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00586	0.000190	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00586	0.000423	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00586	0.000232	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00586	0.000150	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00586	0.000122	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00586	0.000405	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00586	0.000131	mg/kg	U	1
Methylene Chloride	75-09-2	**0.000668**	0.0234	0.000500	mg/kg	BJ	1
Naphthalene	91-20-3	U	0.0117	0.000173	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00586	0.000161	mg/kg	U	1
Styrene	100-42-5	U	0.00586	0.000185	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00586	0.000173	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00586	0.000227	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-4 | Matrix: Soil | Sample Depth: 8 - 10 ft

Lab Sample Id: 455243-004 | Date Collected: 01.07.13 10.56 | Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** | % Moist: 13.78 | Prep Method: 5030B

Date Anal: 01.10.13 18.56 | Analyst: MCH | Date Prep: 01.10.13 16.04 | Tech: MCH

Anal seq: 904511 | Prep seq: 632275

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00586	0.000203	mg/kg	U	1
Toluene	108-88-3	**0.000269**	0.00586	0.000137	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00586	0.000224	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00586	0.000124	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00586	0.000264	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00586	0.000705	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00586	0.000172	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00586	0.000218	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00586	0.000121	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00586	0.000194	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00234	0.000226	mg/kg	U	1
o-Xylene	95-47-6	U	0.00586	0.000175	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0117	0.000217	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	103	53 - 142	%	
1,2-Dichloroethane-D4	108	56 - 150	%	
Toluene-D8	95	70 - 130	%	
4-Bromofluorobenzene	125	68 - 152	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: 13.78 | Prep Method: 1005

Date Anal: 01.10.13 18.30 | Analyst: VIC | Date Prep: 01.10.13 10.49 | Tech: VIC

Anal seq: 904459 | Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	58.0	10.4	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	58.0	10.4	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	58.0	10.4	mg/kg	U	1
Total TPH 1005	PHC635	U		10.4	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	106	70 - 130	%	
1-Chlorooctane	108	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-4**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455243-004**	Date Collected: 01.07.13 10.56	Date Received: 01.08.13 14.25

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:		Tech: RKO
Anal seq:	904373		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**13.8**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-5**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455243-005**	Date Collected: 01.07.13 11.22	Date Received: 01.08.13 14.25

Analytical Method:	**EDB by EPA 8011**		% Moist: 10.95	Prep Method:
Date Anal:	01.11.13 19.49	Analyst: KKO	Date Prep: 01.11.13 14.59	Tech: KKO
Anal seq:	904728		Prep seq: 632191	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000393	0.000124	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000393	0.000166	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000393	0.000349	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	110	60 - 140	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-5**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455243-005**	Date Collected: 01.07.13 11.22	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 10.95	Prep Method: 5030B
Date Anal:	01.10.13 19.21	Analyst: MCH	Date Prep: 01.10.13 16.06	Tech: MCH
Anal seq:	904511		Prep seq: 632275	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	U	0.00561	0.000337	mg/kg	U	1
Bromobenzene	108-86-1	U	0.00561	0.000222	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00561	0.000241	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00561	0.000209	mg/kg	U	1
Bromoform	75-25-2	U	0.00561	0.000441	mg/kg	U	1
Bromomethane	74-83-9	U	0.00561	0.000308	mg/kg	U	1
MTBE	1634-04-4	U	0.00561	0.000159	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00561	0.000101	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00561	0.000136	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00561	0.000111	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00561	0.000148	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00561	0.000117	mg/kg	U	1
Chloroethane	75-00-3	U	0.0112	0.000285	mg/kg	U	1
Chloroform	67-66-3	U	0.00561	0.000156	mg/kg	U	1
Chloromethane	74-87-3	U	0.0112	0.000362	mg/kg	UH	1
2-Chlorotoluene	95-49-8	U	0.00561	0.000244	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00561	0.000133	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00561	0.0000898	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00561	0.000474	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00561	0.000292	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00561	0.000145	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00561	0.000179	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00561	0.000109	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00561	0.000544	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00561	0.000199	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00561	0.000140	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00561	0.000138	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00561	0.000185	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00561	0.000216	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00561	0.000143	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00561	0.000255	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00561	0.000182	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00561	0.000405	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00561	0.000222	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00561	0.000144	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00561	0.000117	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00561	0.000389	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00561	0.000126	mg/kg	U	1
Methylene Chloride	75-09-2	**0.000550**	0.0225	0.000480	mg/kg	BJ	1
Naphthalene	91-20-3	U	0.0112	0.000166	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00561	0.000154	mg/kg	U	1
Styrene	100-42-5	U	0.00561	0.000177	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00561	0.000166	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00561	0.000218	mg/kg	U	1

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-5 | Matrix: Soil | Sample Depth: 4 - 6 ft

Lab Sample Id: **455243-005** | Date Collected: 01.07.13 11.22 | Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** | % Moist: 10.95 | Prep Method: 5030B

Date Anal: 01.10.13 19.21 | Analyst: MCH | Date Prep: 01.10.13 16.06 | Tech: MCH

Anal seq: 904511 | Prep seq: 632275

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00561	0.000194	mg/kg	U	1
Toluene	108-88-3	U	0.00561	0.000131	mg/kg	U	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00561	0.000214	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00561	0.000119	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00561	0.000253	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00561	0.000676	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00561	0.000165	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00561	0.000209	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00561	0.000116	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00561	0.000186	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00225	0.000217	mg/kg	U	1
o-Xylene	95-47-6	U	0.00561	0.000167	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0112	0.000208	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	98	53 - 142	%	
1,2-Dichloroethane-D4	102	56 - 150	%	
Toluene-D8	95	70 - 130	%	
4-Bromofluorobenzene	127	68 - 152	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: 10.95 | Prep Method: 1005

Date Anal: 01.10.13 18.52 | Analyst: VIC | Date Prep: 01.10.13 10.52 | Tech: VIC

Anal seq: 904459 | Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	55.7	10.0	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	55.7	10.0	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	55.7	10.0	mg/kg	U	1
Total TPH 1005	PHC635	U		10.0	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	105	70 - 130	%	
1-Chlorooctane	107	70 - 130	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-5**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455243-005**	Date Collected: 01.07.13 11.22	Date Received: 01.08.13 14.25

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:		Tech: RKO
Anal seq:	904373		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**11.0**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-6**	Matrix: Soil	Sample Depth: 14 - 16 ft
Lab Sample Id:	**455243-006**	Date Collected: 01.07.13 11.59	Date Received: 01.08.13 14.25

Analytical Method:	**EDB by EPA 8011**		% Moist: 12.8	Prep Method:
Date Anal:	01.11.13 20.05	Analyst: KKO	Date Prep: 01.11.13 15.03	Tech: KKO
Anal seq:	904728		Prep seq: 632191	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000401	0.000126	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000401	0.000170	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000401	0.000357	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	102	60 - 140	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-6**	Matrix: Soil	Sample Depth: 14 - 16 ft
Lab Sample Id:	**455243-006**	Date Collected: 01.07.13 11.59	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 12.8	Prep Method: 5030B
Date Anal:	01.10.13 19.45	Analyst: MCH	Date Prep: 01.10.13 16.08	Tech: MCH
Anal seq:	904511		Prep seq: 632275	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	U	0.00572	0.000343	mg/kg	U	1
Bromobenzene	108-86-1	U	0.00572	0.000227	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00572	0.000246	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00572	0.000213	mg/kg	U	1
Bromoform	75-25-2	U	0.00572	0.000450	mg/kg	U	1
Bromomethane	74-83-9	U	0.00572	0.000314	mg/kg	U	1
MTBE	1634-04-4	U	0.00572	0.000163	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00572	0.000103	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00572	0.000138	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00572	0.000113	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00572	0.000151	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00572	0.000119	mg/kg	U	1
Chloroethane	75-00-3	U	0.0114	0.000291	mg/kg	U	1
Chloroform	67-66-3	U	0.00572	0.000159	mg/kg	U	1
Chloromethane	74-87-3	U	0.0114	0.000369	mg/kg	UH	1
2-Chlorotoluene	95-49-8	U	0.00572	0.000248	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00572	0.000135	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00572	0.0000916	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00572	0.000483	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00572	0.000298	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00572	0.000148	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00572	0.000182	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00572	0.000111	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00572	0.000554	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00572	0.000203	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00572	0.000143	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00572	0.000141	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00572	0.000189	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00572	0.000220	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00572	0.000145	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00572	0.000260	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00572	0.000185	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00572	0.000413	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00572	0.000227	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00572	0.000146	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00572	0.000119	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00572	0.000396	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00572	0.000128	mg/kg	U	1
Methylene Chloride	75-09-2	**0.000618**	0.0229	0.000489	mg/kg	BJ	1
Naphthalene	91-20-3	U	0.0114	0.000169	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00572	0.000157	mg/kg	U	1
Styrene	100-42-5	U	0.00572	0.000181	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00572	0.000169	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00572	0.000222	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-6 | Matrix: Soil | Sample Depth: 14 - 16 ft

Lab Sample Id: **455243-006** | Date Collected: 01.07.13 11.59 | Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** | % Moist: 12.8 | Prep Method: 5030B

Date Anal: 01.10.13 19.45 | Analyst: MCH | Date Prep: 01.10.13 16.08 | Tech: MCH

Anal seq: 904511 | Prep seq: 632275

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00572	0.000198	mg/kg	U	1
Toluene	108-88-3	**0.000263**	0.00572	0.000134	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00572	0.000219	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00572	0.000121	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00572	0.000258	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00572	0.000689	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00572	0.000168	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00572	0.000213	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00572	0.000118	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00572	0.000190	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00229	0.000221	mg/kg	U	1
o-Xylene	95-47-6	U	0.00572	0.000171	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0114	0.000212	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	107	53 - 142	%	
1,2-Dichloroethane-D4	113	56 - 150	%	
Toluene-D8	94	70 - 130	%	
4-Bromofluorobenzene	125	68 - 152	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: 12.8 | Prep Method: 1005

Date Anal: 01.10.13 19.34 | Analyst: VIC | Date Prep: 01.10.13 10.55 | Tech: VIC

Anal seq: 904459 | Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	57.3	10.3	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	57.3	10.3	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	57.3	10.3	mg/kg	U	1
Total TPH 1005	PHC635	U		10.3	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	102	70 - 130	%	
1-Chlorooctane	104	70 - 130	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-6**	Matrix: Soil	Sample Depth: 14 - 16 ft
Lab Sample Id:	**455243-006**	Date Collected: 01.07.13 11.59	Date Received: 01.08.13 14.25

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:		Tech: RKO
Anal seq:	904373		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**12.8**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-7 | Matrix: Soil | Sample Depth: 4 - 6 ft

Lab Sample Id: **455243-007** | Date Collected: 01.07.13 13.10 | Date Received: 01.08.13 14.25

Analytical Method: **EDB by EPA 8011** | % Moist: 15.47 | Prep Method:

Date Anal: 01.11.13 20.22 | Analyst: KKO | Date Prep: 01.11.13 15.07 | Tech: KKO

Anal seq: 904728 | Prep seq: 632191

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000414	0.000130	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000414	0.000175	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000414	0.000368	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	111	60 - 140	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: 15.47 | Prep Method: 1005

Date Anal: 01.10.13 19.56 | Analyst: VIC | Date Prep: 01.10.13 10.58 | Tech: VIC

Anal seq: 904459 | Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	59.2	10.6	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	59.2	10.6	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	59.2	10.6	mg/kg	U	1
Total TPH 1005	PHC635	U		10.6	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	106	70 - 130	%	
1-Chlorooctane	106	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB-7 | Matrix: Soil | Sample Depth: 4 - 6 ft

Lab Sample Id: **455243-007** | Date Collected: 01.07.13 13.10 | Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** | % Moist: 15.47 | Prep Method: 5030B

Date Anal: 01.12.13 18.50 | Analyst: ZHO | Date Prep: 01.12.13 18.20 | Tech: ZHO

Anal seq: 904616 | Prep seq: 632344

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.00230**	0.00596	0.000358	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00596	0.000236	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00596	0.000256	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00596	0.000222	mg/kg	U	1
Bromoform	75-25-2	U	0.00596	0.000469	mg/kg	U	1
Bromomethane	74-83-9	U	0.00596	0.000327	mg/kg	U	1
MTBE	1634-04-4	U	0.00596	0.000169	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00596	0.000107	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00596	0.000144	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00596	0.000118	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00596	0.000157	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00596	0.000124	mg/kg	U	1
Chloroethane	75-00-3	U	0.0119	0.000303	mg/kg	U	1
Chloroform	67-66-3	U	0.00596	0.000166	mg/kg	U	1
Chloromethane	74-87-3	U	0.0119	0.000384	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00596	0.000259	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00596	0.000141	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00596	0.0000954	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00596	0.000503	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00596	0.000310	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00596	0.000154	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00596	0.000190	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00596	0.000116	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00596	0.000577	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00596	0.000211	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00596	0.000149	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00596	0.000147	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00596	0.000197	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00596	0.000229	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00596	0.000151	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00596	0.000271	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00596	0.000193	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00596	0.000431	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00596	0.000236	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00596	0.000153	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00596	0.000124	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00596	0.000413	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00596	0.000134	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0239	0.000509	mg/kg	U	1
Naphthalene	91-20-3	U	0.0119	0.000176	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00596	0.000163	mg/kg	U	1
Styrene	100-42-5	U	0.00596	0.000188	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00596	0.000176	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00596	0.000231	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-7**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455243-007**	Date Collected: 01.07.13 13.10	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 15.47	Prep Method: 5030B
Date Anal:	01.12.13 18.50	Analyst: ZHO	Date Prep: 01.12.13 18.20	Tech: ZHO
Anal seq:	904616		Prep seq: 632344	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00596	0.000206	mg/kg	U	1
Toluene	108-88-3	**0.000668**	0.00596	0.000140	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00596	0.000228	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00596	0.000126	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00596	0.000268	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00596	0.000718	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00596	0.000175	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00596	0.000222	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00596	0.000123	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00596	0.000198	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00239	0.000230	mg/kg	U	1
o-Xylene	95-47-6	U	0.00596	0.000178	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0119	0.000221	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	93	53 - 142	%	
1,2-Dichloroethane-D4	96	56 - 150	%	
Toluene-D8	100	70 - 130	%	
4-Bromofluorobenzene	113	68 - 152	%	

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:	Tech: RKO
Anal seq:	904373		Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**15.5**			%		

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-8**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455243-008**	Date Collected: 01.07.13 13.37	Date Received: 01.08.13 14.25

Analytical Method:	**EDB by EPA 8011**		% Moist: 13.17	Prep Method:
Date Anal:	01.11.13 20.38	Analyst: KKO	Date Prep: 01.11.13 15.11	Tech: KKO
Anal seq:	904728		Prep seq: 632191	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000403	0.000127	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000403	0.000170	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000403	0.000358	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	109	60 - 140	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-8**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455243-008**	Date Collected: 01.07.13 13.37	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 13.17	Prep Method: 5030B
Date Anal:	01.10.13 20.34	Analyst: MCH	Date Prep: 01.10.13 16.12	Tech: MCH
Anal seq:	904511		Prep seq: 632275	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.00136**	0.00578	0.000347	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00578	0.000229	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00578	0.000249	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00578	0.000215	mg/kg	U	1
Bromoform	75-25-2	U	0.00578	0.000454	mg/kg	U	1
Bromomethane	74-83-9	U	0.00578	0.000317	mg/kg	U	1
MTBE	1634-04-4	U	0.00578	0.000164	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00578	0.000104	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00578	0.000140	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00578	0.000114	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00578	0.000153	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00578	0.000120	mg/kg	U	1
Chloroethane	75-00-3	U	0.0116	0.000294	mg/kg	U	1
Chloroform	67-66-3	U	0.00578	0.000161	mg/kg	U	1
Chloromethane	74-87-3	U	0.0116	0.000372	mg/kg	UH	1
2-Chlorotoluene	95-49-8	U	0.00578	0.000251	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00578	0.000136	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00578	0.0000925	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00578	0.000488	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00578	0.000301	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00578	0.000149	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00578	0.000184	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00578	0.000112	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00578	0.000560	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00578	0.000205	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00578	0.000145	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00578	0.000142	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00578	0.000191	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00578	0.000222	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00578	0.000147	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00578	0.000262	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00578	0.000187	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00578	0.000417	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00578	0.000229	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00578	0.000148	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00578	0.000120	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00578	0.000400	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00578	0.000130	mg/kg	U	1
Methylene Chloride	75-09-2	**0.000844**	0.0231	0.000494	mg/kg	BJ	1
Naphthalene	91-20-3	U	0.0116	0.000171	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00578	0.000158	mg/kg	U	1
Styrene	100-42-5	U	0.00578	0.000183	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00578	0.000171	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00578	0.000224	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: **SB-8** Matrix: Soil Sample Depth: 8 - 10 ft

Lab Sample Id: **455243-008** Date Collected: 01.07.13 13.37 Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** % Moist: 13.17 Prep Method: 5030B

Date Anal: 01.10.13 20.34 Analyst: MCH Date Prep: 01.10.13 16.12 Tech: MCH

Anal seq: 904511 Prep seq: 632275

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00578	0.000200	mg/kg	U	1
Toluene	108-88-3	**0.000312**	0.00578	0.000135	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00578	0.000221	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00578	0.000123	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00578	0.000260	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00578	0.000696	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00578	0.000170	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00578	0.000215	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00578	0.000119	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00578	0.000192	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00231	0.000223	mg/kg	U	1
o-Xylene	95-47-6	U	0.00578	0.000172	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0116	0.000214	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	100	53 - 142	%	
1,2-Dichloroethane-D4	102	56 - 150	%	
Toluene-D8	95	70 - 130	%	
4-Bromofluorobenzene	118	68 - 152	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** % Moist: 13.17 Prep Method: 1005

Date Anal: 01.10.13 20.16 Analyst: VIC Date Prep: 01.10.13 11.01 Tech: VIC

Anal seq: 904459 Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	57.4	10.3	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	57.4	10.3	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	57.4	10.3	mg/kg	U	1
Total TPH 1005	PHC635	U		10.3	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	106	70 - 130	%	
1-Chlorooctane	103	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-8**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455243-008**	Date Collected: 01.07.13 13.37	Date Received: 01.08.13 14.25

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:	
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:		Tech: RKO
Anal seq:	904373		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**13.2**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-9**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455243-009**	Date Collected: 01.07.13 13.58	Date Received: 01.08.13 14.25

Analytical Method:	**EDB by EPA 8011**		% Moist: 16.66	Prep Method:
Date Anal:	01.11.13 20.55	Analyst: KKO	Date Prep: 01.11.13 15.15	Tech: KKO
Anal seq:	904728		Prep seq: 632191	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000420	0.000132	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000420	0.000178	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000420	0.000373	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	105	60 - 140	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-9**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455243-009**	Date Collected: 01.07.13 13.58	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 16.66	Prep Method: 5030B
Date Anal:	01.10.13 20.59	Analyst: MCH	Date Prep: 01.10.13 16.14	Tech: MCH
Anal seq:	904511		Prep seq: 632275	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.000494**	0.00602	0.000361	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00602	0.000239	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00602	0.000259	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00602	0.000224	mg/kg	U	1
Bromoform	75-25-2	U	0.00602	0.000473	mg/kg	U	1
Bromomethane	74-83-9	U	0.00602	0.000330	mg/kg	U	1
MTBE	1634-04-4	U	0.00602	0.000171	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00602	0.000108	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00602	0.000146	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00602	0.000119	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00602	0.000159	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00602	0.000125	mg/kg	U	1
Chloroethane	75-00-3	U	0.0120	0.000306	mg/kg	U	1
Chloroform	67-66-3	U	0.00602	0.000167	mg/kg	U	1
Chloromethane	74-87-3	U	0.0120	0.000388	mg/kg	UH	1
2-Chlorotoluene	95-49-8	U	0.00602	0.000261	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00602	0.000142	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00602	0.0000964	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00602	0.000508	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00602	0.000313	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00602	0.000155	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00602	0.000192	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00602	0.000117	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00602	0.000583	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00602	0.000213	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00602	0.000151	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00602	0.000148	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00602	0.000199	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00602	0.000231	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00602	0.000153	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00602	0.000273	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00602	0.000195	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00602	0.000435	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00602	0.000239	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00602	0.000154	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00602	0.000125	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00602	0.000417	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00602	0.000135	mg/kg	U	1
Methylene Chloride	75-09-2	**0.000759**	0.0241	0.000514	mg/kg	BJ	1
Naphthalene	91-20-3	U	0.0120	0.000178	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00602	0.000165	mg/kg	U	1
Styrene	100-42-5	U	0.00602	0.000190	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00602	0.000178	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00602	0.000234	mg/kg	U	1

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-9**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455243-009**	Date Collected: 01.07.13 13.58	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 16.66	Prep Method: 5030B
Date Anal:	01.10.13 20.59	Analyst: MCH	Date Prep: 01.10.13 16.14	Tech: MCH
Anal seq:	904511		Prep seq: 632275	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00602	0.000208	mg/kg	U	1
Toluene	108-88-3	**0.000253**	0.00602	0.000141	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00602	0.000230	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00602	0.000128	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00602	0.000271	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00602	0.000725	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00602	0.000177	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00602	0.000224	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00602	0.000124	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00602	0.000200	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00241	0.000233	mg/kg	U	1
o-Xylene	95-47-6	U	0.00602	0.000180	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0120	0.000223	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	109	53 - 142	%	
1,2-Dichloroethane-D4	109	56 - 150	%	
Toluene-D8	95	70 - 130	%	
4-Bromofluorobenzene	116	68 - 152	%	

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 16.66	Prep Method: 1005
Date Anal:	01.10.13 20.38	Analyst: VIC	Date Prep: 01.10.13 11.04	Tech: VIC
Anal seq:	904459		Prep seq: 632214	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	60.0	10.8	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	60.0	10.8	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	60.0	10.8	mg/kg	U	1
Total TPH 1005	PHC635	U		10.8	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	102	70 - 130	%	
1-Chlorooctane	99	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-9**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455243-009**	Date Collected: 01.07.13 13.58	Date Received: 01.08.13 14.25

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:		Tech: RKO
Anal seq:	904373		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**16.7**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: **SB-10** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: **455243-010** Date Collected: 01.07.13 14.24 Date Received: 01.08.13 14.25

Analytical Method: **EDB by EPA 8011** % Moist: 13.52 Prep Method:

Date Anal: 01.11.13 21.11 Analyst: KKO Date Prep: 01.11.13 15.19 Tech: KKO

Anal seq: 904728 Prep seq: 632191

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000405	0.000127	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000405	0.000171	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000405	0.000360	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	111	60 - 140	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** % Moist: 13.52 Prep Method: 1005

Date Anal: 01.10.13 20.59 Analyst: VIC Date Prep: 01.10.13 11.07 Tech: VIC

Anal seq: 904459 Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	57.8	10.4	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	57.8	10.4	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	57.8	10.4	mg/kg	U	1
Total TPH 1005	PHC635	U		10.4	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	103	70 - 130	%	
1-Chlorooctane	103	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: **SB-10** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: **455243-010** Date Collected: 01.07.13 14.24 Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** % Moist: 13.52 Prep Method: 5030B

Date Anal: 01.12.13 19.15 Analyst: ZHO Date Prep: 01.12.13 18.22 Tech: ZHO

Anal seq: 904616 Prep seq: 632344

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.00151**	0.00576	0.000346	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00576	0.000228	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00576	0.000248	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00576	0.000214	mg/kg	U	1
Bromoform	75-25-2	U	0.00576	0.000453	mg/kg	U	1
Bromomethane	74-83-9	U	0.00576	0.000316	mg/kg	U	1
MTBE	1634-04-4	U	0.00576	0.000164	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00576	0.000104	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00576	0.000139	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00576	0.000114	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00576	0.000152	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00576	0.000120	mg/kg	U	1
Chloroethane	75-00-3	U	0.0115	0.000293	mg/kg	U	1
Chloroform	67-66-3	U	0.00576	0.000160	mg/kg	U	1
Chloromethane	74-87-3	U	0.0115	0.000371	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00576	0.000250	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00576	0.000136	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00576	0.0000921	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00576	0.000486	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00576	0.000299	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00576	0.000149	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00576	0.000183	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00576	0.000112	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00576	0.000557	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00576	0.000204	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00576	0.000144	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00576	0.000142	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00576	0.000190	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00576	0.000221	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00576	0.000146	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00576	0.000261	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00576	0.000187	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00576	0.000416	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00576	0.000228	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00576	0.000147	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00576	0.000120	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00576	0.000398	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00576	0.000129	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0230	0.000492	mg/kg	U	1
Naphthalene	91-20-3	U	0.0115	0.000170	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00576	0.000158	mg/kg	U	1
Styrene	100-42-5	U	0.00576	0.000182	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00576	0.000170	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00576	0.000223	mg/kg	U	1

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-10**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455243-010**	Date Collected: 01.07.13 14.24	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 13.52	Prep Method: 5030B
Date Anal:	01.12.13 19.15	Analyst: ZHO	Date Prep: 01.12.13 18.22	Tech: ZHO
Anal seq:	904616		Prep seq: 632344	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00576	0.000199	mg/kg	U	1
Toluene	108-88-3	**0.000472**	0.00576	0.000135	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00576	0.000220	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00576	0.000122	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00576	0.000259	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00576	0.000693	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00576	0.000169	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00576	0.000214	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00576	0.000119	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00576	0.000191	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00230	0.000222	mg/kg	U	1
o-Xylene	95-47-6	U	0.00576	0.000172	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0115	0.000213	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	92	53 - 142	%	
1,2-Dichloroethane-D4	92	56 - 150	%	
Toluene-D8	98	70 - 130	%	
4-Bromofluorobenzene	112	68 - 152	%	

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:	Tech: RKO
Anal seq:	904373		Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**13.5**			%		

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: **SB-11** Matrix: Soil Sample Depth: 8 - 10 ft

Lab Sample Id: **455243-011** Date Collected: 01.07.13 12.48 Date Received: 01.08.13 14.25

Analytical Method: **EDB by EPA 8011** % Moist: 14.62 Prep Method:

Date Anal: 01.11.13 21.28 Analyst: KKO Date Prep: 01.11.13 15.23 Tech: KKO

Anal seq: 904728 Prep seq: 632191

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000410	0.000129	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000410	0.000173	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000410	0.000364	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	107	60 - 140	%	

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** % Moist: 14.62 Prep Method: 1005

Date Anal: 01.10.13 21.20 Analyst: VIC Date Prep: 01.10.13 11.10 Tech: VIC

Anal seq: 904459 Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	58.4	10.5	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	58.4	10.5	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	58.4	10.5	mg/kg	U	1
Total TPH 1005	PHC635	U		10.5	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	102	70 - 130	%	
1-Chlorooctane	99	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-11**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455243-011**	Date Collected: 01.07.13 12.48	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 14.62	Prep Method: 5030B
Date Anal:	01.12.13 19.39	Analyst: ZHO	Date Prep: 01.12.13 18.24	Tech: ZHO
Anal seq:	904616		Prep seq: 632344	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.00159**	0.00592	0.000355	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00592	0.000234	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00592	0.000254	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00592	0.000220	mg/kg	U	1
Bromoform	75-25-2	U	0.00592	0.000465	mg/kg	U	1
Bromomethane	74-83-9	U	0.00592	0.000324	mg/kg	U	1
MTBE	1634-04-4	U	0.00592	0.000168	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00592	0.000106	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00592	0.000143	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00592	0.000117	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00592	0.000156	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00592	0.000123	mg/kg	U	1
Chloroethane	75-00-3	U	0.0118	0.000300	mg/kg	U	1
Chloroform	67-66-3	U	0.00592	0.000164	mg/kg	U	1
Chloromethane	74-87-3	U	0.0118	0.000381	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00592	0.000257	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00592	0.000140	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00592	0.0000946	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00592	0.000499	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00592	0.000308	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00592	0.000153	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00592	0.000188	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00592	0.000115	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00592	0.000573	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00592	0.000209	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00592	0.000148	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00592	0.000146	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00592	0.000195	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00592	0.000227	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00592	0.000150	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00592	0.000269	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00592	0.000192	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00592	0.000427	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00592	0.000234	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00592	0.000151	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00592	0.000123	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00592	0.000409	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00592	0.000133	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0237	0.000505	mg/kg	U	1
Naphthalene	91-20-3	U	0.0118	0.000175	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00592	0.000162	mg/kg	U	1
Styrene	100-42-5	U	0.00592	0.000187	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00592	0.000175	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00592	0.000230	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-11**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455243-011**	Date Collected: 01.07.13 12.48	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 14.62	Prep Method: 5030B
Date Anal:	01.12.13 19.39	Analyst: ZHO	Date Prep: 01.12.13 18.24	Tech: ZHO
Anal seq:	904616		Prep seq: 632344	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00592	0.000205	mg/kg	U	1
Toluene	108-88-3	**0.000450**	0.00592	0.000138	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00592	0.000226	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00592	0.000125	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00592	0.000266	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00592	0.000712	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00592	0.000174	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00592	0.000220	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00592	0.000122	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00592	0.000196	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00237	0.000228	mg/kg	U	1
o-Xylene	95-47-6	U	0.00592	0.000176	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0118	0.000219	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	92	53 - 142	%	
1,2-Dichloroethane-D4	97	56 - 150	%	
Toluene-D8	99	70 - 130	%	
4-Bromofluorobenzene	112	68 - 152	%	

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:	Tech: RKO
Anal seq:	904373		Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**14.6**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-12**	Matrix: Soil	Sample Depth: 14 - 16 ft
Lab Sample Id:	**455243-012**	Date Collected: 01.07.13 15.09	Date Received: 01.08.13 14.25

Analytical Method:	**EDB by EPA 8011**		% Moist: 8.11	Prep Method:
Date Anal:	01.11.13 21.45	Analyst: KKO	Date Prep: 01.11.13 15.27	Tech: KKO
Anal seq:	904728		Prep seq: 632191	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000381	0.000120	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000381	0.000161	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000381	0.000338	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	110	60 - 140	%	

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 8.11	Prep Method: 1005
Date Anal:	01.10.13 21.41	Analyst: VIC	Date Prep: 01.10.13 11.13	Tech: VIC
Anal seq:	904459		Prep seq: 632214	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	54.4	9.79	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	54.4	9.79	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	54.4	9.79	mg/kg	U	1
Total TPH 1005	PHC635	U		9.79	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	106	70 - 130	%	
1-Chlorooctane	105	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-12**	Matrix: Soil	Sample Depth: 14 - 16 ft
Lab Sample Id:	**455243-012**	Date Collected: 01.07.13 15.09	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 8.11	Prep Method: 5030B
Date Anal:	01.12.13 20.04	Analyst: ZHO	Date Prep: 01.12.13 18.26	Tech: ZHO
Anal seq:	904616		Prep seq: 632344	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.000723**	0.00540	0.000324	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00540	0.000214	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00540	0.000232	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00540	0.000201	mg/kg	U	1
Bromoform	75-25-2	U	0.00540	0.000424	mg/kg	U	1
Bromomethane	74-83-9	U	0.00540	0.000296	mg/kg	U	1
MTBE	1634-04-4	U	0.00540	0.000153	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00540	0.0000972	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00540	0.000131	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00540	0.000107	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00540	0.000143	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00540	0.000112	mg/kg	U	1
Chloroethane	75-00-3	U	0.0108	0.000274	mg/kg	U	1
Chloroform	67-66-3	U	0.00540	0.000150	mg/kg	U	1
Chloromethane	74-87-3	U	0.0108	0.000348	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00540	0.000234	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00540	0.000127	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00540	0.0000864	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00540	0.000456	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00540	0.000281	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00540	0.000139	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00540	0.000172	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00540	0.000105	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00540	0.000523	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00540	0.000191	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00540	0.000135	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00540	0.000133	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00540	0.000178	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00540	0.000207	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00540	0.000137	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00540	0.000245	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00540	0.000175	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00540	0.000390	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00540	0.000214	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00540	0.000138	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00540	0.000112	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00540	0.000374	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00540	0.000121	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0216	0.000461	mg/kg	U	1
Naphthalene	91-20-3	U	0.0108	0.000160	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00540	0.000148	mg/kg	U	1
Styrene	100-42-5	U	0.00540	0.000171	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00540	0.000160	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00540	0.000209	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB-12**	Matrix: Soil	Sample Depth: 14 - 16 ft
Lab Sample Id:	**455243-012**	Date Collected: 01.07.13 15.09	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 8.11	Prep Method: 5030B
Date Anal:	01.12.13 20.04	Analyst: ZHO	Date Prep: 01.12.13 18.26	Tech: ZHO
Anal seq:	904616		Prep seq: 632344	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00540	0.000187	mg/kg	U	1
Toluene	108-88-3	**0.000281**	0.00540	0.000126	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00540	0.000206	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00540	0.000114	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00540	0.000243	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00540	0.000650	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00540	0.000159	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00540	0.000201	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00540	0.000111	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00540	0.000179	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00216	0.000208	mg/kg	U	1
o-Xylene	95-47-6	U	0.00540	0.000161	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0108	0.000200	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	95	53 - 142	%	
1,2-Dichloroethane-D4	97	56 - 150	%	
Toluene-D8	98	70 - 130	%	
4-Bromofluorobenzene	105	68 - 152	%	

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:
Date Anal:	01.09.13 18.33	Analyst: RKO	Date Prep:	Tech: RKO
Anal seq:	904373		Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**8.11**			%		

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: **632191-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: **632191-1-BLK** Date Collected: Date Received: 01.08.13 14.25

Analytical Method: **EDB by EPA 8011** % Moist: Prep Method:

Date Anal: 01.11.13 18.10 Analyst: KKO Date Prep: 01.11.13 14.35 Tech: KKO

Anal seq: 904728 Prep seq: 632191

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000350	0.000110	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000350	0.000148	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000350	0.000311	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	105	60 - 140	%	

Sample Id: **632214-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: **632214-1-BLK** Date Collected: Date Received: 01.08.13 14.25

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** % Moist: Prep Method: 1005

Date Anal: 01.10.13 16.25 Analyst: VIC Date Prep: 01.10.13 10.10 Tech: VIC

Anal seq: 904459 Prep seq: 632214

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	50.0	9.00	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	50.0	9.00	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	50.0	9.00	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	106	70 - 130	%	
1-Chlorooctane	105	70 - 130	%	

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: 632275-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632275-1-BLK | Date Collected: | Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** | % Moist: | Prep Method:

Date Anal: 01.10.13 12.47 | Analyst: MCH | Date Prep: 01.10.13 11.24 | Tech: MCH

Anal seq: 904511 | Prep seq: 632275

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	U	0.00500	0.000300	mg/kg	U	1
Bromobenzene	108-86-1	U	0.00500	0.000198	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00500	0.000215	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00500	0.000186	mg/kg	U	1
Bromoform	75-25-2	U	0.00500	0.000393	mg/kg	U	1
Bromomethane	74-83-9	U	0.00500	0.000274	mg/kg	U	1
MTBE	1634-04-4	U	0.00500	0.000142	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00500	0.0000900	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00500	0.000121	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00500	0.0000990	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00500	0.000132	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00500	0.000104	mg/kg	U	1
Chloroethane	75-00-3	U	0.0100	0.000254	mg/kg	U	1
Chloroform	67-66-3	U	0.00500	0.000139	mg/kg	U	1
Chloromethane	74-87-3	U	0.0100	0.000322	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00500	0.000217	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00500	0.000118	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00500	0.0000800	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00500	0.000422	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00500	0.000260	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00500	0.000129	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00500	0.000159	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00500	0.0000970	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00500	0.000484	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00500	0.000177	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00500	0.000125	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00500	0.000123	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00500	0.000165	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00500	0.000192	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00500	0.000127	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00500	0.000227	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00500	0.000162	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00500	0.000361	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00500	0.000198	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00500	0.000128	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00500	0.000104	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00500	0.000346	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00500	0.000112	mg/kg	U	1
Methylene Chloride	75-09-2	**0.000450**	0.0200	0.000427	mg/kg	J	1
Naphthalene	91-20-3	U	0.0100	0.000148	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00500	0.000137	mg/kg	U	1
Styrene	100-42-5	U	0.00500	0.000158	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00500	0.000148	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00500	0.000194	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**632275-1-BLK**	Matrix: Solid	Sample Depth:
Lab Sample Id:	**632275-1-BLK**	Date Collected:	Date Received: 01.08.13 14.25

Analytical Method:	**VOAs by SW-846 8260**		% Moist:	Prep Method:
Date Anal:	01.10.13 12.47	Analyst: MCH	Date Prep: 01.10.13 11.24	Tech: MCH
Anal seq:	904511		Prep seq: 632275	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00500	0.000173	mg/kg	U	1
Toluene	108-88-3	U	0.00500	0.000117	mg/kg	U	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00500	0.000191	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00500	0.000106	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00500	0.000225	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00500	0.000602	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00500	0.000147	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00500	0.000186	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00500	0.000103	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00500	0.000166	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00200	0.000193	mg/kg	U	1
o-Xylene	95-47-6	U	0.00500	0.000149	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0100	0.000185	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	100	53 - 142	%	
1,2-Dichloroethane-D4	102	56 - 150	%	
Toluene-D8	99	70 - 130	%	
4-Bromofluorobenzene	118	68 - 152	%	

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**632324-1-BLK**	Matrix: Solid	Sample Depth:
Lab Sample Id:	**632324-1-BLK**	Date Collected:	Date Received: 01.08.13 14.25

Analytical Method:	**BTEX-MTBE by SW 8260B**		% Moist:	Prep Method: 5030B
Date Anal:	01.12.13 13.20	Analyst: MCH	Date Prep: 01.12.13 11.46	Tech: MCH
Anal seq:	904595		Prep seq: 632324	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00500	0.000955	mg/kg	U	1
Benzene	71-43-2	U	0.00100	0.000450	mg/kg	U	1
Toluene	108-88-3	U	0.00100	0.000429	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00100	0.000350	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00200	0.000439	mg/kg	U	1
o-Xylene	95-47-6	U	0.00100	0.000206	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	83	74 - 126	%	
1,2-Dichloroethane-D4	81	80 - 120	%	
Toluene-D8	96	73 - 132	%	
4-Bromofluorobenzene	89	58 - 152	%	

Final 1.000

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Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Depth:

Matrix: Solid

Date Received: 01.08.13 14.25

Sample Id: 632344-1-BLK

Date Collected:

Prep Method: 5030B

Lab Sample Id: 632344-1-BLK

% Moist:

Tech: ZHO

Analytical Method: **VOAs by SW-846 8260**

Analyst: ZHO

Date Prep: 01.12.13 16.52

Prep seq: 632344

Date Anal: 01.12.13 18.26

Anal seq: 904616

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	U	0.00500	0.000300	mg/kg	U	1
Bromobenzene	108-86-1	U	0.00500	0.000198	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00500	0.000215	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00500	0.000186	mg/kg	U	1
Bromoform	75-25-2	U	0.00500	0.000393	mg/kg	U	1
Bromomethane	74-83-9	U	0.00500	0.000274	mg/kg	U	1
MTBE	1634-04-4	U	0.00500	0.000142	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00500	0.0000900	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00500	0.000121	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00500	0.0000990	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00500	0.000132	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.0100	0.000104	mg/kg	U	1
Chloroethane	75-00-3	U	0.00500	0.000254	mg/kg	U	1
Chloroform	67-66-3	U	0.0100	0.000139	mg/kg	U	1
Chloromethane	74-87-3	U	0.00500	0.000322	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00500	0.000217	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00500	0.000118	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00500	0.0000800	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00500	0.000422	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00500	0.000260	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00500	0.000129	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00500	0.000159	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00500	0.0000970	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00500	0.000484	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00500	0.000177	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00500	0.000125	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00500	0.000123	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00500	0.000165	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00500	0.000192	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00500	0.000127	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00500	0.000227	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00500	0.000162	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00500	0.000361	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00500	0.000198	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00500	0.000128	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00500	0.000104	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00500	0.000346	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.0200	0.000112	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0100	0.000427	mg/kg	U	1
Naphthalene	91-20-3	U	0.00500	0.000148	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00500	0.000137	mg/kg	U	1
Styrene	100-42-5	U	0.00500	0.000158	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00500	0.000148	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00500	0.000194	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: 632344-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632344-1-BLK | Date Collected: | Date Received: 01.08.13 14.25

Analytical Method: **VOAs by SW-846 8260** | % Moist: | Prep Method: 5030B

Date Anal: 01.12.13 18.26 | Analyst: ZHO | Date Prep: 01.12.13 16.52 | Tech: ZHO

Anal seq: 904616 | Prep seq: 632344

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00500	0.000173	mg/kg	U	1
Toluene	108-88-3	U	0.00500	0.000117	mg/kg	U	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00500	0.000191	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00500	0.000106	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00500	0.000225	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00500	0.000602	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00500	0.000147	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00500	0.000186	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00500	0.000103	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00500	0.000166	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00200	0.000193	mg/kg	U	1
o-Xylene	95-47-6	U	0.00500	0.000149	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0100	0.000185	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	93	53 - 142	%	
1,2-Dichloroethane-D4	97	56 - 150	%	
Toluene-D8	98	70 - 130	%	
4-Bromofluorobenzene	114	68 - 152	%	

Sample Id: 904373-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 904373-1-BLK | Date Collected: | Date Received: 01.08.13 14.25

Analytical Method: **Percent Moisture** | % Moist: | Prep Method: | Tech: RKO

Date Anal: 01.09.13 18.33 | Analyst: RKO | Date Prep: | Prep seq:

Anal seq: 904373

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	U			%	U	

Final 1.000

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : Percent Moisture

Client : Berg - Oliver Associates

Work Order #: **455243**

Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB-3	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-4	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-7	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-2	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-6	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-9	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-5	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-8	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-12	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-1	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-10	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P
SB-11	Jan. 7, 2013	Jan. 8, 2013				Jan.9, 2013	45	2	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : EDB by EPA 8011

Client : Berg - Oliver Associates

Work Order #: **455243**

Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB-6	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P
SB-8	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P
SB-5	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P
SB-7	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P
SB-9	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P
SB-12	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P
SB-10	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P
SB-11	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P
SB-4	Jan. 7, 2013	Jan. 8, 2013				Jan.11, 2013	14	4	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : VOAs by SW-846 8260

Client : Berg - Oliver Associates

Work Order #: **455243**

Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB-8	Jan. 7, 2013	Jan. 8, 2013				Jan.10, 2013	14	3	P
SB-4	Jan. 7, 2013	Jan. 8, 2013				Jan.10, 2013	14	3	P
SB-11	Jan. 7, 2013	Jan. 8, 2013				Jan.12, 2013	14	5	P
SB-9	Jan. 7, 2013	Jan. 8, 2013				Jan.10, 2013	14	3	P
SB-10	Jan. 7, 2013	Jan. 8, 2013				Jan.12, 2013	14	5	P
SB-5	Jan. 7, 2013	Jan. 8, 2013				Jan.10, 2013	14	3	P
SB-6	Jan. 7, 2013	Jan. 8, 2013				Jan.10, 2013	14	3	P
SB-7	Jan. 7, 2013	Jan. 8, 2013				Jan.12, 2013	14	5	P
SB-12	Jan. 7, 2013	Jan. 8, 2013				Jan.12, 2013	14	5	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : BTEX-MTBE by SW 8260B

Client : Berg - Oliver Associates

Work Order #: **455243**

Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB-1	Jan. 7, 2013	Jan. 8, 2013				Jan.12, 2013	14	5	P
SB-2	Jan. 7, 2013	Jan. 8, 2013				Jan.12, 2013	14	5	P
SB-3	Jan. 7, 2013	Jan. 8, 2013				Jan.12, 2013	14	5	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : Total Petroleum Hydrocarbons by Texas 1005 Client : Berg - Oliver Associates

Work Order #: **455243** Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB-3	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-6	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-8	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-1	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-4	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-11	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-7	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-9	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-2	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-10	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-12	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P
SB-5	Jan. 7, 2013	Jan. 8, 2013	Jan. 10, 2013	14	3	Jan.10, 2013	14	0	P

F = These samples were analyzed outside the recommended holding time.
P = Samples analyzed within the recommended holding time.

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Analytical Log

Analytical Method:	Percent Moisture	Batch #:	904373
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455243

Client Sample Id	Lab Sample Id	QC Types
SB-1	455243-001	SMP
SB-10	455243-010	SMP
SB-11	455243-011	SMP
SB-12	455243-012	SMP
SB-2	455243-002	SMP
SB-3	455243-003	SMP
SB-4	455243-004	SMP
SB-5	455243-005	SMP
SB-6	455243-006	SMP
SB-7	455243-007	SMP
SB-8	455243-008	SMP
SB-9	455243-009	SMP
	455212-008 D	MD
	455243-009 D	MD
	904373-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	Total Petroleum Hydrocarbons by Texa	Batch #:	904459
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455243

Client Sample Id	Lab Sample Id	QC Types
SB-1	455243-001	SMP
SB-10	455243-010	SMP
SB-11	455243-011	SMP
SB-12	455243-012	SMP
SB-2	455243-002	SMP
SB-3	455243-003	SMP
SB-4	455243-004	SMP
SB-5	455243-005	SMP
SB-6	455243-006	SMP
SB-7	455243-007	SMP
SB-8	455243-008	SMP
SB-9	455243-009	SMP
	455297-001 S	MS
	455297-001 SD	MSD
	632214-1-BKS	BKS
	632214-1-BLK	BLK
	632214-1-BSD	BSD

XENCO Laboratories

Analytical Log

Analytical Method:	VOAs by SW-846 8260	Batch #:	904511
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455243

Client Sample Id	Lab Sample Id	QC Types
SB-4	455243-004	SMP
SB-5	455243-005	SMP
SB-6	455243-006	SMP
SB-8	455243-008	SMP
SB-9	455243-009	SMP
	455197-002 S	MS
	455197-002 SD	MSD
	632275-1-BKS	BKS
	632275-1-BLK	BLK
	632275-1-BSD	BSD

Analytical Log

Analytical Method:	BTEX-MTBE by SW 8260B	Batch #:	904595
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455243

Client Sample Id	Lab Sample Id	QC Types
SB-1	455243-001	SMP
SB-2	455243-002	SMP
SB-3	455243-003	SMP
	455243-003 S	MS
	455243-003 SD	MSD
	632324-1-BKS	BKS
	632324-1-BLK	BLK
	632324-1-BSD	BSD

XENCO Laboratories

Analytical Log

Analytical Method:	VOAs by SW-846 8260	Batch #:	904616
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455243

Client Sample Id	Lab Sample Id	QC Types
SB-10	455243-010	SMP
SB-11	455243-011	SMP
SB-12	455243-012	SMP
SB-7	455243-007	SMP
	455243-007 S	MS
	455243-007 SD	MSD
	632344-1-BKS	BKS
	632344-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	EDB by EPA 8011	Batch #:	904728
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455243

Client Sample Id	Lab Sample Id	QC Types
SB-10	455243-010	SMP
SB-11	455243-011	SMP
SB-12	455243-012	SMP
SB-4	455243-004	SMP
SB-5	455243-005	SMP
SB-6	455243-006	SMP
SB-7	455243-007	SMP
SB-8	455243-008	SMP
SB-9	455243-009	SMP
	455243-004 S	MS
	455243-004 SD	MSD
	632191-1-BKS	BKS
	632191-1-BLK	BLK
	632191-1-BSD	BSD

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455243, **Project ID:** 8496y

Lab Batch #: 904595 **Sample:** 632324-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/12/13 11:58

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0437	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0434	0.0500	87	80-120	
Toluene-D8	0.0486	0.0500	97	73-132	
4-Bromofluorobenzene	0.0439	0.0500	88	58-152	

Lab Batch #: 904595 **Sample:** 632324-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/12/13 12:21

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0417	0.0500	83	74-126	
1,2-Dichloroethane-D4	0.0413	0.0500	83	80-120	
Toluene-D8	0.0488	0.0500	98	73-132	
4-Bromofluorobenzene	0.0417	0.0500	83	58-152	

Lab Batch #: 904595 **Sample:** 632324-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/12/13 13:20

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0414	0.0500	83	74-126	
1,2-Dichloroethane-D4	0.0405	0.0500	81	80-120	
Toluene-D8	0.0480	0.0500	96	73-132	
4-Bromofluorobenzene	0.0444	0.0500	89	58-152	

Lab Batch #: 904595 **Sample:** 455243-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/12/13 14:51

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0418	0.0500	84	74-126	
1,2-Dichloroethane-D4	0.0425	0.0500	85	80-120	
Toluene-D8	0.0475	0.0500	95	73-132	
4-Bromofluorobenzene	0.0428	0.0500	86	58-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455243, **Project ID:** 8496y

Lab Batch #: 904595 **Sample:** 455243-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/12/13 15:14

BTEX-MTBE by SW 8260B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0433	0.0500	87	74-126	
1,2-Dichloroethane-D4	0.0432	0.0500	86	80-120	
Toluene-D8	0.0487	0.0500	97	73-132	
4-Bromofluorobenzene	0.0449	0.0500	90	58-152	

Lab Batch #: 904728 **Sample:** 632191-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: ug/kg **Date Analyzed:** 01/11/13 18:10

EDB by EPA 8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.3	50.0	105	60-140	

Lab Batch #: 904728 **Sample:** 632191-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: ug/kg **Date Analyzed:** 01/11/13 18:27

EDB by EPA 8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	53.7	50.0	107	60-140	

Lab Batch #: 904728 **Sample:** 632191-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: ug/kg **Date Analyzed:** 01/11/13 18:43

EDB by EPA 8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	50.8	50.0	102	60-140	

Lab Batch #: 904728 **Sample:** 455243-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: ug/kg **Date Analyzed:** 01/11/13 19:16

EDB by EPA 8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.3	50.0	103	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455243, **Project ID:** 8496y

Lab Batch #: 904728 **Sample:** 455243-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: ug/kg **Date Analyzed:** 01/11/13 19:33

SURROGATE RECOVERY STUDY

EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	52.9	50.0	106	60-140	

Lab Batch #: 904459 **Sample:** 632214-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/13 16:25

SURROGATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	52.8	50.0	106	70-130	
1-Chlorooctane	105	100	105	70-130	

Lab Batch #: 904459 **Sample:** 632214-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/13 16:45

SURROGATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	52.5	50.0	105	70-130	
1-Chlorooctane	128	100	128	70-130	

Lab Batch #: 904459 **Sample:** 632214-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/13 17:07

SURROGATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	49.2	50.0	98	70-130	
1-Chlorooctane	124	100	124	70-130	

Lab Batch #: 904459 **Sample:** 455297-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/11/13 00:27

SURROGATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	48.5	50.0	97	70-130	
1-Chlorooctane	125	100	125	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455243, **Project ID:** 8496y

Lab Batch #: 904459 **Sample:** 455297-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/11/13 00:47

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	54.2	50.0	108	70-130	
1-Chlorooctane	130	100	130	70-130	

Lab Batch #: 904511 **Sample:** 632275-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/13 11:08

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0499	0.0500	100	53-142	
1,2-Dichloroethane-D4	0.0516	0.0500	103	56-150	
Toluene-D8	0.0510	0.0500	102	70-130	
4-Bromofluorobenzene	0.0510	0.0500	102	68-152	

Lab Batch #: 904511 **Sample:** 632275-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/13 11:33

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0497	0.0500	99	53-142	
1,2-Dichloroethane-D4	0.0497	0.0500	99	56-150	
Toluene-D8	0.0508	0.0500	102	70-130	
4-Bromofluorobenzene	0.0520	0.0500	104	68-152	

Lab Batch #: 904511 **Sample:** 632275-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/10/13 12:47

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0500	0.0500	100	53-142	
1,2-Dichloroethane-D4	0.0512	0.0500	102	56-150	
Toluene-D8	0.0494	0.0500	99	70-130	
4-Bromofluorobenzene	0.0588	0.0500	118	68-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455243, **Project ID:** 8496y

Lab Batch #: 904511 **Sample:** 455197-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/10/13 16:29

SURROGATE RECOVERY STUDY					
VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0518	0.0500	104	53-142	
1,2-Dichloroethane-D4	0.0549	0.0500	110	56-150	
Toluene-D8	0.0493	0.0500	99	70-130	
4-Bromofluorobenzene	0.0557	0.0500	111	68-152	

Lab Batch #: 904511 **Sample:** 455197-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/10/13 16:53

SURROGATE RECOVERY STUDY					
VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0513	0.0500	103	53-142	
1,2-Dichloroethane-D4	0.0522	0.0500	104	56-150	
Toluene-D8	0.0487	0.0500	97	70-130	
4-Bromofluorobenzene	0.0566	0.0500	113	68-152	

Lab Batch #: 904616 **Sample:** 632344-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/12/13 16:43

SURROGATE RECOVERY STUDY					
VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0478	0.0500	96	53-142	
1,2-Dichloroethane-D4	0.0475	0.0500	95	56-150	
Toluene-D8	0.0499	0.0500	100	70-130	
4-Bromofluorobenzene	0.0481	0.0500	96	68-152	

Lab Batch #: 904616 **Sample:** 632344-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/12/13 18:26

SURROGATE RECOVERY STUDY					
VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0467	0.0500	93	53-142	
1,2-Dichloroethane-D4	0.0485	0.0500	97	56-150	
Toluene-D8	0.0491	0.0500	98	70-130	
4-Bromofluorobenzene	0.0570	0.0500	114	68-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455243, **Project ID:** 8496y

Lab Batch #: 904616 **Sample:** 455243-007 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/12/13 20:29

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0486	0.0500	97	53-142	
1,2-Dichloroethane-D4	0.0497	0.0500	99	56-150	
Toluene-D8	0.0502	0.0500	100	70-130	
4-Bromofluorobenzene	0.0487	0.0500	97	68-152	

Lab Batch #: 904616 **Sample:** 455243-007 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/12/13 20:53

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0499	0.0500	100	53-142	
1,2-Dichloroethane-D4	0.0525	0.0500	105	56-150	
Toluene-D8	0.0482	0.0500	96	70-130	
4-Bromofluorobenzene	0.0481	0.0500	96	68-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Spring Woods South

Work Order #: 455243 **Project ID:** 8496y

Lab Batch #: 904616 **Sample:** 632344-1-BKS **Matrix:** Solid

Date Analyzed: 01/12/2013 **Date Prepared:** 01/12/2013 **Analyst:** ZHO

Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOAs by SW-846 8260 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.000300	0.0500	0.0487	97	71-119	
Bromobenzene	<0.000198	0.0500	0.0433	87	84-123	
Bromochloromethane	<0.000215	0.0500	0.0444	89	71-120	
Bromodichloromethane	<0.000186	0.0500	0.0456	91	78-126	
Bromoform	<0.000393	0.0500	0.0422	84	63-136	
Bromomethane	<0.000274	0.0500	0.0426	85	57-118	
MTBE	<0.000142	0.100	0.0849	85	64-148	
tert-Butylbenzene	<0.0000900	0.0500	0.0480	96	83-132	
Sec-Butylbenzene	<0.000121	0.0500	0.0485	97	84-131	
n-Butylbenzene	<0.0000990	0.0500	0.0510	102	82-127	
Carbon Tetrachloride	<0.000132	0.0500	0.0496	99	63-135	
Chlorobenzene	<0.000104	0.0500	0.0461	92	83-121	
Chloroethane	<0.000254	0.0500	0.0524	105	57-122	
Chloroform	<0.000139	0.0500	0.0442	88	74-118	
Chloromethane	<0.000322	0.0500	0.0552	110	58-110	
2-Chlorotoluene	<0.000217	0.0500	0.0465	93	83-129	
4-Chlorotoluene	<0.000118	0.0500	0.0464	93	83-125	
p-Cymene (p-Isopropyltoluene)	<0.0000800	0.0500	0.0496	99	84-130	
Dibromochloromethane	<0.000422	0.0500	0.0438	88	77-130	
Dibromomethane	<0.000260	0.0500	0.0456	91	73-126	
1,2-Dichlorobenzene	<0.000129	0.0500	0.0443	89	84-121	
1,3-Dichlorobenzene	<0.000159	0.0500	0.0463	93	84-124	
1,4-Dichlorobenzene	<0.0000970	0.0500	0.0460	92	82-120	
Dichlorodifluoromethane	<0.000484	0.0500	0.0541	108	54-122	
1,2-Dichloroethane	<0.000177	0.0500	0.0442	88	70-123	
1,1-Dichloroethane	<0.000125	0.0500	0.0463	93	73-124	
trans-1,2-dichloroethene	<0.000123	0.0500	0.0490	98	63-110	
cis-1,2-Dichloroethene	<0.000165	0.0500	0.0464	93	72-131	
1,1-Dichloroethene	<0.000192	0.0500	0.0503	101	68-119	
2,2-Dichloropropane	<0.000127	0.0500	0.0475	95	67-137	
1,3-Dichloropropane	<0.000227	0.0500	0.0447	89	82-131	
1,2-Dichloropropane	<0.000162	0.0500	0.0461	92	75-122	
trans-1,3-dichloropropene	<0.000361	0.0500	0.0454	91	73-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Blank Spike Recovery

Project Name: Spring Woods South

Work Order #: 455243 **Project ID:** 8496y

Lab Batch #: 904616 **Sample:** 632344-1-BKS **Matrix:** Solid

Date Analyzed: 01/12/2013 **Date Prepared:** 01/12/2013 **Analyst:** ZHO

Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOAs by SW-846 8260 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,1-Dichloropropene	<0.000198	0.0500	0.0519	104	72-118	
cis-1,3-Dichloropropene	<0.000128	0.0500	0.0474	95	74-135	
Ethylbenzene	<0.000104	0.0500	0.0478	96	80-123	
Hexachlorobutadiene	<0.000346	0.0500	0.0467	93	77-130	
isopropylbenzene	<0.000112	0.0500	0.0472	94	55-155	
Methylene Chloride	<0.000427	0.0500	0.0452	90	57-134	
Naphthalene	<0.000148	0.0500	0.0433	87	53-162	
n-Propylbenzene	<0.000137	0.0500	0.0487	97	84-131	
Styrene	<0.000158	0.0500	0.0479	96	80-126	
1,1,1,2-Tetrachloroethane	<0.000148	0.0500	0.0446	89	81-127	
1,1,2,2-Tetrachloroethane	<0.000194	0.0500	0.0408	82	75-133	
Tetrachloroethylene	<0.000173	0.0500	0.0501	100	79-124	
Toluene	<0.000117	0.0500	0.0471	94	74-122	
1,2,4-Trichlorobenzene	<0.000191	0.0500	0.0459	92	79-128	
1,2,3-Trichlorobenzene	<0.000106	0.0500	0.0453	91	75-131	
1,1,2-Trichloroethane	<0.000225	0.0500	0.0429	86	75-131	
1,1,1-Trichloroethane	<0.000602	0.0500	0.0472	94	71-124	
Trichloroethene	<0.000147	0.0500	0.0496	99	78-119	
Trichlorofluoromethane	<0.000186	0.0500	0.0523	105	71-148	
1,2,4-Trimethylbenzene	<0.000103	0.0500	0.0478	96	60-159	
1,3,5-trimethylbenzene	<0.000166	0.0500	0.0474	95	61-160	
Vinyl Chloride	<0.000193	0.0500	0.0551	110	60-123	
o-Xylene	<0.000149	0.0500	0.0471	94	79-125	
m,p-Xylenes	<0.000185	0.100	0.0944	94	78-127	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Spring Woods South

Work Order #: 455243
Analyst: MCH
Lab Batch ID: 904595 **Sample:** 632324-1-BKS
Units: mg/kg

Date Prepared: 01/12/2013 **Batch #:** 1

Project ID: 8496y
Date Analyzed: 01/12/2013
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
MTBE	<0.000955	0.500	0.467	93	0.500	0.429	86	8	68-138	25	
Benzene	<0.000450	0.100	0.0924	92	0.100	0.0815	82	13	62-132	25	
Toluene	<0.000429	0.100	0.0946	95	0.100	0.0848	85	11	66-124	25	
Ethylbenzene	<0.000350	0.100	0.107	107	0.100	0.0923	92	15	71-134	25	
m,p-Xylenes	<0.000439	0.200	0.225	113	0.200	0.201	101	11	69-128	25	
o-Xylene	<0.000206	0.100	0.107	107	0.100	0.0972	97	10	72-131	25	

Analyst: KKO
Lab Batch ID: 904728 **Sample:** 632191-1-BKS
Units: mg/kg

Date Prepared: 01/11/2013 **Batch #:** 1

Date Analyzed: 01/11/2013
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

EDB by EPA 8011 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2-Dibromoethane	<0.000110	0.0500	0.0566	113	0.0500	0.0564	113	0	60-140	20	
1,2-Dibromo-3-Chloropropane (DBCP)	<0.000148	0.0500	0.0553	111	0.0500	0.0556	111	1	60-140	20	
1,2,3-Trichloropropane	<0.000311	0.0500	0.0541	108	0.0500	0.0542	108	0	60-140	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Spring Woods South

Work Order #: 455243
Analyst: VIC
Lab Batch ID: 904459 **Sample:** 632214-1-BKS
Units: mg/kg

Date Prepared: 01/10/2013
Batch #: 1

Project ID: 8496y
Date Analyzed: 01/10/2013
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<9.00	1000	1080	108	1000	1100	110	2	75-125	30	
C12-C28 Diesel Range Hydrocarbons	<9.00	1000	933	93	1000	980	98	5	75-125	30	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Final 1.000

BS / BSD Recoveries

Project Name: Spring Woods South

Work Order #: 455243
Analyst: MCH
Lab Batch ID: 904511 **Sample:** 632275-1-BKS
Units: mg/kg

Date Prepared: 01/10/2013
Batch #: 1

Project ID: 8496y
Date Analyzed: 01/10/2013
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.000300	0.0500	0.0521	104	0.0500	0.0499	100	4	71-119	25	
Bromobenzene	<0.000198	0.0500	0.0479	96	0.0500	0.0499	100	4	84-123	25	
Bromochloromethane	<0.000215	0.0500	0.0478	96	0.0500	0.0486	97	2	71-120	25	
Bromodichloromethane	<0.000186	0.0500	0.0483	97	0.0500	0.0467	93	3	78-126	25	
Bromoform	<0.000393	0.0500	0.0422	84	0.0500	0.0430	86	2	63-136	25	
Bromomethane	<0.000274	0.0500	0.0441	88	0.0500	0.0438	88	1	57-118	25	
MTBE	<0.000142	0.100	0.106	106	0.100	0.0976	98	8	64-148	25	
tert-Butylbenzene	<0.0000900	0.0500	0.0519	104	0.0500	0.0534	107	3	83-132	25	
Sec-Butylbenzene	<0.000121	0.0500	0.0540	108	0.0500	0.0556	111	3	84-131	25	
n-Butylbenzene	<0.0000990	0.0500	0.0559	112	0.0500	0.0566	113	1	82-127	25	
Carbon Tetrachloride	<0.000132	0.0500	0.0483	97	0.0500	0.0428	86	12	63-135	25	
Chlorobenzene	<0.000104	0.0500	0.0494	99	0.0500	0.0499	100	1	83-121	25	
Chloroethane	<0.000254	0.0500	0.0493	99	0.0500	0.0487	97	1	57-122	25	
Chloroform	<0.000139	0.0500	0.0505	101	0.0500	0.0507	101	0	74-118	25	
Chloromethane	<0.000322	0.0500	0.0589	118	0.0500	0.0594	119	1	58-110	25	H
2-Chlorotoluene	<0.000217	0.0500	0.0519	104	0.0500	0.0530	106	2	83-129	25	
4-Chlorotoluene	<0.000118	0.0500	0.0515	103	0.0500	0.0538	108	4	83-125	25	
p-Cymene (p-Isopropyltoluene)	<0.0000800	0.0500	0.0542	108	0.0500	0.0538	108	1	84-130	25	
Dibromochloromethane	<0.000422	0.0500	0.0446	89	0.0500	0.0459	92	3	77-130	25	
Dibromomethane	<0.000260	0.0500	0.0481	96	0.0500	0.0466	93	3	73-126	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Final 1.000

BS / BSD Recoveries

Project Name: Spring Woods South

Work Order #: 455243
Analyst: MCH
Lab Batch ID: 904511 **Sample:** 632275-1-BKS
Units: mg/kg

Date Prepared: 01/10/2013
Batch #: 1

Project ID: 8496y
Date Analyzed: 01/10/2013
Matrix: Solid

VOAs by SW-846 8260 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2-Dichlorobenzene	<0.000129	0.0500	0.0473	95	0.0500	0.0489	98	3	84-121	25	
1,3-Dichlorobenzene	<0.000159	0.0500	0.0487	97	0.0500	0.0508	102	4	84-124	25	
1,4-Dichlorobenzene	<0.0000970	0.0500	0.0496	99	0.0500	0.0496	99	0	82-120	25	
Dichlorodifluoromethane	<0.000484	0.0500	0.0544	109	0.0500	0.0537	107	1	54-122	25	
1,2-Dichloroethane	<0.000177	0.0500	0.0495	99	0.0500	0.0468	94	6	70-123	25	
1,1-Dichloroethane	<0.000125	0.0500	0.0515	103	0.0500	0.0517	103	0	73-124	25	
trans-1,2-dichloroethene	<0.000123	0.0500	0.0499	100	0.0500	0.0511	102	2	63-110	25	
cis-1,2-Dichloroethene	<0.000165	0.0500	0.0495	99	0.0500	0.0508	102	3	72-131	25	
1,1-Dichloroethene	<0.000192	0.0500	0.0523	105	0.0500	0.0548	110	5	68-119	25	
2,2-Dichloropropane	<0.000127	0.0500	0.0560	112	0.0500	0.0532	106	5	67-137	25	
1,3-Dichloropropane	<0.000227	0.0500	0.0477	95	0.0500	0.0480	96	1	82-131	25	
1,2-Dichloropropane	<0.000162	0.0500	0.0502	100	0.0500	0.0496	99	1	75-122	25	
trans-1,3-dichloropropene	<0.000361	0.0500	0.0479	96	0.0500	0.0469	94	2	73-125	25	
1,1-Dichloropropene	<0.000198	0.0500	0.0513	103	0.0500	0.0504	101	2	72-118	25	
cis-1,3-Dichloropropene	<0.000128	0.0500	0.0500	100	0.0500	0.0492	98	2	74-135	25	
Ethylbenzene	<0.000104	0.0500	0.0534	107	0.0500	0.0517	103	3	80-123	25	
Hexachlorobutadiene	<0.000346	0.0500	0.0423	85	0.0500	0.0426	85	1	77-130	25	
isopropylbenzene	<0.000112	0.0500	0.0552	110	0.0500	0.0554	111	0	55-155	25	
Methylene Chloride	0.000450	0.0500	0.0510	102	0.0500	0.0520	104	2	57-134	25	
Naphthalene	<0.000148	0.0500	0.0391	78	0.0500	0.0379	76	3	53-162	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Final 1.000

BS / BSD Recoveries

Project Name: Spring Woods South

Work Order #: 455243
Analyst: MCH
Lab Batch ID: 904511 **Sample:** 632275-1-BKS
Units: mg/kg

Date Prepared: 01/10/2013
Batch #: 1

Project ID: 8496y
Date Analyzed: 01/10/2013
Matrix: Solid

VOAs by SW-846 8260 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
n-Propylbenzene	<0.000137	0.0500	0.0538	108	0.0500	0.0556	111	3	84-131	25	
Styrene	<0.000158	0.0500	0.0506	101	0.0500	0.0512	102	1	80-126	25	
1,1,1,2-Tetrachloroethane	<0.000148	0.0500	0.0461	92	0.0500	0.0465	93	1	81-127	25	
1,1,2,2-Tetrachloroethane	<0.000194	0.0500	0.0492	98	0.0500	0.0527	105	7	75-133	25	
Tetrachloroethylene	<0.000173	0.0500	0.0482	96	0.0500	0.0494	99	2	79-124	25	
Toluene	<0.000117	0.0500	0.0506	101	0.0500	0.0490	98	3	74-122	25	
1,2,4-Trichlorobenzene	<0.000191	0.0500	0.0431	86	0.0500	0.0430	86	0	79-128	25	
1,2,3-Trichlorobenzene	<0.000106	0.0500	0.0422	84	0.0500	0.0431	86	2	75-131	25	
1,1,2-Trichloroethane	<0.000225	0.0500	0.0476	95	0.0500	0.0468	94	2	75-131	25	
1,1,1-Trichloroethane	<0.000602	0.0500	0.0527	105	0.0500	0.0492	98	7	71-124	25	
Trichloroethene	<0.000147	0.0500	0.0495	99	0.0500	0.0480	96	3	78-119	25	
Trichlorofluoromethane	<0.000186	0.0500	0.0530	106	0.0500	0.0511	102	4	71-148	25	
1,2,4-Trimethylbenzene	<0.000103	0.0500	0.0542	108	0.0500	0.0538	108	1	60-159	25	
1,3,5-trimethylbenzene	<0.000166	0.0500	0.0558	112	0.0500	0.0549	110	2	61-160	25	
Vinyl Chloride	<0.000193	0.0500	0.0575	115	0.0500	0.0568	114	1	60-123	25	
o-Xylene	<0.000149	0.0500	0.0525	105	0.0500	0.0501	100	5	79-125	25	
m,p-Xylenes	<0.000185	0.100	0.107	107	0.100	0.104	104	3	78-127	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Final 1.000

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455243

Project ID: 8496y

Lab Batch ID: 904595 **QC- Sample ID:** 455243-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/12/2013 **Date Prepared:** 01/12/2013 **Analyst:** MCH

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
MTBE	<0.00100	0.524	0.470	90	0.522	0.486	93	3	68-138	25	
Benzene	<0.000472	0.105	0.0912	87	0.104	0.0877	84	4	62-132	25	
Toluene	0.000833	0.105	0.0961	91	0.104	0.0917	87	5	66-124	25	
Ethylbenzene	<0.000367	0.105	0.103	98	0.104	0.101	97	2	71-134	25	
m,p-Xylenes	<0.000460	0.210	0.222	106	0.209	0.218	104	2	69-128	25	
o-Xylene	<0.000216	0.105	0.107	102	0.104	0.106	102	1	72-131	25	

Lab Batch ID: 904728 **QC- Sample ID:** 455243-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/11/2013 **Date Prepared:** 01/11/2013 **Analyst:** KKO

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

EDB by EPA 8011 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2-Dibromoethane	<0.000128	0.0580	0.0643	111	0.0580	0.0660	114	3	60-140	20	
1,2-Dibromo-3-Chloropropane (DBCP)	<0.000172	0.0580	0.0621	107	0.0580	0.0639	110	3	60-140	20	
1,2,3-Trichloropropane	<0.000361	0.0580	0.0591	102	0.0580	0.0606	104	3	60-140	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455243

Project ID: 8496y

Lab Batch ID: 904459

QC- Sample ID: 455297-001 S

Batch #: 1

Matrix: Soil

Date Analyzed: 01/11/2013

Date Prepared: 01/10/2013

Analyst: VIC

Reporting Units: mg/kg

Total Petroleum Hydrocarbons by Texas 1005	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<9.14	1020	953	93	1020	1090	107	13	75-125	30	
C12-C28 Diesel Range Hydrocarbons	<9.14	1020	843	83	1020	938	92	11	75-125	30	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455243

Project ID: 8496y

Lab Batch ID: 904511

QC- Sample ID: 455197-002 S

Batch #: 1

Matrix: Soil

Date Analyzed: 01/10/2013

Date Prepared: 01/10/2013

Analyst: MCH

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.0127	2.12	2.43	115	1.53	1.63	107	39	66-142	25	F
Bromobenzene	<0.00839	2.12	2.25	106	1.53	1.58	103	35	75-125	25	F
Bromochloromethane	<0.00911	2.12	2.35	111	1.53	1.56	102	40	60-140	25	F
Bromodichloromethane	<0.00788	2.12	2.19	103	1.53	1.46	95	40	75-125	25	F
Bromoform	<0.0167	2.12	1.70	80	1.53	1.21	79	34	75-125	25	F
Bromomethane	<0.0116	2.12	1.48	70	1.53	1.04	68	35	60-140	25	F
MTBE	<0.00602	4.24	4.88	115	3.06	3.27	107	40	60-140	25	F
tert-Butylbenzene	<0.00381	2.12	2.38	112	1.53	1.57	103	41	75-125	25	F
Sec-Butylbenzene	<0.00513	2.12	2.49	117	1.53	1.63	107	42	75-125	25	F
n-Butylbenzene	<0.00419	2.12	2.58	122	1.53	1.60	105	47	75-125	25	F
Carbon Tetrachloride	<0.00559	2.12	1.98	93	1.53	1.35	88	38	62-125	25	F
Chlorobenzene	<0.00441	2.12	2.22	105	1.53	1.51	99	38	60-133	25	F
Chloroethane	<0.0108	2.12	1.07	50	1.53	0.752	49	35	60-140	25	XF
Chloroform	<0.00589	2.12	2.43	115	1.53	1.61	105	41	74-125	25	F
Chloromethane	<0.0136	2.12	3.07	145	1.53	1.97	129	44	60-140	25	XF
2-Chlorotoluene	<0.00919	2.12	2.53	119	1.53	1.74	114	37	73-125	25	F
4-Chlorotoluene	<0.00500	2.12	2.58	122	1.53	1.79	117	36	74-125	25	F
p-Cymene (p-Isopropyltoluene)	<0.00339	2.12	2.47	117	1.53	1.58	103	44	75-125	25	F
Dibromochloromethane	<0.0179	2.12	2.03	96	1.53	1.40	92	37	73-125	25	F
Dibromomethane	<0.0110	2.12	2.20	104	1.53	1.49	97	38	69-127	25	F
1,2-Dichlorobenzene	<0.00547	2.12	2.09	99	1.53	1.39	91	40	75-125	25	F
1,3-Dichlorobenzene	<0.00674	2.12	2.22	105	1.53	1.50	98	39	75-125	25	F
1,4-Dichlorobenzene	<0.00411	2.12	2.20	104	1.53	1.51	99	37	75-125	25	F

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455243

Project ID: 8496y

Lab Batch ID: 904511

QC- Sample ID: 455197-002 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 01/10/2013

Date Prepared: 01/10/2013

Analyst: MCH

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dichlorodifluoromethane	<0.0205	2.12	2.29	108	1.53	1.56	102	38	65-135	25	F
1,2-Dichloroethane	<0.00750	2.12	2.22	105	1.53	1.46	95	41	68-127	25	F
1,1-Dichloroethane	<0.00530	2.12	2.57	121	1.53	1.71	112	40	72-125	25	F
trans-1,2-dichloroethene	<0.00521	2.12	2.42	114	1.53	1.62	106	40	75-125	25	F
cis-1,2-Dichloroethene	<0.00699	2.12	2.47	117	1.53	1.61	105	42	75-125	25	F
1,1-Dichloroethene	<0.00814	2.12	2.52	119	1.53	1.64	107	42	59-172	25	F
2,2-Dichloropropane	<0.00538	2.12	2.14	101	1.53	1.42	93	40	75-125	25	F
1,3-Dichloropropane	<0.00962	2.12	2.31	109	1.53	1.58	103	38	75-125	25	F
1,2-Dichloropropane	<0.00686	2.12	2.46	116	1.53	1.61	105	42	74-125	25	F
trans-1,3-dichloropropene	<0.0153	2.12	2.18	103	1.53	1.47	96	39	66-125	25	F
1,1-Dichloropropene	<0.00839	2.12	2.31	109	1.53	1.57	103	38	75-125	25	F
cis-1,3-Dichloropropene	<0.00542	2.12	2.34	110	1.53	1.56	102	40	74-125	25	F
Ethylbenzene	<0.00441	2.12	2.22	105	1.53	1.53	100	37	75-125	25	F
Hexachlorobutadiene	<0.0147	2.12	1.70	80	1.53	1.03	67	49	75-125	25	XF
isopropylbenzene	<0.00475	2.12	2.62	124	1.53	1.81	118	37	75-125	25	F
Methylene Chloride	<0.0181	2.12	2.57	121	1.53	1.68	110	42	75-125	25	F
Naphthalene	<0.00627	2.12	1.59	75	1.53	1.17	76	30	70-130	25	F
n-Propylbenzene	<0.00581	2.12	2.60	123	1.53	1.79	117	37	75-125	25	F
Styrene	<0.00669	2.12	2.25	106	1.53	1.54	101	37	75-125	25	F
1,1,1,2-Tetrachloroethane	<0.00627	2.12	1.97	93	1.53	1.35	88	37	72-125	25	F
1,1,2,2-Tetrachloroethane	<0.00822	2.12	2.44	115	1.53	1.77	116	32	74-125	25	F
Tetrachloroethylene	<0.00733	2.12	2.08	98	1.53	1.44	94	36	71-125	25	F
Toluene	0.00612	2.12	2.28	107	1.53	1.52	99	40	59-139	25	F

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455243

Project ID: 8496y

Lab Batch ID: 904511

QC- Sample ID: 455197-002 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 01/10/2013

Date Prepared: 01/10/2013

Analyst: MCH

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2,4-Trichlorobenzene	<0.00809	2.12	1.89	89	1.53	1.23	80	42	75-135	25	F
1,2,3-Trichlorobenzene	<0.00449	2.12	1.91	90	1.53	1.29	84	39	75-137	25	F
1,1,2-Trichloroethane	<0.00953	2.12	2.21	104	1.53	1.47	96	40	75-127	25	F
1,1,1-Trichloroethane	<0.0255	2.12	2.21	104	1.53	1.50	98	38	75-125	25	F
Trichloroethene	<0.00623	2.12	2.22	105	1.53	1.48	97	40	62-137	25	F
Trichlorofluoromethane	<0.00788	2.12	1.76	83	1.53	1.19	78	39	67-125	25	F
1,2,4-Trimethylbenzene	0.00798	2.12	2.55	120	1.53	1.70	111	40	75-125	25	F
1,3,5-trimethylbenzene	<0.00703	2.12	2.57	121	1.53	1.71	112	40	70-130	25	F
Vinyl Chloride	<0.00818	2.12	2.95	139	1.53	1.99	130	39	60-140	25	F
o-Xylene	<0.00631	2.12	2.16	102	1.53	1.49	97	37	75-125	25	F
m,p-Xylenes	0.00824	4.24	4.50	106	3.06	3.09	101	37	75-125	25	F

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

XENCO Laboratories

Project ID: 8496y

Work Order # : 455243

Lab Batch ID: 904616

Date Analyzed: 01/12/2013

Reporting Units: mg/kg

QC- Sample ID: 455243-007 S

Date Prepared: 01/12/2013

Batch #: 1 **Matrix:** Soil

Analyst: ZHO

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.00230	0.0589	0.0557	91	0.0586	0.0609	100	9	66-142	25	
Bromobenzene	<0.000233	0.0589	0.0507	86	0.0586	0.0543	93	7	75-125	25	
Bromochloromethane	<0.000253	0.0589	0.0500	85	0.0586	0.0571	97	13	60-140	25	
Bromodichloromethane	<0.000219	0.0589	0.0519	88	0.0586	0.0555	95	7	75-125	25	
Bromoform	<0.000463	0.0589	0.0536	91	0.0586	0.0597	102	11	75-125	25	
Bromomethane	<0.000323	0.0589	0.0526	89	0.0586	0.0578	99	9	60-140	25	
MTBE	<0.000167	0.118	0.103	87	0.117	0.116	99	12	60-140	25	
tert-Butylbenzene	<0.000106	0.0589	0.0541	92	0.0586	0.0601	103	11	75-125	25	
Sec-Butylbenzene	<0.000143	0.0589	0.0543	92	0.0586	0.0611	104	12	75-125	25	
n-Butylbenzene	<0.000117	0.0589	0.0544	92	0.0586	0.0617	105	13	75-125	25	
Carbon Tetrachloride	<0.000156	0.0589	0.0583	99	0.0586	0.0630	108	8	62-125	25	
Chlorobenzene	<0.000123	0.0589	0.0516	88	0.0586	0.0560	96	8	60-133	25	
Chloroethane	<0.000299	0.0589	0.0500	85	0.0586	0.0646	110	25	60-140	25	
Chloroform	<0.000164	0.0589	0.0498	85	0.0586	0.0552	94	10	74-125	25	
Chloromethane	<0.000379	0.0589	0.0548	93	0.0586	0.0665	113	19	60-140	25	
2-Chlorotoluene	<0.000256	0.0589	0.0516	88	0.0586	0.0558	95	8	73-125	25	
4-Chlorotoluene	<0.000139	0.0589	0.0528	90	0.0586	0.0562	96	6	74-125	25	
p-Cymene (p-Isopropyltoluene)	<0.0000943	0.0589	0.0549	93	0.0586	0.0622	106	12	75-125	25	
Dibromochloromethane	<0.000497	0.0589	0.0531	90	0.0586	0.0574	98	8	73-125	25	
Dibromomethane	<0.000306	0.0589	0.0555	94	0.0586	0.0617	105	11	69-127	25	
1,2-Dichlorobenzene	<0.000152	0.0589	0.0488	83	0.0586	0.0541	92	10	75-125	25	
1,3-Dichlorobenzene	<0.000187	0.0589	0.0506	86	0.0586	0.0548	94	8	75-125	25	
1,4-Dichlorobenzene	<0.000114	0.0589	0.0507	86	0.0586	0.0553	94	9	75-125	25	

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

XENCO Laboratories

Project Name: Spring Woods South

Project ID: 8496y

Work Order # : 455243

Lab Batch ID: 904616

Date Analyzed: 01/12/2013

Reporting Units: mg/kg

QC- Sample ID: 455243-007 S

Date Prepared: 01/12/2013

Batch #: 1 Matrix: Soil

Analyst: ZHO

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dichlorodifluoromethane	<0.000570	0.0589	0.0595	101	0.0586	0.0696	119	16	65-135	25	
1,2-Dichloroethane	<0.000209	0.0589	0.0534	91	0.0586	0.0579	99	8	68-127	25	
1,1-Dichloroethane	<0.000147	0.0589	0.0518	88	0.0586	0.0588	100	13	72-125	25	
trans-1,2-dichloroethene	<0.000145	0.0589	0.0558	95	0.0586	0.0627	107	12	75-125	25	
cis-1,2-Dichloroethene	<0.000194	0.0589	0.0513	87	0.0586	0.0580	99	12	75-125	25	
1,1-Dichloroethene	<0.000226	0.0589	0.0564	96	0.0586	0.0659	112	16	59-172	25	
2,2-Dichloropropane	<0.000150	0.0589	0.0515	87	0.0586	0.0567	97	10	75-125	25	
1,3-Dichloropropane	<0.000267	0.0589	0.0545	93	0.0586	0.0581	99	6	75-125	25	
1,2-Dichloropropane	<0.000191	0.0589	0.0442	75	0.0586	0.0541	92	20	74-125	25	
trans-1,3-dichloropropene	<0.000425	0.0589	0.0533	90	0.0586	0.0552	94	4	66-125	25	
1,1-Dichloropropene	<0.000233	0.0589	0.0585	99	0.0586	0.0653	111	11	75-125	25	
cis-1,3-Dichloropropene	<0.000151	0.0589	0.0516	88	0.0586	0.0546	93	6	74-125	25	
Ethylbenzene	<0.000123	0.0589	0.0528	90	0.0586	0.0569	97	7	75-125	25	
Hexachlorobutadiene	<0.000408	0.0589	0.0512	87	0.0586	0.0592	101	14	75-125	25	
isopropylbenzene	<0.000132	0.0589	0.0542	92	0.0586	0.0588	100	8	75-125	25	
Methylene Chloride	<0.000503	0.0589	0.0496	84	0.0586	0.0560	96	12	75-125	25	
Naphthalene	<0.000174	0.0589	0.0532	90	0.0586	0.0644	110	19	70-130	25	
n-Propylbenzene	<0.000161	0.0589	0.0541	92	0.0586	0.0597	102	10	75-125	25	
Styrene	<0.000186	0.0589	0.0523	89	0.0586	0.0562	96	7	75-125	25	
1,1,1,2-Tetrachloroethane	<0.000174	0.0589	0.0507	86	0.0586	0.0553	94	9	72-125	25	
1,1,2,2-Tetrachloroethane	<0.000229	0.0589	0.0544	92	0.0586	0.0603	103	10	74-125	25	
Tetrachloroethylene	<0.000204	0.0589	0.0576	98	0.0586	0.0634	108	10	71-125	25	
Toluene	0.000668	0.0589	0.0524	88	0.0586	0.0550	93	5	59-139	25	

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Final 1.000

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455243

Project ID: 8496y

Lab Batch ID: 904616

QC- Sample ID: 455243-007 S

Batch #: 1

Matrix: Soil

Date Analyzed: 01/12/2013

Date Prepared: 01/12/2013

Analyst: ZHO

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2,4-Trichlorobenzene	<0.000225	0.0589	0.0488	83	0.0586	0.0554	95	13	75-135	25	
1,2,3-Trichlorobenzene	<0.000125	0.0589	0.0493	84	0.0586	0.0545	93	10	75-137	25	
1,1,2-Trichloroethane	<0.000265	0.0589	0.0534	91	0.0586	0.0546	93	2	75-127	25	
1,1,1-Trichloroethane	<0.000709	0.0589	0.0532	90	0.0586	0.0595	102	11	75-125	25	
Trichloroethene	<0.000173	0.0589	0.0540	92	0.0586	0.0596	102	10	62-137	25	
Trichlorofluoromethane	<0.000219	0.0589	0.0588	100	0.0586	0.0661	113	12	67-125	25	
1,2,4-Trimethylbenzene	<0.000121	0.0589	0.0537	91	0.0586	0.0586	100	9	75-125	25	
1,3,5-trimethylbenzene	<0.000196	0.0589	0.0533	90	0.0586	0.0580	99	8	70-130	25	
Vinyl Chloride	<0.000227	0.0589	0.0571	97	0.0586	0.0676	115	17	60-140	25	
o-Xylene	<0.000176	0.0589	0.0517	88	0.0586	0.0570	97	10	75-125	25	
m,p-Xylenes	<0.000218	0.118	0.107	91	0.117	0.115	98	7	75-125	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Spring Woods South

Work Order #: 455243

Lab Batch #: 904373 **Project ID:** 8496y
Date Analyzed: 01/09/2013 18:33 **Date Prepared:** 01/09/2013 **Analyst:** RKO
QC- Sample ID: 455212-008 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	17.6	18.1	3	20	

Lab Batch #: 904373
Date Analyzed: 01/09/2013 18:33 **Date Prepared:** 01/09/2013 **Analyst:** RKO
QC- Sample ID: 455243-009 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	16.7	16.7	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

DCS Summary 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: BTEX-MTBE by SW 8260B Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
MTBE	0.00250	0.00374	mg/kg
Benzene	0.00100	0.00131	mg/kg
Toluene	0.00100	0.00221	mg/kg
Ethylbenzene	0.00100	0.00126	mg/kg
m,p-Xylenes	0.00100	0.00138	mg/kg
o-Xylene	0.000500	0.000580	mg/kg

Analytical Method: EDB by EPA 8011 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
1,2-Dibromoethane	0.000300	0.000264	mg/kg
1,2-Dibromo-3-Chloropropane (DBCP)	0.000300	0.000603	mg/kg
1,2,3-Trichloropropane	0.000300	0.000389	mg/kg

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
C6-C12 Gasoline Range Hydrocarbons	25.0	25.0	mg/kg
C12-C28 Diesel Range Hydrocarbons	25.0	21.0	mg/kg
Total TPH 1005	50.0	46.0	mg/kg

DCS Summary 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: VOAs by SW-846 8260 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
Benzene	0.00100	0.000270	mg/kg
Bromobenzene	0.000250	0.000180	mg/kg
Bromochloromethane	0.000500	0.000380	mg/kg
Bromodichloromethane	0.000250	0.000240	mg/kg
Bromoform	0.00100	0.000740	mg/kg
Bromomethane	0.000500	0.000280	mg/kg
MTBE	0.000500	0.000530	mg/kg
tert-Butylbenzene	0.000250	0.000200	mg/kg
Sec-Butylbenzene	0.000250	0.000180	mg/kg
n-Butylbenzene	0.000250	0.000250	mg/kg
Carbon Tetrachloride	0.000250	0.000320	mg/kg
Chlorobenzene	0.000250	0.000330	mg/kg
Chloroethane	0.000500	0.000650	mg/kg
Chloroform	0.000250	0.000590	mg/kg
Chloromethane	0.00100	0.000230	mg/kg
2-Chlorotoluene	0.000250	0.000250	mg/kg
4-Chlorotoluene	0.000250	0.000250	mg/kg
p-Cymene (p-Isopropyltoluene)	0.000250	0.000250	mg/kg
Dibromochloromethane	0.000500	0.000460	mg/kg
Dibromomethane	0.000500	0.000300	mg/kg
1,2-Dichlorobenzene	0.000250	0.000340	mg/kg
1,3-Dichlorobenzene	0.000250	0.000290	mg/kg
1,4-Dichlorobenzene	0.000250	0.000380	mg/kg
Dichlorodifluoromethane	0.000500	0.000690	mg/kg
1,2-Dichloroethane	0.000250	0.000160	mg/kg
1,1-Dichloroethane	0.000250	0.000340	mg/kg
trans-1,2-dichloroethene	0.000250	0.000220	mg/kg
cis-1,2-Dichloroethene	0.000250	0.000220	mg/kg
1,1-Dichloroethene	0.000250	0.000300	mg/kg
2,2-Dichloropropane	0.000250	0.000160	mg/kg
1,3-Dichloropropane	0.000250	0.000140	mg/kg
1,2-Dichloropropane	0.000250	0.000150	mg/kg
trans-1,3-dichloropropene	0.000500	0.000470	mg/kg
1,1-Dichloropropene	0.000250	0.000300	mg/kg
cis-1,3-Dichloropropene	0.000250	0.000180	mg/kg
Ethylbenzene	0.000250	0.000290	mg/kg
Hexachlorobutadiene	0.000500	0.000390	mg/kg
isopropylbenzene	0.000250	0.000250	mg/kg
Methylene Chloride	0.00100	0.00423	mg/kg
Naphthalene	0.000250	0.000360	mg/kg
n-Propylbenzene	0.000250	0.000150	mg/kg
Styrene	0.000250	0.000270	mg/kg
1,1,1,2-Tetrachloroethane	0.000500	0.000510	mg/kg
1,1,2,2-Tetrachloroethane	0.000500	0.000420	mg/kg
Tetrachloroethylene	0.000250	0.000300	mg/kg
Toluene	0.000250	0.000380	mg/kg

DCS Summary 455243

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: VOAs by SW-846 8260 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
1,2,4-Trichlorobenzene	0.000250	0.000250	mg/kg
1,2,3-Trichlorobenzene	0.000250	0.000360	mg/kg
1,1,2-Trichloroethane	0.000500	0.000490	mg/kg
1,1,1-Trichloroethane	0.00200	0.000330	mg/kg
Trichloroethene	0.000250	0.000220	mg/kg
Trichlorofluoromethane	0.000250	0.000240	mg/kg
1,2,4-Trimethylbenzene	0.000250	0.000280	mg/kg
1,3,5-trimethylbenzene	0.000250	0.000250	mg/kg
Vinyl Chloride	0.000250	0.000240	mg/kg
o-Xylene	0.000250	0.000280	mg/kg
m,p-Xylenes	0.000500	0.000540	mg/kg

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

XENCO Laboratories

☒ 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
☐ 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
☐ 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**

Serial #: 322190 Page 1 of 2

Lab Only: 455243-H

Company-City: Berg-Oliver Associates, Inc Phone: 281.589-0898

Project Name-Location: Spring Woods South ☐ Previously done at XENCO Project ID: 8496Y

TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific. It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other

Proj. Manager (PM): Tom Murphy

E-mail Results to ☒ PM and Fax No: 281.589-0807

Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.
Bill to:

Quote/Pricing: P.O. No: ☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)
Run TCEQ TRRP Tier 1 0.5-Acre Res PGL only

Sampler Name: Tom Murphy Signature:

	Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	(TX-1005) DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	VOCs (8260)	TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Remarks: Sample Clean-ups are pre-approved as needed	Addn: Date Rcv. by: From:
1	SB-1 @ 6-8'	01/07/13	933	←	S		X	1	4oz	GC	Ice	X			X						X					1
2	SB-2 @ 4-6'		958									X			X											2
3	SB-3 @ 12-14'		1025									X			X											3
4	SB-4 @ 8-10'		1056												X						X					4
5	SB-5 @ 4-6'		1122												X						X					5
6	SB-6 @ 14-16'		1159	←											X						X					6
7	SB-7 @ 4-6'		1310		V										X						X					7
8	SB-8 @ 8-10'		1337												X						X					8
9	SB-9 @ 12-14'		1358												X						X					9
10	SB-10 @ 4-6'		1424	←											X						X					10

Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1)	01/08/13	2)	1-08-13 1055
3)	906	4)	
5)	01-08-13 14:00	6)	01-08-13 1420

Total Containers per COC: Cooler Temp: 2.8 °C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) _____
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ **Cont. Type:** Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)

Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)

Committed to Excellence in Service and Quality www.xenco.com

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

XENCO Laboratories

- [X] 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
- [ ] 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
- [ ] 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
- [ ] 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**

Serial #: 322191 Page 2 of 2

Company-City: Berg-Oliver Associates, Inc. **Phone:** 281.589-0878

Lab Only:

Project Name-Location: Spring Woods South ☐ Previously done at XENCO **Project ID:** 8496Y

TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other **Proj. Manager (PM):** Tom Murphy

E-mail Results to: [X] PM and **Fax No:** 281.589-0007

Invoice to: ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.
Bill to:

Quote/Pricing: **P.O. No:** ☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)
Run TCEQ TRRP Tier 0.5 - Acre Res PCL only

Sampler Name: Tom Murphy **Signature:**

	Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	VOCs (8260)	TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Remarks: Sample Clean-ups are pre-approved as needed	Addn: Date Rcv. by: From:
1	SB-11@ 8-10'	01/07/13	1248	←	S		X	1	4oz	GC	Ice				X						X					1
2	SB-12@ 14-16'	↓	1509	←	↓		↓	↓	↓	↓	↓				X						X					2
3					L																					3
4																										4
5																										5
6																										6
7																										7
8																										8
9																										9
10																										10

Relinquished by (Initials and Sign)	Date & Time	Relinquished to (initials and Sign)	Date & Time
1)	01/08/13	2)	1-8-13 10:55
3) 906		4)	
5)	01-08-13 14:25	6)	01-08-13 14:25

Total Containers per COC: Cooler Temp: 0.8°C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) _____
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ **Cont. Type:** Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)

Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)

Committed to Excellence in Service and Quality www.xenco.com

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Berg - Oliver Associates

Date/ Time Received: 01/08/2013 02:25:00 PM

Work Order #: 455243

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R-31

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.8	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	No	
#6 *Custody Seals Signed and dated?	No	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	N/A	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: TT	PH Device/Lot#:

Checklist completed by: Tanya Torres Date: 01/09/2013

Checklist reviewed by: Debbie Simmons Date: 01/09/2013

XENCO Laboratories

DCS Summary 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: VOAs by SW-846 8260 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
Benzene	0.00100	0.000270	mg/kg
Bromobenzene	0.000250	0.000180	mg/kg
Bromochloromethane	0.000500	0.000380	mg/kg
Bromodichloromethane	0.000250	0.000240	mg/kg
Bromoform	0.00100	0.000740	mg/kg
Bromomethane	0.000500	0.000280	mg/kg
MTBE	0.000500	0.000530	mg/kg
tert-Butylbenzene	0.000250	0.000200	mg/kg
Sec-Butylbenzene	0.000250	0.000180	mg/kg
n-Butylbenzene	0.000250	0.000250	mg/kg
Carbon Tetrachloride	0.000250	0.000320	mg/kg
Chlorobenzene	0.000250	0.000330	mg/kg
Chloroethane	0.000500	0.000650	mg/kg
Chloroform	0.000250	0.000590	mg/kg
Chloromethane	0.00100	0.000230	mg/kg
2-Chlorotoluene	0.000250	0.000250	mg/kg
4-Chlorotoluene	0.000250	0.000250	mg/kg
p-Cymene (p-Isopropyltoluene)	0.000250	0.000250	mg/kg
Dibromochloromethane	0.000500	0.000460	mg/kg
Dibromomethane	0.000500	0.000300	mg/kg
1,2-Dichlorobenzene	0.000250	0.000340	mg/kg
1,3-Dichlorobenzene	0.000250	0.000290	mg/kg
1,4-Dichlorobenzene	0.000250	0.000380	mg/kg
Dichlorodifluoromethane	0.000500	0.000690	mg/kg
1,2-Dichloroethane	0.000250	0.000160	mg/kg
1,1-Dichloroethane	0.000250	0.000340	mg/kg
trans-1,2-dichloroethene	0.000250	0.000220	mg/kg
cis-1,2-Dichloroethene	0.000250	0.000220	mg/kg
1,1-Dichloroethene	0.000250	0.000300	mg/kg
2,2-Dichloropropane	0.000250	0.000160	mg/kg
1,3-Dichloropropane	0.000250	0.000140	mg/kg
1,2-Dichloropropane	0.000250	0.000150	mg/kg
trans-1,3-dichloropropene	0.000500	0.000470	mg/kg
1,1-Dichloropropene	0.000250	0.000300	mg/kg
cis-1,3-Dichloropropene	0.000250	0.000180	mg/kg
Ethylbenzene	0.000250	0.000290	mg/kg
Hexachlorobutadiene	0.000500	0.000390	mg/kg
isopropylbenzene	0.000250	0.000250	mg/kg
Methylene Chloride	0.00100	0.00423	mg/kg
Naphthalene	0.000250	0.000360	mg/kg
n-Propylbenzene	0.000250	0.000150	mg/kg
Styrene	0.000250	0.000270	mg/kg
1,1,1,2-Tetrachloroethane	0.000500	0.000510	mg/kg
1,1,2,2-Tetrachloroethane	0.000500	0.000420	mg/kg
Tetrachloroethylene	0.000250	0.000300	mg/kg
Toluene	0.000250	0.000380	mg/kg

Project: Spring Woods South

DCS Summary 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: VOAs by SW-846 8260 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
1,2,4-Trichlorobenzene	0.000250	0.000250	mg/kg
1,2,3-Trichlorobenzene	0.000250	0.000360	mg/kg
1,1,2-Trichloroethane	0.000500	0.000490	mg/kg
1,1,1-Trichloroethane	0.00200	0.000330	mg/kg
Trichloroethene	0.000250	0.000220	mg/kg
Trichlorofluoromethane	0.000250	0.000240	mg/kg
1,2,4-Trimethylbenzene	0.000250	0.000280	mg/kg
1,3,5-trimethylbenzene	0.000250	0.000250	mg/kg
Vinyl Chloride	0.000250	0.000240	mg/kg
o-Xylene	0.000250	0.000280	mg/kg
m,p-Xylenes	0.000500	0.000540	mg/kg

Project: Spring Woods South

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

XENCO Laboratories

☒ 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
☐ 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
☐ 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**

Serial #: 322172 Page 1 of 1

Company-City: Berg-Oliver Associates, Inc. Phone: 281.589.0898

Lab Only: # 455084-H

Project Name/Location: Spring Woods South ☒ Previously done at XENCO Project ID

TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other

Proj. Manager (PM): Tom Murphy

E-mail Results to ☒ PM and Fax No: 281.589.0898

Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.
Bill to:

Quote/Pricing: P.O. No: ☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)

Sampler Name: Tom Murphy Signature:

	Sample ID	Sampling Date	Time	Depth ft' In" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	VOCs (8260)	TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Sample Clean-ups are pre-approved as needed	Addn: Date Rcv. by: From:
1	IDW	01/11/13	1430			X		1	4oz	GC	Ice				X						X					
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										

Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1) TM	01/14/13 5:08	2)	1-14-13 13:20
3)		4)	
5)	01-14-13 16:18	6)	1/14/13 16:18

Total Containers per COC: 1 Cooler Temp: 3.1 °C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) _____
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ **Cont. Type:** Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)

Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)

Committed to Excellence in Service and Quality *www.xenco.com*

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Berg - Oliver Associates

Date/ Time Received: 01/14/2013 04:18:00 PM

Work Order #: 455684

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R-31

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.1	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	N/A	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: TT	PH Device/Lot#:

Checklist completed by: Tanya Torres Date: 01/15/2013

Checklist reviewed by: Debbie Simmons Date: 01/15/2013

Analytical Report 455683

for

Berg - Oliver Associates

Project Manager: Tom Murphy

Spring Woods South

8496y

22-JAN-13

Collected By: Client

XENCO Laboratories

4143 Greenbriar Dr., Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

22-JAN-13

Project Manager: **Tom Murphy**
Berg - Oliver Associates
14701 St. Mary's Lane, Suite 400
Houston, TX 77079

Reference: XENCO Report No(s): **455683**
Spring Woods South
Project Address: TX

Tom Murphy:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 455683. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 455683 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Debbie Simmons

Debbie Simmons
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

Sample Cross Reference 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB13	S	01-11-13 09:01	12 - 14 ft	455683-001
SB14	S	01-11-13 09:10	4 - 6 ft	455683-002
SB15	S	01-11-13 09:43	6 - 8 ft	455683-003
SB16	S	01-11-13 10:08	2 - 4 ft	455683-004
SB17	S	01-11-13 10:48	12 - 14 ft	455683-005
SB18	S	01-11-13 11:08	6 - 8 ft	455683-006
SB18	S	01-11-13 11:12	14 - 16 ft	455683-007
SB19	S	01-11-13 11:41	4 - 6 ft	455683-008
SB20	S	01-11-13 12:04	8 - 10 ft	455683-009
SB21	S	01-11-13 12:28	12 - 14 ft	455683-010
SB22	S	01-11-13 13:43	9.5 - 10.5 ft	455683-011
SB23	S	01-11-13 14:02	4 - 6 ft	455683-012
SB24	S	01-11-13 14:25	6 - 8 ft	455683-013

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: **SB13** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: **455683-001** Date Collected: 01.11.13 09.01 Date Received: 01.14.13 16.18

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** % Moist: 18.03 Prep Method: 1005

Date Anal: 01.17.13 11.10 Analyst: CYE Date Prep: 01.16.13 12.30 Tech: CYE

Anal seq: 904996 Prep seq: 632475

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	61.0	11.0	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	61.0	11.0	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	61.0	11.0	mg/kg	U	1
Total TPH 1005	PHC635	U		11.0	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	90	70 - 130	%	
1-Chlorooctane	94	70 - 130	%	

Analytical Method: **EDB by EPA 8011** % Moist: 18.03 Prep Method:

Date Anal: 01.17.13 20.32 Analyst: KKO Date Prep: 01.17.13 14.08 Tech: KKO

Anal seq: 905058 Prep seq: 632429

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000427	0.000134	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000427	0.000181	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000427	0.000379	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	114	60 - 140	%	

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB13**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455683-001**	Date Collected: 01.11.13 09.01	Date Received: 01.14.13 16.18

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 18.03	Prep Method: 5030B
Date Anal:	01.16.13 21.14	Analyst: ZHO	Date Prep: 01.16.13 20.35	Tech: ZHO
Anal seq:	904937		Prep seq: 632549	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.00175**	0.00616	0.000370	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00616	0.000244	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00616	0.000265	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00616	0.000229	mg/kg	U	1
Bromoform	75-25-2	U	0.00616	0.000484	mg/kg	U	1
Bromomethane	74-83-9	U	0.00616	0.000338	mg/kg	U	1
MTBE	1634-04-4	U	0.00616	0.000175	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00616	0.000111	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00616	0.000149	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00616	0.000122	mg/kg	UX	1
Carbon Tetrachloride	56-23-5	U	0.00616	0.000163	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00616	0.000128	mg/kg	U	1
Chloroethane	75-00-3	U	0.0123	0.000313	mg/kg	U	1
Chloroform	67-66-3	U	0.00616	0.000171	mg/kg	U	1
Chloromethane	74-87-3	U	0.0123	0.000397	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00616	0.000267	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00616	0.000145	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00616	0.0000986	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00616	0.000520	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00616	0.000320	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00616	0.000159	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00616	0.000196	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00616	0.000120	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00616	0.000596	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00616	0.000218	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00616	0.000154	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00616	0.000152	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00616	0.000203	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00616	0.000237	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00616	0.000156	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00616	0.000280	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00616	0.000200	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00616	0.000445	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00616	0.000244	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00616	0.000158	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00616	0.000128	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00616	0.000426	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00616	0.000138	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0246	0.000526	mg/kg	U	1
Naphthalene	91-20-3	U	0.0123	0.000182	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00616	0.000169	mg/kg	U	1
Styrene	100-42-5	U	0.00616	0.000195	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00616	0.000182	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00616	0.000239	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB13**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455683-001**	Date Collected: 01.11.13 09.01	Date Received: 01.14.13 16.18

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 18.03	Prep Method: 5030B
Date Anal:	01.16.13 21.14	Analyst: ZHO	Date Prep: 01.16.13 20.35	Tech: ZHO
Anal seq:	904937		Prep seq: 632549	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00616	0.000213	mg/kg	U	1
Toluene	108-88-3	**0.000407**	0.00616	0.000144	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00616	0.000235	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00616	0.000131	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00616	0.000277	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00616	0.000742	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00616	0.000181	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00616	0.000229	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00616	0.000127	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00616	0.000205	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00246	0.000238	mg/kg	U	1
o-Xylene	95-47-6	U	0.00616	0.000184	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0123	0.000228	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	97	53 - 142	%	
1,2-Dichloroethane-D4	96	56 - 150	%	
Toluene-D8	98	70 - 130	%	
4-Bromofluorobenzene	115	68 - 152	%	

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:	Tech: KUG
Anal seq:	904815		Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**18.0**			%		

Final 1.000

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB14**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455683-002**	Date Collected: 01.11.13 09.10	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 17.65	Prep Method: 1005
Date Anal:	01.17.13 12.13	Analyst: CYE	Date Prep: 01.16.13 12.39	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	60.7	10.9	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	60.7	10.9	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	60.7	10.9	mg/kg	U	1
Total TPH 1005	PHC635	U		10.9	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	95	70 - 130	%	
1-Chlorooctane	95	70 - 130	%	

Analytical Method:	**EDB by EPA 8011**		% Moist: 17.65	Prep Method:
Date Anal:	01.17.13 20.49	Analyst: KKO	Date Prep: 01.17.13 14.12	Tech: KKO
Anal seq:	905058		Prep seq: 632429	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000425	0.000134	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000425	0.000180	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000425	0.000378	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	112	60 - 140	%	

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Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB14 | Matrix: Soil | Sample Depth: 4 - 6 ft

Lab Sample Id: 455683-002 | Date Collected: 01.11.13 09.10 | Date Received: 01.14.13 16.18

Analytical Method: VOAs by SW-846 8260 | % Moist: 17.65 | Prep Method: 5030B

Date Anal: 01.16.13 23.17 | Analyst: ZHO | Date Prep: 01.16.13 20.43 | Tech: ZHO

Anal seq: 904937 | Prep seq: 632549

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.00527**	0.00613	0.000368	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00613	0.000243	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00613	0.000264	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00613	0.000228	mg/kg	U	1
Bromoform	75-25-2	U	0.00613	0.000482	mg/kg	U	1
Bromomethane	74-83-9	U	0.00613	0.000336	mg/kg	U	1
MTBE	1634-04-4	U	0.00613	0.000174	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00613	0.000110	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00613	0.000148	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00613	0.000121	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00613	0.000162	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00613	0.000128	mg/kg	U	1
Chloroethane	75-00-3	U	0.0123	0.000312	mg/kg	U	1
Chloroform	67-66-3	U	0.00613	0.000170	mg/kg	U	1
Chloromethane	74-87-3	U	0.0123	0.000395	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00613	0.000266	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00613	0.000145	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00613	0.0000981	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00613	0.000518	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00613	0.000319	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00613	0.000158	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00613	0.000195	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00613	0.000119	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00613	0.000594	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00613	0.000217	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00613	0.000153	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00613	0.000151	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00613	0.000202	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00613	0.000236	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00613	0.000156	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00613	0.000278	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00613	0.000199	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00613	0.000443	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00613	0.000243	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00613	0.000157	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00613	0.000128	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00613	0.000424	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00613	0.000137	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0245	0.000524	mg/kg	U	1
Naphthalene	91-20-3	U	0.0123	0.000182	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00613	0.000168	mg/kg	U	1
Styrene	100-42-5	U	0.00613	0.000194	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00613	0.000182	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00613	0.000238	mg/kg	U	1

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Spring Woods South

Sample Id:	**SB14**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455683-002**	Date Collected: 01.11.13 09.10	Date Received: 01.14.13 16.18

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 17.65	Prep Method: 5030B
Date Anal:	01.16.13 23.17	Analyst: ZHO	Date Prep: 01.16.13 20.43	Tech: ZHO
Anal seq:	904937		Prep seq: 632549	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00613	0.000212	mg/kg	U	1
Toluene	108-88-3	**0.00156**	0.00613	0.000144	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00613	0.000234	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00613	0.000130	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00613	0.000276	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00613	0.000738	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00613	0.000180	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00613	0.000228	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00613	0.000126	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00613	0.000204	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00245	0.000237	mg/kg	U	1
o-Xylene	95-47-6	U	0.00613	0.000183	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0123	0.000227	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	105	53 - 142	%	
1,2-Dichloroethane-D4	102	56 - 150	%	
Toluene-D8	95	70 - 130	%	
4-Bromofluorobenzene	130	68 - 152	%	

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:	Tech: KUG
Anal seq:	904815		Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**17.7**			%		

Final 1.000

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Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB15**	Matrix: Soil	Sample Depth: 6 - 8 ft
Lab Sample Id:	**455683-003**	Date Collected: 01.11.13 09.43	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 14.5	Prep Method: 1005
Date Anal:	01.17.13 12.33	Analyst: CYE	Date Prep: 01.16.13 12.42	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	58.5	10.5	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	58.5	10.5	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	58.5	10.5	mg/kg	U	1
Total TPH 1005	PHC635	U		10.5	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	93	70 - 130	%	
1-Chlorooctane	93	70 - 130	%	

Analytical Method:	**EDB by EPA 8011**		% Moist: 14.5	Prep Method:
Date Anal:	01.17.13 21.05	Analyst: KKO	Date Prep: 01.17.13 14.16	Tech: KKO
Anal seq:	905058		Prep seq: 632429	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000409	0.000129	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000409	0.000173	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000409	0.000364	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	109	60 - 140	%	

Final 1.000

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB15 | Matrix: Soil | Sample Depth: 6 - 8 ft

Lab Sample Id: 455683-003 | Date Collected: 01.11.13 09.43 | Date Received: 01.14.13 16.18

Analytical Method: **VOAs by SW-846 8260** | % Moist: 14.5 | Prep Method: 5030B

Date Anal: 01.16.13 23.42 | Analyst: ZHO | Date Prep: 01.16.13 20.45 | Tech: ZHO

Anal seq: 904937 | Prep seq: 632549

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.00293**	0.00591	0.000354	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00591	0.000234	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00591	0.000254	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00591	0.000220	mg/kg	U	1
Bromoform	75-25-2	U	0.00591	0.000464	mg/kg	U	1
Bromomethane	74-83-9	U	0.00591	0.000324	mg/kg	U	1
MTBE	1634-04-4	U	0.00591	0.000168	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00591	0.000106	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00591	0.000143	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00591	0.000117	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00591	0.000156	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00591	0.000123	mg/kg	U	1
Chloroethane	75-00-3	U	0.0118	0.000300	mg/kg	U	1
Chloroform	67-66-3	U	0.00591	0.000164	mg/kg	U	1
Chloromethane	74-87-3	U	0.0118	0.000380	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00591	0.000256	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00591	0.000139	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00591	0.0000945	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00591	0.000499	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00591	0.000307	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00591	0.000152	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00591	0.000188	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00591	0.000115	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00591	0.000572	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00591	0.000209	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00591	0.000148	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00591	0.000145	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00591	0.000195	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00591	0.000227	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00591	0.000150	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00591	0.000268	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00591	0.000191	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00591	0.000426	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00591	0.000234	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00591	0.000151	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00591	0.000123	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00591	0.000409	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00591	0.000132	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0236	0.000504	mg/kg	U	1
Naphthalene	91-20-3	U	0.0118	0.000175	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00591	0.000162	mg/kg	U	1
Styrene	100-42-5	U	0.00591	0.000187	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00591	0.000175	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00591	0.000229	mg/kg	U	1

Final 1.000

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Spring Woods South

Sample Id: SB15 | Matrix: Soil | Sample Depth: 6 - 8 ft

Lab Sample Id: 455683-003 | Date Collected: 01.11.13 09.43 | Date Received: 01.14.13 16.18

Analytical Method: **VOAs by SW-846 8260** | % Moist: 14.5 | Prep Method: 5030B

Date Anal: 01.16.13 23.42 | Analyst: ZHO | Date Prep: 01.16.13 20.45 | Tech: ZHO

Anal seq: 904937 | Prep seq: 632549

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00591	0.000204	mg/kg	U	1
Toluene	108-88-3	**0.000815**	0.00591	0.000138	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00591	0.000226	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00591	0.000125	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00591	0.000266	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00591	0.000711	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00591	0.000174	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00591	0.000220	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00591	0.000122	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00591	0.000196	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00236	0.000228	mg/kg	U	1
o-Xylene	95-47-6	U	0.00591	0.000176	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0118	0.000219	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	99	53 - 142	%	
1,2-Dichloroethane-D4	101	56 - 150	%	
Toluene-D8	97	70 - 130	%	
4-Bromofluorobenzene	122	68 - 152	%	

Analytical Method: **Percent Moisture** | % Moist: | Prep Method:

Date Anal: 01.16.13 16.23 | Analyst: KUG | Date Prep: | Tech: KUG

Anal seq: 904815 | Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**14.5**			%		

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Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: SB16 | Matrix: Soil | Sample Depth: 2 - 4 ft

Lab Sample Id: 455683-004 | Date Collected: 01.11.13 10.08 | Date Received: 01.14.13 16.18

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: 17.63 | Prep Method: 1005

Date Anal: 01.17.13 12.54 | Analyst: CYE | Date Prep: 01.16.13 12.45 | Tech: CYE

Anal seq: 904996 | Prep seq: 632475

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	60.7	10.9	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	60.7	10.9	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	60.7	10.9	mg/kg	U	1
Total TPH 1005	PHC635	U		10.9	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	96	70 - 130	%	
1-Chlorooctane	96	70 - 130	%	

Analytical Method: **BTEX-MTBE by SW 8260B** | % Moist: 17.63 | Prep Method: 5030B

Date Anal: 01.18.13 17.28 | Analyst: ZHO | Date Prep: 01.18.13 13.48 | Tech: ZHO

Anal seq: 905010 | Prep seq: 632587

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00613	0.00117	mg/kg	U	1
Benzene	71-43-2	**0.00655**	0.00123	0.000552	mg/kg		1
Toluene	108-88-3	**0.00109**	0.00123	0.000526	mg/kg	J	1
Ethylbenzene	100-41-4	U	0.00123	0.000429	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00245	0.000538	mg/kg	U	1
o-Xylene	95-47-6	U	0.00123	0.000253	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000253	mg/kg	U	
Total BTEX		**0.00764**		0.000253	mg/kg		

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	107	74 - 126	%	
1,2-Dichloroethane-D4	98	80 - 120	%	
Toluene-D8	102	73 - 132	%	
4-Bromofluorobenzene	106	58 - 152	%	

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Spring Woods South

Sample Id:	**SB16**	Matrix: Soil	Sample Depth: 2 - 4 ft
Lab Sample Id:	**455683-004**	Date Collected: 01.11.13 10.08	Date Received: 01.14.13 16.18

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:		Tech: KUG
Anal seq:	904815		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**17.6**			%		

Final 1.000

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Spring Woods South

Sample Id:	**SB17**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455683-005**	Date Collected: 01.11.13 10.48	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 16.41	Prep Method: 1005
Date Anal:	01.17.13 13.15	Analyst: CYE	Date Prep: 01.16.13 12.48	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	59.8	10.8	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	59.8	10.8	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	59.8	10.8	mg/kg	U	1
Total TPH 1005	PHC635	U		10.8	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	97	70 - 130	%	
1-Chlorooctane	94	70 - 130	%	

Analytical Method:	**BTEX-MTBE by SW 8260B**		% Moist: 16.41	Prep Method: 5030B
Date Anal:	01.17.13 12.41	Analyst: SAD	Date Prep: 01.17.13 11.28	Tech: SAD
Anal seq:	904981		Prep seq: 632570	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00598	0.00114	mg/kg	U	1
Benzene	71-43-2	**0.00260**	0.00120	0.000538	mg/kg		1
Toluene	108-88-3	**0.000562**	0.00120	0.000513	mg/kg	J	1
Ethylbenzene	100-41-4	U	0.00120	0.000419	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00239	0.000525	mg/kg	U	1
o-Xylene	95-47-6	U	0.00120	0.000246	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000246	mg/kg	U	
Total BTEX		**0.00316**		0.000246	mg/kg		

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	97	74 - 126	%	
1,2-Dichloroethane-D4	99	80 - 120	%	
Toluene-D8	98	73 - 132	%	
4-Bromofluorobenzene	103	58 - 152	%	

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Spring Woods South

Sample Id:	**SB17**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455683-005**	Date Collected: 01.11.13 10.48	Date Received: 01.14.13 16.18

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:		Tech: KUG
Anal seq:	904815		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**16.4**			%		

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Spring Woods South

Sample Id: **SB18** Matrix: Soil Sample Depth: 6 - 8 ft

Lab Sample Id: **455683-006** Date Collected: 01.11.13 11.08 Date Received: 01.14.13 16.18

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** % Moist: 12.78 Prep Method: 1005

Date Anal: 01.17.13 13.36 Analyst: CYE Date Prep: 01.16.13 12.51 Tech: CYE

Anal seq: 904996 Prep seq: 632475

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	57.3	10.3	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	57.3	10.3	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	57.3	10.3	mg/kg	U	1
Total TPH 1005	PHC635	U		10.3	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	99	70 - 130	%	
1-Chlorooctane	92	70 - 130	%	

Analytical Method: **BTEX-MTBE by SW 8260B** % Moist: 12.78 Prep Method: 5030B

Date Anal: 01.17.13 13.06 Analyst: SAD Date Prep: 01.17.13 11.30 Tech: SAD

Anal seq: 904981 Prep seq: 632570

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00573	0.00109	mg/kg	U	1
Benzene	71-43-2	**0.00117**	0.00115	0.000516	mg/kg		1
Toluene	108-88-3	U	0.00115	0.000492	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00115	0.000401	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00229	0.000503	mg/kg	U	1
o-Xylene	95-47-6	U	0.00115	0.000236	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000236	mg/kg	U	
Total BTEX		**0.00117**		0.000236	mg/kg		

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	101	74 - 126	%	
1,2-Dichloroethane-D4	105	80 - 120	%	
Toluene-D8	100	73 - 132	%	
4-Bromofluorobenzene	100	58 - 152	%	

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Sample Id:	**SB18**	Matrix: Soil	Sample Depth: 6 - 8 ft
Lab Sample Id:	**455683-006**	Date Collected: 01.11.13 11.08	Date Received: 01.14.13 16.18

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:		Tech: KUG
Anal seq:	904815		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**12.8**			%		

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Sample Id:	**SB18**	Matrix: Soil	Sample Depth: 14 - 16 ft
Lab Sample Id:	**455683-007**	Date Collected: 01.11.13 11.12	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 5.22	Prep Method: 1005
Date Anal:	01.17.13 13.57	Analyst: CYE	Date Prep: 01.16.13 12.54	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	52.8	9.50	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	52.8	9.50	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	52.8	9.50	mg/kg	U	1
Total TPH 1005	PHC635	U		9.50	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	94	70 - 130	%	
1-Chlorooctane	93	70 - 130	%	

Analytical Method:	**BTEX-MTBE by SW 8260B**		% Moist: 5.22	Prep Method: 5030B
Date Anal:	01.17.13 13.32	Analyst: SAD	Date Prep: 01.17.13 12.50	Tech: SAD
Anal seq:	904981		Prep seq: 632570	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00528	0.00101	mg/kg	U	1
Benzene	71-43-2	U	0.00106	0.000475	mg/kg	U	1
Toluene	108-88-3	U	0.00106	0.000453	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00106	0.000369	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00211	0.000463	mg/kg	U	1
o-Xylene	95-47-6	U	0.00106	0.000217	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000217	mg/kg	U	
Total BTEX		U		0.000217	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	102	74 - 126	%	
1,2-Dichloroethane-D4	96	80 - 120	%	
Toluene-D8	100	73 - 132	%	
4-Bromofluorobenzene	99	58 - 152	%	

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Sample Id:	**SB18**	Matrix: Soil	Sample Depth: 14 - 16 ft
Lab Sample Id:	**455683-007**	Date Collected: 01.11.13 11.12	Date Received: 01.14.13 16.18

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:		Tech: KUG
Anal seq:	904815		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**5.22**			%		

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Spring Woods South

Sample Id:	**SB19**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455683-008**	Date Collected: 01.11.13 11.41	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 13.36	Prep Method: 1005
Date Anal:	01.17.13 14.38	Analyst: CYE	Date Prep: 01.16.13 12.57	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	57.7	10.4	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	57.7	10.4	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	57.7	10.4	mg/kg	U	1
Total TPH 1005	PHC635	U		10.4	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	104	70 - 130	%	
1-Chlorooctane	98	70 - 130	%	

Analytical Method:	**BTEX-MTBE by SW 8260B**		% Moist: 13.36	Prep Method: 5030B
Date Anal:	01.17.13 13.59	Analyst: SAD	Date Prep: 01.17.13 12.52	Tech: SAD
Anal seq:	904981		Prep seq: 632570	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00571	0.00109	mg/kg	U	1
Benzene	71-43-2	**0.00155**	0.00114	0.000514	mg/kg		1
Toluene	108-88-3	U	0.00114	0.000490	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00114	0.000400	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00229	0.000502	mg/kg	U	1
o-Xylene	95-47-6	U	0.00114	0.000235	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000235	mg/kg	U	
Total BTEX		**0.00155**		0.000235	mg/kg		

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	102	74 - 126	%	
1,2-Dichloroethane-D4	96	80 - 120	%	
Toluene-D8	100	73 - 132	%	
4-Bromofluorobenzene	101	58 - 152	%	

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Spring Woods South

Sample Id:	**SB19**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455683-008**	Date Collected: 01.11.13 11.41	Date Received: 01.14.13 16.18

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:		Tech: KUG
Anal seq:	904815		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**13.4**			%		

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Spring Woods South

Sample Id:	**SB20**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455683-009**	Date Collected: 01.11.13 12.04	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 11.71	Prep Method: 1005
Date Anal:	01.17.13 14.59	Analyst: CYE	Date Prep: 01.16.13 13.00	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	56.6	10.2	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	56.6	10.2	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	56.6	10.2	mg/kg	U	1
Total TPH 1005	PHC635	U		10.2	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	102	70 - 130	%	
1-Chlorooctane	101	70 - 130	%	

Analytical Method:	**BTEX-MTBE by SW 8260B**		% Moist: 11.71	Prep Method: 5030B
Date Anal:	01.17.13 14.22	Analyst: SAD	Date Prep: 01.17.13 12.54	Tech: SAD
Anal seq:	904981		Prep seq: 632570	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00566	0.00108	mg/kg	U	1
Benzene	71-43-2	U	0.00113	0.000510	mg/kg	U	1
Toluene	108-88-3	U	0.00113	0.000486	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00113	0.000396	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00227	0.000497	mg/kg	U	1
o-Xylene	95-47-6	U	0.00113	0.000233	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000233	mg/kg	U	
Total BTEX		U		0.000233	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	102	74 - 126	%	
1,2-Dichloroethane-D4	100	80 - 120	%	
Toluene-D8	99	73 - 132	%	
4-Bromofluorobenzene	99	58 - 152	%	

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Sample Id:	**SB20**	Matrix: Soil	Sample Depth: 8 - 10 ft
Lab Sample Id:	**455683-009**	Date Collected: 01.11.13 12.04	Date Received: 01.14.13 16.18

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:		Tech: KUG
Anal seq:	904815		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**11.7**			%		

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Spring Woods South

Sample Id:	**SB21**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455683-010**	Date Collected: 01.11.13 12.28	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 13.06	Prep Method: 1005
Date Anal:	01.17.13 15.20	Analyst: CYE	Date Prep: 01.16.13 13.03	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	57.5	10.4	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	57.5	10.4	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	57.5	10.4	mg/kg	U	1
Total TPH 1005	PHC635	U		10.4	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	99	70 - 130	%	
1-Chlorooctane	92	70 - 130	%	

Analytical Method:	**BTEX-MTBE by SW 8260B**		% Moist: 13.06	Prep Method: 5030B
Date Anal:	01.17.13 14.45	Analyst: SAD	Date Prep: 01.17.13 12.56	Tech: SAD
Anal seq:	904981		Prep seq: 632570	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00575	0.00110	mg/kg	U	1
Benzene	71-43-2	**0.000656**	0.00115	0.000518	mg/kg	J	1
Toluene	108-88-3	U	0.00115	0.000493	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00115	0.000403	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00230	0.000505	mg/kg	U	1
o-Xylene	95-47-6	U	0.00115	0.000237	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000237	mg/kg	U	
Total BTEX		**0.000656**		0.000237	mg/kg	J	

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	102	74 - 126	%	
1,2-Dichloroethane-D4	99	80 - 120	%	
Toluene-D8	99	73 - 132	%	
4-Bromofluorobenzene	97	58 - 152	%	

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Spring Woods South

Sample Id:	**SB21**	Matrix: Soil	Sample Depth: 12 - 14 ft
Lab Sample Id:	**455683-010**	Date Collected: 01.11.13 12.28	Date Received: 01.14.13 16.18

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.16.13 16.23	Analyst: KUG	Date Prep:		Tech: KUG
Anal seq:	904815		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**13.1**			%		

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Spring Woods South

Sample Id:	**SB22**	Matrix: Soil	Sample Depth: 9.5 - 10.5 ft
Lab Sample Id:	**455683-011**	Date Collected: 01.11.13 13.43	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 11.16	Prep Method: 1005
Date Anal:	01.17.13 15.41	Analyst: CYE	Date Prep: 01.16.13 13.06	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	56.3	10.1	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	56.3	10.1	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	56.3	10.1	mg/kg	U	1
Total TPH 1005	PHC635	U		10.1	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	93	70 - 130	%	
1-Chlorooctane	97	70 - 130	%	

Analytical Method:	**EDB by EPA 8011**		% Moist: 11.16	Prep Method:
Date Anal:	01.17.13 21.21	Analyst: KKO	Date Prep: 01.17.13 14.20	Tech: KKO
Anal seq:	905058		Prep seq: 632429	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000394	0.000124	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000394	0.000167	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000394	0.000350	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	103	60 - 140	%	

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Spring Woods South

Sample Id:	**SB22**	Matrix: Soil	Sample Depth: 9.5 - 10.5 ft
Lab Sample Id:	**455683-011**	Date Collected: 01.11.13 13.43	Date Received: 01.14.13 16.18

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 11.16	Prep Method: 5030B
Date Anal:	01.17.13 00.07	Analyst: ZHO	Date Prep: 01.16.13 20.47	Tech: ZHO
Anal seq:	904937		Prep seq: 632549	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	U	0.00557	0.000334	mg/kg	U	1
Bromobenzene	108-86-1	U	0.00557	0.000221	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00557	0.000240	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00557	0.000207	mg/kg	U	1
Bromoform	75-25-2	U	0.00557	0.000438	mg/kg	U	1
Bromomethane	74-83-9	U	0.00557	0.000305	mg/kg	U	1
MTBE	1634-04-4	U	0.00557	0.000158	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00557	0.000100	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00557	0.000135	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00557	0.000110	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00557	0.000147	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00557	0.000116	mg/kg	U	1
Chloroethane	75-00-3	U	0.0111	0.000283	mg/kg	U	1
Chloroform	67-66-3	U	0.00557	0.000155	mg/kg	U	1
Chloromethane	74-87-3	U	0.0111	0.000359	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00557	0.000242	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00557	0.000132	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00557	0.0000892	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00557	0.000470	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00557	0.000290	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00557	0.000144	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00557	0.000177	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00557	0.000108	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00557	0.000539	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00557	0.000197	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00557	0.000139	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00557	0.000137	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00557	0.000184	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00557	0.000214	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00557	0.000142	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00557	0.000253	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00557	0.000181	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00557	0.000402	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00557	0.000221	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00557	0.000143	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00557	0.000116	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00557	0.000386	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00557	0.000125	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0223	0.000476	mg/kg	U	1
Naphthalene	91-20-3	U	0.0111	0.000165	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00557	0.000153	mg/kg	U	1
Styrene	100-42-5	U	0.00557	0.000176	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00557	0.000165	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00557	0.000216	mg/kg	U	1

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Spring Woods South

Sample Id:	**SB22**	Matrix: Soil	Sample Depth: 9.5 - 10.5 ft
Lab Sample Id:	**455683-011**	Date Collected: 01.11.13 13.43	Date Received: 01.14.13 16.18

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 11.16	Prep Method: 5030B
Date Anal:	01.17.13 00.07	Analyst: ZHO	Date Prep: 01.16.13 20.47	Tech: ZHO
Anal seq:	904937		Prep seq: 632549	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00557	0.000193	mg/kg	U	1
Toluene	108-88-3	U	0.00557	0.000130	mg/kg	U	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00557	0.000213	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00557	0.000118	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00557	0.000251	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00557	0.000671	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00557	0.000164	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00557	0.000207	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00557	0.000115	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00557	0.000185	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00223	0.000215	mg/kg	U	1
o-Xylene	95-47-6	U	0.00557	0.000166	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0111	0.000206	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	100	53 - 142	%	
1,2-Dichloroethane-D4	103	56 - 150	%	
Toluene-D8	97	70 - 130	%	
4-Bromofluorobenzene	118	68 - 152	%	

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:
Date Anal:	01.16.13 17.16	Analyst: KUG	Date Prep:	Tech: KUG
Anal seq:	904817		Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**11.2**			%		

Final 1.000

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: **SB23** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: **455683-012** Date Collected: 01.11.13 14.02 Date Received: 01.14.13 16.18

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** % Moist: 18.41 Prep Method: 1005

Date Anal: 01.17.13 16.02 Analyst: CYE Date Prep: 01.16.13 13.09 Tech: CYE

Anal seq: 904996 Prep seq: 632475

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	61.3	11.0	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	61.3	11.0	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	61.3	11.0	mg/kg	U	1
Total TPH 1005	PHC635	U		11.0	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	96	70 - 130	%	
1-Chlorooctane	96	70 - 130	%	

Analytical Method: **BTEX-MTBE by SW 8260B** % Moist: 18.41 Prep Method: 5030B

Date Anal: 01.17.13 15.29 Analyst: SAD Date Prep: 01.17.13 14.40 Tech: SAD

Anal seq: 904981 Prep seq: 632570

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00613	0.00117	mg/kg	U	1
Benzene	71-43-2	**0.00534**	0.00123	0.000552	mg/kg		1
Toluene	108-88-3	**0.00143**	0.00123	0.000526	mg/kg		1
Ethylbenzene	100-41-4	U	0.00123	0.000429	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00245	0.000538	mg/kg	U	1
o-Xylene	95-47-6	U	0.00123	0.000252	mg/kg	U	1
Total Xylenes	1330-20-7	U		0.000252	mg/kg	U	
Total BTEX		**0.00677**		0.000252	mg/kg		

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	106	74 - 126	%	
1,2-Dichloroethane-D4	105	80 - 120	%	
Toluene-D8	100	73 - 132	%	
4-Bromofluorobenzene	106	58 - 152	%	

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB23**	Matrix: Soil	Sample Depth: 4 - 6 ft
Lab Sample Id:	**455683-012**	Date Collected: 01.11.13 14.02	Date Received: 01.14.13 16.18

Analytical Method:	**Percent Moisture**			% Moist:	Prep Method:
Date Anal:	01.16.13 17.16	Analyst: KUG	Date Prep:		Tech: KUG
Anal seq:	904817		Prep seq:		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**18.4**			%		

Final 1.000

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB24**	Matrix: Soil	Sample Depth: 6 - 8 ft
Lab Sample Id:	**455683-013**	Date Collected: 01.11.13 14.25	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 14.72	Prep Method: 1005
Date Anal:	01.17.13 16.22	Analyst: CYE	Date Prep: 01.16.13 13.12	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	58.6	10.6	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	58.6	10.6	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	58.6	10.6	mg/kg	U	1
Total TPH 1005	PHC635	U		10.6	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	100	70 - 130	%	
1-Chlorooctane	98	70 - 130	%	

Analytical Method:	**EDB by EPA 8011**		% Moist: 14.72	Prep Method:
Date Anal:	01.18.13 08.59	Analyst: KKO	Date Prep: 01.17.13 14.32	Tech: KKO
Anal seq:	905058		Prep seq: 632429	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000410	0.000129	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000410	0.000174	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000410	0.000365	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	110	60 - 140	%	

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB24**	Matrix: Soil	Sample Depth: 6 - 8 ft
Lab Sample Id:	**455683-013**	Date Collected: 01.11.13 14.25	Date Received: 01.14.13 16.18

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 14.72	Prep Method: 5030B
Date Anal:	01.17.13 00.31	Analyst: ZHO	Date Prep: 01.16.13 20.49	Tech: ZHO
Anal seq:	904937		Prep seq: 632549	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	**0.00152**	0.00586	0.000352	mg/kg	J	1
Bromobenzene	108-86-1	U	0.00586	0.000232	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00586	0.000252	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00586	0.000218	mg/kg	U	1
Bromoform	75-25-2	U	0.00586	0.000461	mg/kg	U	1
Bromomethane	74-83-9	U	0.00586	0.000321	mg/kg	U	1
MTBE	1634-04-4	U	0.00586	0.000167	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00586	0.000106	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00586	0.000142	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00586	0.000116	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00586	0.000155	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00586	0.000122	mg/kg	U	1
Chloroethane	75-00-3	U	0.0117	0.000298	mg/kg	U	1
Chloroform	67-66-3	U	0.00586	0.000163	mg/kg	U	1
Chloromethane	74-87-3	U	0.0117	0.000378	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00586	0.000254	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00586	0.000138	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00586	0.0000938	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00586	0.000495	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00586	0.000305	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00586	0.000151	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00586	0.000186	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00586	0.000114	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00586	0.000568	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00586	0.000208	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00586	0.000147	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00586	0.000144	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00586	0.000193	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00586	0.000225	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00586	0.000149	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00586	0.000266	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00586	0.000190	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00586	0.000423	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00586	0.000232	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00586	0.000150	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00586	0.000122	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00586	0.000406	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00586	0.000131	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0235	0.000501	mg/kg	U	1
Naphthalene	91-20-3	U	0.0117	0.000174	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00586	0.000161	mg/kg	U	1
Styrene	100-42-5	U	0.00586	0.000185	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00586	0.000174	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00586	0.000227	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**SB24**	Matrix: Soil	Sample Depth: 6 - 8 ft
Lab Sample Id:	**455683-013**	Date Collected: 01.11.13 14.25	Date Received: 01.14.13 16.18

Analytical Method:	**VOAs by SW-846 8260**		% Moist: 14.72	Prep Method: 5030B
Date Anal:	01.17.13 00.31	Analyst: ZHO	Date Prep: 01.16.13 20.49	Tech: ZHO
Anal seq:	904937		Prep seq: 632549	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00586	0.000203	mg/kg	U	1
Toluene	108-88-3	**0.000457**	0.00586	0.000137	mg/kg	J	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00586	0.000224	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00586	0.000124	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00586	0.000264	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00586	0.000706	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00586	0.000172	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00586	0.000218	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00586	0.000121	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00586	0.000195	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00235	0.000226	mg/kg	U	1
o-Xylene	95-47-6	U	0.00586	0.000175	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0117	0.000217	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	101	53 - 142	%	
1,2-Dichloroethane-D4	102	56 - 150	%	
Toluene-D8	96	70 - 130	%	
4-Bromofluorobenzene	120	68 - 152	%	

Analytical Method:	**Percent Moisture**		% Moist:	Prep Method:
Date Anal:	01.16.13 17.16	Analyst: KUG	Date Prep:	Tech: KUG
Anal seq:	904817		Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**14.7**			%		

Final 1.000

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: 632429-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632429-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **EDB by EPA 8011** | % Moist: | Prep Method:

Date Anal: 01.17.13 19.26 | Analyst: KKO | Date Prep: 01.17.13 14.00 | Tech: KKO

Anal seq: 905058 | Prep seq: 632429

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000350	0.000110	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000350	0.000148	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000350	0.000311	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	102	60 - 140	%	

Sample Id: 632475-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632475-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: | Prep Method: 1005

Date Anal: 01.17.13 10.08 | Analyst: CYE | Date Prep: 01.16.13 11.00 | Tech: CYE

Anal seq: 904996 | Prep seq: 632475

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	50.0	9.00	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	50.0	9.00	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	50.0	9.00	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	88	70 - 130	%	
1-Chlorooctane	91	70 - 130	%	

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**632549-1-BLK**	Matrix: Solid		Sample Depth:	
Lab Sample Id:	**632549-1-BLK**	Date Collected:		Date Received: 01.14.13 16.18	
Analytical Method:	**VOAs by SW-846 8260**		% Moist:	Prep Method: 5030B	
Date Anal:	01.16.13 20.13	Analyst: ZHO	Date Prep: 01.16.13 19.06	Tech: ZHO	
Anal seq:	904937		Prep seq: 632549		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	U	0.00500	0.000300	mg/kg	U	1
Bromobenzene	108-86-1	U	0.00500	0.000198	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00500	0.000215	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00500	0.000186	mg/kg	U	1
Bromoform	75-25-2	U	0.00500	0.000393	mg/kg	U	1
Bromomethane	74-83-9	U	0.00500	0.000274	mg/kg	U	1
MTBE	1634-04-4	U	0.00500	0.000142	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00500	0.0000900	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00500	0.000121	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00500	0.0000990	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00500	0.000132	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00500	0.000104	mg/kg	U	1
Chloroethane	75-00-3	U	0.0100	0.000254	mg/kg	U	1
Chloroform	67-66-3	U	0.00500	0.000139	mg/kg	U	1
Chloromethane	74-87-3	U	0.0100	0.000322	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00500	0.000217	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00500	0.000118	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00500	0.0000800	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00500	0.000422	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00500	0.000260	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00500	0.000129	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00500	0.000159	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00500	0.0000970	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00500	0.000484	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00500	0.000177	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00500	0.000125	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00500	0.000123	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00500	0.000165	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00500	0.000192	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00500	0.000127	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00500	0.000227	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00500	0.000162	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00500	0.000361	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00500	0.000198	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00500	0.000128	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00500	0.000104	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00500	0.000346	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00500	0.000112	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0200	0.000427	mg/kg	U	1
Naphthalene	91-20-3	U	0.0100	0.000148	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00500	0.000137	mg/kg	U	1
Styrene	100-42-5	U	0.00500	0.000158	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00500	0.000148	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00500	0.000194	mg/kg	U	1

Final 1.000

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Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**632549-1-BLK**	Matrix: Solid		Sample Depth:	
Lab Sample Id:	**632549-1-BLK**	Date Collected:		Date Received: 01.14.13 16.18	
Analytical Method:	**VOAs by SW-846 8260**		% Moist:	Prep Method: 5030B	
Date Anal:	01.16.13 20.13	Analyst: ZHO	Date Prep: 01.16.13 19.06	Tech: ZHO	
Anal seq:	904937		Prep seq: 632549		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00500	0.000173	mg/kg	U	1
Toluene	108-88-3	U	0.00500	0.000117	mg/kg	U	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00500	0.000191	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00500	0.000106	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00500	0.000225	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00500	0.000602	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00500	0.000147	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00500	0.000186	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00500	0.000103	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00500	0.000166	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00200	0.000193	mg/kg	U	1
o-Xylene	95-47-6	U	0.00500	0.000149	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0100	0.000185	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	95	53 - 142	%	
1,2-Dichloroethane-D4	93	56 - 150	%	
Toluene-D8	128	70 - 130	%	
4-Bromofluorobenzene	126	68 - 152	%	

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: 632570-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632570-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **BTEX-MTBE by SW 8260B** | % Moist: | Prep Method: 5030B

Date Anal: 01.17.13 11.15 | Analyst: SAD | Date Prep: 01.17.13 10.22 | Tech: SAD

Anal seq: 904981 | Prep seq: 632570

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00500	0.000955	mg/kg	U	1
Benzene	71-43-2	U	0.00100	0.000450	mg/kg	U	1
Toluene	108-88-3	U	0.00100	0.000429	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00100	0.000350	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00200	0.000439	mg/kg	U	1
o-Xylene	95-47-6	U	0.00100	0.000206	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	103	74 - 126	%	
1,2-Dichloroethane-D4	96	80 - 120	%	
Toluene-D8	101	73 - 132	%	
4-Bromofluorobenzene	93	58 - 152	%	

Sample Id: 632587-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632587-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **BTEX-MTBE by SW 8260B** | % Moist: | Prep Method: 5030B

Date Anal: 01.18.13 13.25 | Analyst: ZHO | Date Prep: 01.18.13 13.08 | Tech: ZHO

Anal seq: 905010 | Prep seq: 632587

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
MTBE	1634-04-4	U	0.00500	0.000955	mg/kg	U	1
Benzene	71-43-2	U	0.00100	0.000450	mg/kg	U	1
Toluene	108-88-3	U	0.00100	0.000429	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00100	0.000350	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.00200	0.000439	mg/kg	U	1
o-Xylene	95-47-6	U	0.00100	0.000206	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	101	74 - 126	%	
1,2-Dichloroethane-D4	103	80 - 120	%	
Toluene-D8	103	73 - 132	%	
4-Bromofluorobenzene	99	58 - 152	%	

Certificate of Analytical Results 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: 632641-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632641-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **VOAs by SW-846 8260** | % Moist: | Prep Method: 5030B

Date Anal: 01.17.13 13.41 | Analyst: MCH | Date Prep: 01.17.13 11.32 | Tech: MCH

Anal seq: 905111 | Prep seq: 632641

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
o-Xylene	95-47-6	U	0.00500	0.000149	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0100	0.000185	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	102	53 - 142	%	
1,2-Dichloroethane-D4	99	56 - 150	%	
Toluene-D8	92	70 - 130	%	
4-Bromofluorobenzene	122	68 - 152	%	

Sample Id: 904815-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 904815-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **Percent Moisture** | % Moist: | Prep Method:

Date Anal: 01.16.13 16.23 | Analyst: KUG | Date Prep: | Tech: KUG

Anal seq: 904815 | Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	U			%	U	

Sample Id: 904817-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 904817-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **Percent Moisture** | % Moist: | Prep Method:

Date Anal: 01.16.13 17.16 | Analyst: KUG | Date Prep: | Tech: KUG

Anal seq: 904817 | Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	U			%	U	

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : Percent Moisture

Client : Berg - Oliver Associates

Work Order #: **455683**

Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB23	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB15	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB17	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB14	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB16	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB20	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB13	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB18	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB21	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB22	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB24	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB18	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P
SB19	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : EDB by EPA 8011

Client : Berg - Oliver Associates

Work Order #: **455683**

Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB15	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB24	Jan. 11, 2013	Jan. 14, 2013				Jan.18, 2013	14	7	P
SB13	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB14	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB22	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : VOAs by SW-846 8260

Client : Berg - Oliver Associates

Work Order #: **455683**

Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB13	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	14	5	P
SB22	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB14	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	14	5	P
SB15	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	14	5	P
SB24	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : BTEX-MTBE by SW 8260B

Client : Berg - Oliver Associates

Work Order #: **455683**

Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB20	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB19	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB17	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB23	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB18	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB21	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P
SB16	Jan. 11, 2013	Jan. 14, 2013				Jan.18, 2013	14	7	P
SB18	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : Total Petroleum Hydrocarbons by Texas 1005 Client : Berg - Oliver Associates

Work Order #: **455683** Project ID: 8496y

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
SB24	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB18	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB19	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB13	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB15	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB16	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB21	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB23	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB14	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB18	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB20	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB22	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P
SB17	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P

F = These samples were analyzed outside the recommended holding time.
P = Samples analyzed within the recommended holding time.

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Analytical Log

Analytical Method:	Percent Moisture	Batch #:	904815
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455683

Client Sample Id	Lab Sample Id	QC Types
SB13	455683-001	SMP
SB14	455683-002	SMP
SB15	455683-003	SMP
SB16	455683-004	SMP
SB17	455683-005	SMP
SB18	455683-006	SMP
SB18	455683-007	SMP
SB19	455683-008	SMP
SB20	455683-009	SMP
SB21	455683-010	SMP
	455618-010 D	MD
	455683-001 D	MD
	904815-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	Percent Moisture	Batch #:	904817
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455683

Client Sample Id	Lab Sample Id	QC Types
SB22	455683-011	SMP
SB23	455683-012	SMP
SB24	455683-013	SMP
	455683-011 D	MD
	904817-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	VOAs by SW-846 8260	Batch #:	904937
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455683

Client Sample Id	Lab Sample Id	QC Types
SB13	455683-001	SMP
SB14	455683-002	SMP
SB15	455683-003	SMP
SB22	455683-011	SMP
SB24	455683-013	SMP
	455683-001 S	MS
	455683-001 SD	MSD
	632549-1-BKS	BKS
	632549-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	BTEX-MTBE by SW 8260B	Batch #:	904981
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455683

Client Sample Id	Lab Sample Id	QC Types
SB17	455683-005	SMP
SB18	455683-006	SMP
SB18	455683-007	SMP
SB19	455683-008	SMP
SB20	455683-009	SMP
SB21	455683-010	SMP
SB23	455683-012	SMP
	455683-006 S	MS
	455683-006 SD	MSD
	632570-1-BKS	BKS
	632570-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	Total Petroleum Hydrocarbons by Texa	Batch #:	904996
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455683

Client Sample Id	Lab Sample Id	QC Types
SB13	455683-001	SMP
SB14	455683-002	SMP
SB15	455683-003	SMP
SB16	455683-004	SMP
SB17	455683-005	SMP
SB18	455683-006	SMP
SB18	455683-007	SMP
SB19	455683-008	SMP
SB20	455683-009	SMP
SB21	455683-010	SMP
SB22	455683-011	SMP
SB23	455683-012	SMP
SB24	455683-013	SMP
	455683-001 S	MS
	455683-001 SD	MSD
	632475-1-BKS	BKS
	632475-1-BLK	BLK
	632475-1-BSD	BSD

XENCO Laboratories

Analytical Log

Analytical Method:	BTEX-MTBE by SW 8260B	Batch #:	905010
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455683

Client Sample Id	Lab Sample Id	QC Types
SB16	455683-004	SMP
	455618-010 S	MS
	455618-010 SD	MSD
	632587-1-BKS	BKS
	632587-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	EDB by EPA 8011	Batch #:	905058
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455683

Client Sample Id	Lab Sample Id	QC Types
SB13	455683-001	SMP
SB14	455683-002	SMP
SB15	455683-003	SMP
SB22	455683-011	SMP
SB24	455683-013	SMP
	455683-011 S	MS
	455683-011 SD	MSD
	632429-1-BKS	BKS
	632429-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	VOAs by SW-846 8260	Batch #:	905111
Project Name:	Spring Woods South	Project ID:	8496y
Client Name:	Berg - Oliver Associates	WO Number:	455683

Client Sample Id	Lab Sample Id	QC Types
SB14 RE	455683-002	RE
	455683-002 S	MS
	455683-002 SD	MSD
	632641-1-BKS	BKS
	632641-1-BLK	BLK
	632641-1-BSD	BSD

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455683,

Project ID: 8496y

Lab Batch #: 904981 **Sample:** 632570-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 10:26

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0496	0.0500	99	74-126	
1,2-Dichloroethane-D4	0.0492	0.0500	98	80-120	
Toluene-D8	0.0507	0.0500	101	73-132	
4-Bromofluorobenzene	0.0487	0.0500	97	58-152	

Lab Batch #: 904981 **Sample:** 632570-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 11:15

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0513	0.0500	103	74-126	
1,2-Dichloroethane-D4	0.0482	0.0500	96	80-120	
Toluene-D8	0.0503	0.0500	101	73-132	
4-Bromofluorobenzene	0.0467	0.0500	93	58-152	

Lab Batch #: 904981 **Sample:** 455683-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/13 16:01

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0512	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0492	0.0500	98	80-120	
Toluene-D8	0.0492	0.0500	98	73-132	
4-Bromofluorobenzene	0.0516	0.0500	103	58-152	

Lab Batch #: 904981 **Sample:** 455683-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/13 16:23

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0532	0.0500	106	74-126	
1,2-Dichloroethane-D4	0.0468	0.0500	94	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0488	0.0500	98	58-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455683, **Project ID:** 8496y

Lab Batch #: 905010 **Sample:** 632587-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/18/13 12:09

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0472	0.0500	94	74-126	
1,2-Dichloroethane-D4	0.0464	0.0500	93	80-120	
Toluene-D8	0.0493	0.0500	99	73-132	
4-Bromofluorobenzene	0.0484	0.0500	97	58-152	

Lab Batch #: 905010 **Sample:** 632587-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/18/13 13:25

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0503	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0517	0.0500	103	80-120	
Toluene-D8	0.0514	0.0500	103	73-132	
4-Bromofluorobenzene	0.0495	0.0500	99	58-152	

Lab Batch #: 905010 **Sample:** 455618-010 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/13 16:16

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0524	0.0500	105	74-126	
1,2-Dichloroethane-D4	0.0530	0.0500	106	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	
4-Bromofluorobenzene	0.0505	0.0500	101	58-152	

Lab Batch #: 905010 **Sample:** 455618-010 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/18/13 16:40

SURROGATE RECOVERY STUDY					
BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0504	0.0500	101	74-126	
1,2-Dichloroethane-D4	0.0484	0.0500	97	80-120	
Toluene-D8	0.0506	0.0500	101	73-132	
4-Bromofluorobenzene	0.0504	0.0500	101	58-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455683, **Project ID:** 8496y

Lab Batch #: 905058 **Sample:** 632429-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: ug/kg **Date Analyzed:** 01/17/13 19:26

SURROGATE RECOVERY STUDY					
EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.2	50.0	102	60-140	

Lab Batch #: 905058 **Sample:** 632429-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: ug/kg **Date Analyzed:** 01/17/13 19:43

SURROGATE RECOVERY STUDY					
EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	54.6	50.0	109	60-140	

Lab Batch #: 905058 **Sample:** 455683-011 S / MS **Batch:** 1 **Matrix:** Soil

Units: ug/kg **Date Analyzed:** 01/17/13 21:38

SURROGATE RECOVERY STUDY					
EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	55.6	50.0	111	60-140	

Lab Batch #: 905058 **Sample:** 455683-011 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: ug/kg **Date Analyzed:** 01/18/13 08:43

SURROGATE RECOVERY STUDY					
EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	56.9	50.0	114	60-140	

Lab Batch #: 904996 **Sample:** 632475-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 10:08

SURROGATE RECOVERY STUDY					
Total Petroleum Hydrocarbons by Texas 1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	43.9	50.0	88	70-130	
1-Chlorooctane	90.6	100	91	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455683, **Project ID:** 8496y

Lab Batch #: 904996 **Sample:** 632475-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 10:29

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	52.2	50.0	104	70-130	
1-Chlorooctane	118	100	118	70-130	

Lab Batch #: 904996 **Sample:** 632475-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 10:49

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	48.2	50.0	96	70-130	
1-Chlorooctane	114	100	114	70-130	

Lab Batch #: 904996 **Sample:** 455683-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/13 11:31

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	51.9	50.0	104	70-130	
1-Chlorooctane	110	100	110	70-130	

Lab Batch #: 904996 **Sample:** 455683-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/13 11:51

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	52.3	50.0	105	70-130	
1-Chlorooctane	112	100	112	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455683,

Project ID: 8496y

Lab Batch #: 904937 **Sample:** 632549-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/16/13 18:50

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0480	0.0500	96	53-142	
1,2-Dichloroethane-D4	0.0486	0.0500	97	56-150	
Toluene-D8	0.0481	0.0500	96	70-130	
4-Bromofluorobenzene	0.0506	0.0500	101	68-152	

Lab Batch #: 904937 **Sample:** 632549-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/16/13 20:13

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0475	0.0500	95	53-142	
1,2-Dichloroethane-D4	0.0467	0.0500	93	56-150	
Toluene-D8	0.0640	0.0500	128	70-130	
4-Bromofluorobenzene	0.0632	0.0500	126	68-152	

Lab Batch #: 904937 **Sample:** 455683-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/16/13 21:39

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0484	0.0500	97	53-142	
1,2-Dichloroethane-D4	0.0500	0.0500	100	56-150	
Toluene-D8	0.0498	0.0500	100	70-130	
4-Bromofluorobenzene	0.0493	0.0500	99	68-152	

Lab Batch #: 904937 **Sample:** 455683-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/16/13 22:03

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0498	0.0500	100	53-142	
1,2-Dichloroethane-D4	0.0496	0.0500	99	56-150	
Toluene-D8	0.0487	0.0500	97	70-130	
4-Bromofluorobenzene	0.0495	0.0500	99	68-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455683, **Project ID:** 8496y

Lab Batch #: 905111 **Sample:** 632641-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 11:44

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0520	0.0500	104	53-142	
1,2-Dichloroethane-D4	0.0514	0.0500	103	56-150	
Toluene-D8	0.0475	0.0500	95	70-130	
4-Bromofluorobenzene	0.0503	0.0500	101	68-152	

Lab Batch #: 905111 **Sample:** 632641-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 12:27

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0520	0.0500	104	53-142	
1,2-Dichloroethane-D4	0.0484	0.0500	97	56-150	
Toluene-D8	0.0480	0.0500	96	70-130	
4-Bromofluorobenzene	0.0516	0.0500	103	68-152	

Lab Batch #: 905111 **Sample:** 632641-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 13:41

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0509	0.0500	102	53-142	
1,2-Dichloroethane-D4	0.0497	0.0500	99	56-150	
Toluene-D8	0.0462	0.0500	92	70-130	
4-Bromofluorobenzene	0.0612	0.0500	122	68-152	

Lab Batch #: 905111 **Sample:** 455683-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/13 14:30

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0516	0.0500	103	53-142	
1,2-Dichloroethane-D4	0.0484	0.0500	97	56-150	
Toluene-D8	0.0463	0.0500	93	70-130	
4-Bromofluorobenzene	0.0553	0.0500	111	68-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455683,

Project ID: 8496y

Lab Batch #: 905111 **Sample:** 455683-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/13 14:55

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0498	0.0500	100	53-142	
1,2-Dichloroethane-D4	0.0490	0.0500	98	56-150	
Toluene-D8	0.0475	0.0500	95	70-130	
4-Bromofluorobenzene	0.0525	0.0500	105	68-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Spring Woods South

Work Order #: 455683 **Project ID:** 8496y

Lab Batch #: 904981 **Sample:** 632570-1-BKS **Matrix:** Solid
Date Analyzed: 01/17/2013 **Date Prepared:** 01/17/2013 **Analyst:** SAD
Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX-MTBE by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
MTBE	<0.000955	0.500	0.503	101	68-138	
Benzene	<0.000450	0.100	0.0999	100	62-132	
Toluene	<0.000429	0.100	0.0971	97	66-124	
Ethylbenzene	<0.000350	0.100	0.101	101	71-134	
m,p-Xylenes	<0.000439	0.200	0.211	106	69-128	
o-Xylene	<0.000206	0.100	0.105	105	72-131	

Lab Batch #: 905010 **Sample:** 632587-1-BKS **Matrix:** Solid
Date Analyzed: 01/18/2013 **Date Prepared:** 01/18/2013 **Analyst:** ZHO
Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

BTEX-MTBE by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
MTBE	<0.000955	0.500	0.568	114	68-138	
Benzene	<0.000450	0.100	0.111	111	62-132	
Toluene	<0.000429	0.100	0.110	110	66-124	
Ethylbenzene	<0.000350	0.100	0.121	121	71-134	
m,p-Xylenes	<0.000439	0.200	0.256	128	69-128	
o-Xylene	<0.000206	0.100	0.126	126	72-131	

Lab Batch #: 905058 **Sample:** 632429-1-BKS **Matrix:** Solid
Date Analyzed: 01/17/2013 **Date Prepared:** 01/17/2013 **Analyst:** KKO
Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

EDB by EPA 8011 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dibromoethane	<0.000110	0.0500	0.0555	111	60-140	
1,2-Dibromo-3-Chloropropane (DBCP)	<0.000148	0.0500	0.0571	114	60-140	
1,2,3-Trichloropropane	<0.000311	0.0500	0.0575	115	60-140	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Blank Spike Recovery

Project Name: Spring Woods South

Work Order #: 455683 **Project ID:** 8496y

Lab Batch #: 904937 **Sample:** 632549-1-BKS **Matrix:** Solid

Date Analyzed: 01/16/2013 **Date Prepared:** 01/16/2013 **Analyst:** ZHO

Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOAs by SW-846 8260 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.000300	0.0500	0.0495	99	71-119	
Bromobenzene	<0.000198	0.0500	0.0475	95	84-123	
Bromochloromethane	<0.000215	0.0500	0.0438	88	71-120	
Bromodichloromethane	<0.000186	0.0500	0.0476	95	78-126	
Bromoform	<0.000393	0.0500	0.0440	88	63-136	
Bromomethane	<0.000274	0.0500	0.0451	90	57-118	
MTBE	<0.000142	0.100	0.106	106	64-148	
tert-Butylbenzene	<0.0000900	0.0500	0.0524	105	83-132	
Sec-Butylbenzene	<0.000121	0.0500	0.0531	106	84-131	
n-Butylbenzene	<0.0000990	0.0500	0.0527	105	82-127	
Carbon Tetrachloride	<0.000132	0.0500	0.0465	93	63-135	
Chlorobenzene	<0.000104	0.0500	0.0475	95	83-121	
Chloroethane	<0.000254	0.0500	0.0413	83	57-122	
Chloroform	<0.000139	0.0500	0.0481	96	74-118	
Chloromethane	<0.000322	0.0500	0.0477	95	58-110	
2-Chlorotoluene	<0.000217	0.0500	0.0521	104	83-129	
4-Chlorotoluene	<0.000118	0.0500	0.0522	104	83-125	
p-Cymene (p-Isopropyltoluene)	<0.0000800	0.0500	0.0534	107	84-130	
Dibromochloromethane	<0.000422	0.0500	0.0442	88	77-130	
Dibromomethane	<0.000260	0.0500	0.0467	93	73-126	
1,2-Dichlorobenzene	<0.000129	0.0500	0.0489	98	84-121	
1,3-Dichlorobenzene	<0.000159	0.0500	0.0509	102	84-124	
1,4-Dichlorobenzene	<0.0000970	0.0500	0.0486	97	82-120	
Dichlorodifluoromethane	<0.000484	0.0500	0.0411	82	54-122	
1,2-Dichloroethane	<0.000177	0.0500	0.0451	90	70-123	
1,1-Dichloroethane	<0.000125	0.0500	0.0506	101	73-124	
trans-1,2-dichloroethene	<0.000123	0.0500	0.0475	95	63-110	
cis-1,2-Dichloroethene	<0.000165	0.0500	0.0489	98	72-131	
1,1-Dichloroethene	<0.000192	0.0500	0.0464	93	68-119	
2,2-Dichloropropane	<0.000127	0.0500	0.0523	105	67-137	
1,3-Dichloropropane	<0.000227	0.0500	0.0498	100	82-131	
1,2-Dichloropropane	<0.000162	0.0500	0.0482	96	75-122	
trans-1,3-dichloropropene	<0.000361	0.0500	0.0464	93	73-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Blank Spike Recovery

Project Name: Spring Woods South

Work Order #: 455683 **Project ID:** 8496y

Lab Batch #: 904937 **Sample:** 632549-1-BKS **Matrix:** Solid

Date Analyzed: 01/16/2013 **Date Prepared:** 01/16/2013 **Analyst:** ZHO

Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOAs by SW-846 8260 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,1-Dichloropropene	<0.000198	0.0500	0.0497	99	72-118	
cis-1,3-Dichloropropene	<0.000128	0.0500	0.0501	100	74-135	
Ethylbenzene	<0.000104	0.0500	0.0501	100	80-123	
Hexachlorobutadiene	<0.000346	0.0500	0.0436	87	77-130	
isopropylbenzene	<0.000112	0.0500	0.0487	97	55-155	
Methylene Chloride	<0.000427	0.0500	0.0459	92	57-134	
Naphthalene	<0.000148	0.0500	0.0481	96	53-162	
n-Propylbenzene	<0.000137	0.0500	0.0542	108	84-131	
Styrene	<0.000158	0.0500	0.0507	101	80-126	
1,1,1,2-Tetrachloroethane	<0.000148	0.0500	0.0468	94	81-127	
1,1,2,2-Tetrachloroethane	<0.000194	0.0500	0.0471	94	75-133	
Tetrachloroethylene	<0.000173	0.0500	0.0485	97	79-124	
Toluene	<0.000117	0.0500	0.0474	95	74-122	
1,2,4-Trichlorobenzene	<0.000191	0.0500	0.0454	91	79-128	
1,2,3-Trichlorobenzene	<0.000106	0.0500	0.0469	94	75-131	
1,1,2-Trichloroethane	<0.000225	0.0500	0.0454	91	75-131	
1,1,1-Trichloroethane	<0.000602	0.0500	0.0490	98	71-124	
Trichloroethene	<0.000147	0.0500	0.0486	97	78-119	
Trichlorofluoromethane	<0.000186	0.0500	0.0636	127	71-148	
1,2,4-Trimethylbenzene	<0.000103	0.0500	0.0531	106	60-159	
1,3,5-trimethylbenzene	<0.000166	0.0500	0.0534	107	61-160	
Vinyl Chloride	<0.000193	0.0500	0.0499	100	60-123	
o-Xylene	<0.000149	0.0500	0.0502	100	79-125	
m,p-Xylenes	<0.000185	0.100	0.102	102	78-127	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Spring Woods South

Work Order #: 455683
Analyst: CYE
Lab Batch ID: 904996 **Sample:** 632475-1-BKS
Units: mg/kg

Date Prepared: 01/16/2013
Batch #: 1

Project ID: 8496y
Date Analyzed: 01/17/2013
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<9.00	1000	977	98	1000	976	98	0	75-125	30	
C12-C28 Diesel Range Hydrocarbons	<9.00	1000	858	86	1000	806	81	6	75-125	30	

Analyst: MCH
Lab Batch ID: 905111 **Sample:** 632641-1-BKS
Units: mg/kg

Date Prepared: 01/17/2013
Batch #: 1

Date Analyzed: 01/17/2013
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
o-Xylene	<0.000149	0.0500	0.0534	107	0.0500	0.0536	107	0	79-125	25	
m,p-Xylenes	<0.000185	0.100	0.106	106	0.100	0.107	107	1	78-127	25	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455683

Project ID: 8496y

Lab Batch ID: 904981 **QC- Sample ID:** 455683-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/17/2013 **Date Prepared:** 01/17/2013 **Analyst:** SAD

Reporting Units: mg/kg

BTEX-MTBE by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
MTBE	<0.00109	0.573	0.686	120	0.573	0.766	134	11	68-138	25	
Benzene	0.00117	0.115	0.121	104	0.115	0.127	109	5	62-132	25	
Toluene	<0.000492	0.115	0.123	107	0.115	0.127	110	3	66-124	25	
Ethylbenzene	<0.000401	0.115	0.121	105	0.115	0.130	113	7	71-134	25	
m,p-Xylenes	<0.000503	0.229	0.252	110	0.229	0.259	113	3	69-128	25	
o-Xylene	<0.000236	0.115	0.125	109	0.115	0.139	121	11	72-131	25	

Lab Batch ID: 905010 **QC- Sample ID:** 455618-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/18/2013 **Date Prepared:** 01/18/2013 **Analyst:** ZHO

Reporting Units: mg/kg

BTEX-MTBE by SW 8260B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
MTBE	<0.00131	0.687	0.790	115	0.683	0.707	104	11	68-138	25	
Benzene	0.00315	0.137	0.138	98	0.137	0.137	98	1	62-132	25	
Toluene	0.00388	0.137	0.135	96	0.137	0.135	96	0	66-124	25	
Ethylbenzene	<0.000481	0.137	0.141	103	0.137	0.143	104	1	71-134	25	
m,p-Xylenes	0.000894	0.275	0.297	108	0.273	0.300	110	1	69-128	25	
o-Xylene	0.000481	0.137	0.149	108	0.137	0.151	110	1	72-131	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455683

Project ID: 8496y

Lab Batch ID: 905058 **QC- Sample ID:** 455683-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/17/2013 **Date Prepared:** 01/17/2013 **Analyst:** KKO

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

EDB by EPA 8011 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2-Dibromoethane	<0.000124	0.0563	0.0649	115	0.0563	0.0717	127	10	60-140	20	
1,2-Dibromo-3-Chloropropane (DBCP)	<0.000167	0.0563	0.0686	122	0.0563	0.0711	126	6	60-140	20	
1,2,3-Trichloropropane	<0.000350	0.0563	0.0666	118	0.0563	0.0694	123	4	60-140	20	

Lab Batch ID: 904996 **QC- Sample ID:** 455683-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/17/2013 **Date Prepared:** 01/16/2013 **Analyst:** CYE

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<11.0	1220	1150	94	1220	1190	98	3	75-125	30	
C12-C28 Diesel Range Hydrocarbons	<11.0	1220	1060	87	1220	1050	86	1	75-125	30	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455683

Project ID: 8496y

Lab Batch ID: 904937

QC- Sample ID: 455683-001 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 01/16/2013

Date Prepared: 01/16/2013

Analyst: ZHO

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	0.00175	0.0616	0.0563	89	0.0616	0.0551	87	2	66-142	25	
Bromobenzene	<0.000244	0.0616	0.0541	88	0.0616	0.0534	87	1	75-125	25	
Bromochloromethane	<0.000265	0.0616	0.0516	84	0.0616	0.0509	83	1	60-140	25	
Bromodichloromethane	<0.000229	0.0616	0.0549	89	0.0616	0.0538	87	2	75-125	25	
Bromoform	<0.000484	0.0616	0.0543	88	0.0616	0.0561	91	3	75-125	25	
Bromomethane	<0.000338	0.0616	0.0755	123	0.0616	0.0736	119	3	60-140	25	
MTBE	<0.000175	0.123	0.124	101	0.123	0.129	105	4	60-140	25	
tert-Butylbenzene	<0.000111	0.0616	0.0558	91	0.0616	0.0540	88	3	75-125	25	
Sec-Butylbenzene	<0.000149	0.0616	0.0557	90	0.0616	0.0537	87	4	75-125	25	
n-Butylbenzene	<0.000122	0.0616	0.0544	88	0.0616	0.0453	74	18	75-125	25	X
Carbon Tetrachloride	<0.000163	0.0616	0.0507	82	0.0616	0.0504	82	1	62-125	25	
Chlorobenzene	<0.000128	0.0616	0.0541	88	0.0616	0.0540	88	0	60-133	25	
Chloroethane	<0.000313	0.0616	0.0474	77	0.0616	0.0494	80	4	60-140	25	
Chloroform	<0.000171	0.0616	0.0540	88	0.0616	0.0546	89	1	74-125	25	
Chloromethane	<0.000397	0.0616	0.0521	85	0.0616	0.0506	82	3	60-140	25	
2-Chlorotoluene	<0.000267	0.0616	0.0559	91	0.0616	0.0551	89	1	73-125	25	
4-Chlorotoluene	<0.000145	0.0616	0.0561	91	0.0616	0.0546	89	3	74-125	25	
p-Cymene (p-Isopropyltoluene)	<0.0000986	0.0616	0.0564	92	0.0616	0.0544	88	4	75-125	25	
Dibromochloromethane	<0.000520	0.0616	0.0540	88	0.0616	0.0538	87	0	73-125	25	
Dibromomethane	<0.000320	0.0616	0.0554	90	0.0616	0.0541	88	2	69-127	25	
1,2-Dichlorobenzene	<0.000159	0.0616	0.0553	90	0.0616	0.0538	87	3	75-125	25	
1,3-Dichlorobenzene	<0.000196	0.0616	0.0560	91	0.0616	0.0551	89	2	75-125	25	
1,4-Dichlorobenzene	<0.000120	0.0616	0.0544	88	0.0616	0.0532	86	2	75-125	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455683

Project ID: 8496y

Lab Batch ID: 904937

QC- Sample ID: 455683-001 S

Batch #: 1

Matrix: Soil

Date Analyzed: 01/16/2013

Date Prepared: 01/16/2013

Analyst: ZHO

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dichlorodifluoromethane	<0.000596	0.0616	0.0422	69	0.0616	0.0411	67	3	65-135	25	
1,2-Dichloroethane	<0.000218	0.0616	0.0543	88	0.0616	0.0523	85	4	68-127	25	
1,1-Dichloroethane	<0.000154	0.0616	0.0549	89	0.0616	0.0566	92	3	72-125	25	
trans-1,2-dichloroethene	<0.000152	0.0616	0.0512	83	0.0616	0.0526	85	3	75-125	25	
cis-1,2-Dichloroethene	<0.000203	0.0616	0.0539	88	0.0616	0.0538	87	0	75-125	25	
1,1-Dichloroethene	<0.000237	0.0616	0.0493	80	0.0616	0.0508	82	3	59-172	25	
2,2-Dichloropropane	<0.000156	0.0616	0.0552	90	0.0616	0.0533	87	4	75-125	25	
1,3-Dichloropropane	<0.000280	0.0616	0.0598	97	0.0616	0.0597	97	0	75-125	25	
1,2-Dichloropropane	<0.000200	0.0616	0.0549	89	0.0616	0.0547	89	0	74-125	25	
trans-1,3-dichloropropene	<0.000445	0.0616	0.0539	88	0.0616	0.0533	87	1	66-125	25	
1,1-Dichloropropene	<0.000244	0.0616	0.0534	87	0.0616	0.0521	85	2	75-125	25	
cis-1,3-Dichloropropene	<0.000158	0.0616	0.0576	94	0.0616	0.0556	90	4	74-125	25	
Ethylbenzene	<0.000128	0.0616	0.0547	89	0.0616	0.0554	90	1	75-125	25	
Hexachlorobutadiene	<0.000426	0.0616	0.0503	82	0.0616	0.0465	75	8	75-125	25	
isopropylbenzene	<0.000138	0.0616	0.0522	85	0.0616	0.0510	83	2	75-125	25	
Methylene Chloride	<0.000526	0.0616	0.0505	82	0.0616	0.0512	83	1	75-125	25	
Naphthalene	<0.000182	0.0616	0.0563	91	0.0616	0.0576	94	2	70-130	25	
n-Propylbenzene	<0.000169	0.0616	0.0576	94	0.0616	0.0564	92	2	75-125	25	
Styrene	<0.000195	0.0616	0.0584	95	0.0616	0.0585	95	0	75-125	25	
1,1,1,2-Tetrachloroethane	<0.000182	0.0616	0.0536	87	0.0616	0.0543	88	1	72-125	25	
1,1,2,2-Tetrachloroethane	<0.000239	0.0616	0.0543	88	0.0616	0.0536	87	1	74-125	25	
Tetrachloroethylene	<0.000213	0.0616	0.0536	87	0.0616	0.0529	86	1	71-125	25	
Toluene	0.000407	0.0616	0.0534	86	0.0616	0.0529	85	1	59-139	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455683

Project ID: 8496y

Lab Batch ID: 904937 **QC- Sample ID:** 455683-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/16/2013 **Date Prepared:** 01/16/2013 **Analyst:** ZHO

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2,4-Trichlorobenzene	<0.000235	0.0616	0.0511	83	0.0616	0.0500	81	2	75-135	25	
1,2,3-Trichlorobenzene	<0.000131	0.0616	0.0520	84	0.0616	0.0499	81	4	75-137	25	
1,1,2-Trichloroethane	<0.000277	0.0616	0.0553	90	0.0616	0.0551	89	0	75-127	25	
1,1,1-Trichloroethane	<0.000742	0.0616	0.0512	83	0.0616	0.0523	85	2	75-125	25	
Trichloroethene	<0.000181	0.0616	0.0543	88	0.0616	0.0550	89	1	62-137	25	
Trichlorofluoromethane	<0.000229	0.0616	0.0669	109	0.0616	0.0661	107	1	67-125	25	
1,2,4-Trimethylbenzene	<0.000127	0.0616	0.0575	93	0.0616	0.0555	90	4	75-125	25	
1,3,5-trimethylbenzene	<0.000205	0.0616	0.0574	93	0.0616	0.0549	89	4	70-130	25	
Vinyl Chloride	<0.000238	0.0616	0.0513	83	0.0616	0.0512	83	0	60-140	25	
o-Xylene	<0.000184	0.0616	0.0568	92	0.0616	0.0560	91	1	75-125	25	
m,p-Xylenes	<0.000228	0.123	0.112	91	0.123	0.113	92	1	75-125	25	

Lab Batch ID: 905111 **QC- Sample ID:** 455683-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/17/2013 **Date Prepared:** 01/17/2013 **Analyst:** MCH

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
o-Xylene	<0.000182	0.0610	0.0659	108	0.0605	0.0652	108	1	75-125	25	
m,p-Xylenes	<0.000226	0.122	0.135	111	0.121	0.132	109	2	75-125	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Spring Woods South

Work Order #: 455683

Lab Batch #: 904815 **Project ID:** 8496y
Date Analyzed: 01/16/2013 16:23 **Date Prepared:** 01/16/2013 **Analyst:** KUG
QC- Sample ID: 455618-010 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	26.5	26.2	1	20	

Lab Batch #: 904815
Date Analyzed: 01/16/2013 16:23 **Date Prepared:** 01/16/2013 **Analyst:** KUG
QC- Sample ID: 455683-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	18.0	17.7	2	20	

Lab Batch #: 904817
Date Analyzed: 01/16/2013 17:16 **Date Prepared:** 01/16/2013 **Analyst:** KUG
QC- Sample ID: 455683-011 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	11.2	11.3	1	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

DCS Summary 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: BTEX-MTBE by SW 8260B Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
MTBE	0.00250	0.00374	mg/kg
Benzene	0.00100	0.00131	mg/kg
Toluene	0.00100	0.00221	mg/kg
Ethylbenzene	0.00100	0.00126	mg/kg
m,p-Xylenes	0.00100	0.00138	mg/kg
o-Xylene	0.000500	0.000580	mg/kg

Analytical Method: EDB by EPA 8011 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
1,2-Dibromoethane	0.000300	0.000264	mg/kg
1,2-Dibromo-3-Chloropropane (DBCP)	0.000300	0.000603	mg/kg
1,2,3-Trichloropropane	0.000300	0.000389	mg/kg

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
C6-C12 Gasoline Range Hydrocarbons	25.0	25.0	mg/kg
C12-C28 Diesel Range Hydrocarbons	25.0	21.0	mg/kg
Total TPH 1005	50.0	46.0	mg/kg

Project: Spring Woods South

XENCO Laboratories

DCS Summary 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: VOAs by SW-846 8260 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
Benzene	0.00100	0.000270	mg/kg
Bromobenzene	0.000250	0.000180	mg/kg
Bromochloromethane	0.000500	0.000380	mg/kg
Bromodichloromethane	0.000250	0.000240	mg/kg
Bromoform	0.00100	0.000740	mg/kg
Bromomethane	0.000500	0.000280	mg/kg
MTBE	0.000500	0.000530	mg/kg
tert-Butylbenzene	0.000250	0.000200	mg/kg
Sec-Butylbenzene	0.000250	0.000180	mg/kg
n-Butylbenzene	0.000250	0.000250	mg/kg
Carbon Tetrachloride	0.000250	0.000320	mg/kg
Chlorobenzene	0.000250	0.000330	mg/kg
Chloroethane	0.000500	0.000650	mg/kg
Chloroform	0.000250	0.000590	mg/kg
Chloromethane	0.00100	0.000230	mg/kg
2-Chlorotoluene	0.000250	0.000250	mg/kg
4-Chlorotoluene	0.000250	0.000250	mg/kg
p-Cymene (p-Isopropyltoluene)	0.000250	0.000250	mg/kg
Dibromochloromethane	0.000500	0.000460	mg/kg
Dibromomethane	0.000500	0.000300	mg/kg
1,2-Dichlorobenzene	0.000250	0.000340	mg/kg
1,3-Dichlorobenzene	0.000250	0.000290	mg/kg
1,4-Dichlorobenzene	0.000250	0.000380	mg/kg
Dichlorodifluoromethane	0.000500	0.000690	mg/kg
1,2-Dichloroethane	0.000250	0.000160	mg/kg
1,1-Dichloroethane	0.000250	0.000340	mg/kg
trans-1,2-dichloroethene	0.000250	0.000220	mg/kg
cis-1,2-Dichloroethene	0.000250	0.000220	mg/kg
1,1-Dichloroethene	0.000250	0.000300	mg/kg
2,2-Dichloropropane	0.000250	0.000160	mg/kg
1,3-Dichloropropane	0.000250	0.000140	mg/kg
1,2-Dichloropropane	0.000250	0.000150	mg/kg
trans-1,3-dichloropropene	0.000500	0.000470	mg/kg
1,1-Dichloropropene	0.000250	0.000300	mg/kg
cis-1,3-Dichloropropene	0.000250	0.000180	mg/kg
Ethylbenzene	0.000250	0.000290	mg/kg
Hexachlorobutadiene	0.000500	0.000390	mg/kg
isopropylbenzene	0.000250	0.000250	mg/kg
Methylene Chloride	0.00100	0.00423	mg/kg
Naphthalene	0.000250	0.000360	mg/kg
n-Propylbenzene	0.000250	0.000150	mg/kg
Styrene	0.000250	0.000270	mg/kg
1,1,1,2-Tetrachloroethane	0.000500	0.000510	mg/kg
1,1,2,2-Tetrachloroethane	0.000500	0.000420	mg/kg
Tetrachloroethylene	0.000250	0.000300	mg/kg
Toluene	0.000250	0.000380	mg/kg

Project: Spring Woods South

DCS Summary 455683

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: VOAs by SW-846 8260 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
1,2,4-Trichlorobenzene	0.000250	0.000250	mg/kg
1,2,3-Trichlorobenzene	0.000250	0.000360	mg/kg
1,1,2-Trichloroethane	0.000500	0.000490	mg/kg
1,1,1-Trichloroethane	0.00200	0.000330	mg/kg
Trichloroethene	0.000250	0.000220	mg/kg
Trichlorofluoromethane	0.000250	0.000240	mg/kg
1,2,4-Trimethylbenzene	0.000250	0.000280	mg/kg
1,3,5-trimethylbenzene	0.000250	0.000250	mg/kg
Vinyl Chloride	0.000250	0.000240	mg/kg
o-Xylene	0.000250	0.000280	mg/kg
m,p-Xylenes	0.000500	0.000540	mg/kg

Project: Spring Woods South

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

XENCO Laboratories

☒ 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
☐ 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
☐ 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**

Serial #: 328542 Page 1 of 2

Company-City: Berg-Oliver Associates, Inc. **Phone:** 281.589.0898

Lab Only: 45 5683-H

Project Name-Location: Spring Woods South ☒ Previously done at XENCO **Project ID:** 84964

TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d (Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other **Proj. Manager (PM):** Tom Murphy

E-mail Results to ☒ PM and **Fax No:** 281.589.0007

Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.
Bill to:

Quote/Pricing: **P.O. No:** ☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM) only
Run TCEQ TRRP Tier 0.5 - Apply Req PCLs

Sampler Name: Tom Murphy **Signature:** [signature]

	Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	VOCs (8260)	TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Sample Clean-ups are pre-approved as needed	Addn: Date Rcv. by: From:	
1	SB-13@12-14'	01/11/13	901				X	1	4oz	VG	Iu				X						X						1
2	SB-14@4-6'		910				X								X						X						2
3	SB-15@6-8'		943				X								X						X						3
4	SB-16@2-4'		1008				X					X			X												4
5	SB-17@12-14'		1048				X					X			X												5
6	SB-18@6-8'		1108				X					X			X												6
7	SB-18@14-16'		1112				X					X			X												7
8	SB-19@4-6'		1141				X					X			X												8
9	SB-20@8-10'		1204				X					X			X												9
10	SB-21@12-14'		1228				X					X			X												10

	Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1	1) [signature] TM	01/14/13 8:08	2) [signature]	1-14-13 13:20
2	3)		4) [signature]	1/14/13 16:18
3	5) [signature]	1-14-13 16:18	6)	

Total Containers per COC: Cooler Temp: ~~2~~ 3.1°C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) _____
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ **Cont. Type:** Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)

Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)

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Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

ANALYSIS REQUEST & CHAIN OF CUSTODY RECORD

XENCO Laboratories

☒ 4143 Greenbriar Drive, Stafford, TX 77477 **281-240-4200**
☐ 5332, Blackberry Drive, San Antonio, TX 78238 **210-509-3334**
☐ 9701 Harry Hines Blvd., Dallas, TX 75220 **214-902-0300**
☐ 12600 West I-20 East, Odessa, TX 79765 **432-563-1800**

Serial #: 322173 Page 2 of 2

Company-City: Berg-Oliver Associates, Inc
Phone: 281.589.0598

Lab Only:

Project Name-Location: Spring Woods South
☐ Previously done at XENCO
Project ID: 8496Y

TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d Standard TAT is project specific.
It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other
Proj. Manager (PM): Tom Murphy

E-mail Results to ☒ PM and
Fax No: 281.589.0007

Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.
Bill to:

Quote/Pricing: P.O. No: ☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP
QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DLs (GW DW QAPP MDLs RLs See Lab PM Included Call PM)
Run TCEQ TRRP Tier 1 0.5-Acre PCLs only

Sampler Name: Tom Murphy
Signature: T Murphy

	Sample ID	Sampling Date	Time	Depth ft' in" m	Matrix	Composite	Grab	# Containers	Container Size	Container Type	Preservatives	VOA: Full-List BTEX-MTBE 5tOH Oxyg VOHs VOAs	VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:	PAHs SIM 8310 8270	TX-1005 DRO GRO MA EPH MA VPH	SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL	OC Pesticides PCBs Herbicides OP Pesticides	Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2	SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)	EDB / DBCP	VOCs (8260)	TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d	Addn: PAH above mg/L W, mg/Kg S Highest Hit	Hold Samples (Surcharges will apply and are pre-approved)	Remarks: Sample Clean-ups are pre-approved as needed	Addn: Date Rcv. by: From:
1	SB-22 @ 9.5-10.5'	01/11/13	1343				X	1	4oz	Gl	Ice				X						X					
2	SB-23 @ 4-6'	↓	1402	↓			X	1	↓	↓	↓	X			X											
3	SB-24 @ 6-8'		1425												X						X					
4																										
5																										
6																										
7																										
8																										
9																										
10																										

Relinquished by (Initials and Sign)	Date & Time	Relinquished to (Initials and Sign)	Date & Time
1) [signature]	01/14/13 8:08	2) [signature]	1-14-13 11:20
3) [signature]	1-14-13 16:18	4) [signature]	13:20
		6) [signature]	1/14/13 16:18

Total Containers per COC: Cooler Temp: 3.1 °C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO until paid. Samples will be held 30 days after final report is e-mailed unless hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O) _____
Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other _____ **Cont. Type:** Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)

Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)

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Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliates, subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Berg - Oliver Associates

Date/ Time Received: 01/14/2013 04:18:00 PM

Work Order #: 455683

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R-31

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.1	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	No	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Sample instructions complete on Chain of Custody?	Yes	
#9 Any missing/extra samples?	No	
#10 Chain of Custody signed when relinquished/ received?	Yes	
#11 Chain of Custody agrees with sample label(s)?	Yes	
#12 Container label(s) legible and intact?	Yes	
#13 Sample matrix/ properties agree with Chain of Custody?	Yes	
#14 Samples in proper container/ bottle?	Yes	
#15 Samples properly preserved?	Yes	
#16 Sample container(s) intact?	Yes	
#17 Sufficient sample amount for indicated test(s)?	Yes	
#18 All samples received within hold time?	Yes	
#19 Subcontract of sample(s)?	N/A	
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A	
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A	
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: TT	PH Device/Lot#:

Checklist completed by: Tanya Torres Date: 01/15/2013

Checklist reviewed by: Debbie Simmons Date: 01/15/2013

Analytical Report 455684

for

Berg - Oliver Associates

Project Manager: Tom Murphy

Spring Woods South

22-JAN-13

Collected By: Client

4143 Greenbriar Dr., Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Lakeland: Florida (E84098)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)

22-JAN-13

Project Manager: **Tom Murphy**
Berg - Oliver Associates
14701 St. Mary's Lane, Suite 400
Houston, TX 77079

Reference: XENCO Report No(s): **455684**
Spring Woods South
Project Address: TX

Tom Murphy:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 455684. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 455684 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Debbie Simmons

Debbie Simmons
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

Sample Cross Reference 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
IDW	S	01-11-13 14:30		455684-001

Certificate of Analytical Results 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**IDW**	Matrix: Soil	Sample Depth:
Lab Sample Id:	**455684-001**	Date Collected: 01.11.13 14.30	Date Received: 01.14.13 16.18

Analytical Method:	**Total Petroleum Hydrocarbons by Texas 1005**		% Moist: 17.59	Prep Method: 1005
Date Anal:	01.17.13 17.25	Analyst: CYE	Date Prep: 01.16.13 13.15	Tech: CYE
Anal seq:	904996		Prep seq: 632475	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	60.7	10.9	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	60.7	10.9	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	60.7	10.9	mg/kg	U	1
Total TPH 1005	PHC635	U		10.9	mg/kg	U	

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	99	70 - 130	%	
1-Chlorooctane	101	70 - 130	%	

Analytical Method:	**EDB by EPA 8011**		% Moist: 17.59	Prep Method:
Date Anal:	01.17.13 20.16	Analyst: KKO	Date Prep: 01.17.13 14.36	Tech: KKO
Anal seq:	905058		Prep seq: 632429	

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000425	0.000133	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000425	0.000180	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000425	0.000377	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	106	60 - 140	%	

Final 1.000

Certificate of Analytical Results 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: IDW | Matrix: Soil | Sample Depth:

Lab Sample Id: 455684-001 | Date Collected: 01.11.13 14.30 | Date Received: 01.14.13 16.18

Analytical Method: VOAs by SW-846 8260 | % Moist: 17.59 | Prep Method: 5030B

Date Anal: 01.17.13 00.56 | Analyst: ZHO | Date Prep: 01.16.13 20.51 | Tech: ZHO

Anal seq: 904937 | Prep seq: 632549

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	U	0.00606	0.000363	mg/kg	U	1
Bromobenzene	108-86-1	U	0.00606	0.000240	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00606	0.000260	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00606	0.000225	mg/kg	U	1
Bromoform	75-25-2	U	0.00606	0.000476	mg/kg	U	1
Bromomethane	74-83-9	U	0.00606	0.000332	mg/kg	U	1
MTBE	1634-04-4	U	0.00606	0.000172	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00606	0.000109	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00606	0.000147	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00606	0.000120	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00606	0.000160	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00606	0.000126	mg/kg	U	1
Chloroethane	75-00-3	U	0.0121	0.000308	mg/kg	U	1
Chloroform	67-66-3	U	0.00606	0.000168	mg/kg	U	1
Chloromethane	74-87-3	U	0.0121	0.000390	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00606	0.000263	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00606	0.000143	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00606	0.0000969	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00606	0.000511	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00606	0.000315	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00606	0.000156	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00606	0.000193	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00606	0.000117	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00606	0.000586	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00606	0.000214	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00606	0.000151	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00606	0.000149	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00606	0.000200	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00606	0.000233	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00606	0.000154	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00606	0.000275	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00606	0.000196	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00606	0.000437	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00606	0.000240	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00606	0.000155	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00606	0.000126	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00606	0.000419	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00606	0.000136	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0242	0.000517	mg/kg	U	1
Naphthalene	91-20-3	U	0.0121	0.000179	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00606	0.000166	mg/kg	U	1
Styrene	100-42-5	U	0.00606	0.000191	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00606	0.000179	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00606	0.000235	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: IDW | Matrix: Soil | Sample Depth:

Lab Sample Id: **455684-001** | Date Collected: 01.11.13 14.30 | Date Received: 01.14.13 16.18

Analytical Method: **VOAs by SW-846 8260** | % Moist: 17.59 | Prep Method: 5030B

Date Anal: 01.17.13 00.56 | Analyst: ZHO | Date Prep: 01.16.13 20.51 | Tech: ZHO

Anal seq: 904937 | Prep seq: 632549

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00606	0.000210	mg/kg	U	1
Toluene	108-88-3	U	0.00606	0.000142	mg/kg	U	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00606	0.000231	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00606	0.000128	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00606	0.000272	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00606	0.000729	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00606	0.000178	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00606	0.000225	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00606	0.000125	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00606	0.000201	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00242	0.000234	mg/kg	U	1
o-Xylene	95-47-6	U	0.00606	0.000180	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0121	0.000224	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	103	53 - 142	%	
1,2-Dichloroethane-D4	110	56 - 150	%	
Toluene-D8	95	70 - 130	%	
4-Bromofluorobenzene	122	68 - 152	%	

Analytical Method: **Percent Moisture** | % Moist: | Prep Method:

Date Anal: 01.16.13 17.16 | Analyst: KUG | Date Prep: | Tech: KUG

Anal seq: 904817 | Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	**17.6**			%		

Final 1.000

Certificate of Analytical Results 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: 632429-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632429-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **EDB by EPA 8011** | % Moist: | Prep Method:

Date Anal: 01.17.13 19.26 | Analyst: KKO | Date Prep: 01.17.13 14.00 | Tech: KKO

Anal seq: 905058 | Prep seq: 632429

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
1,2-Dibromoethane	106-93-4	U	0.000350	0.000110	mg/kg	U	1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	U	0.000350	0.000148	mg/kg	U	1
1,2,3-Trichloropropane	96-18-4	U	0.000350	0.000311	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
4-Bromofluorobenzene	102	60 - 140	%	

Sample Id: 632475-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632475-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** | % Moist: | Prep Method: 1005

Date Anal: 01.17.13 10.08 | Analyst: CYE | Date Prep: 01.16.13 11.00 | Tech: CYE

Anal seq: 904996 | Prep seq: 632475

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	U	50.0	9.00	mg/kg	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	U	50.0	9.00	mg/kg	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	U	50.0	9.00	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
o-Terphenyl	88	70 - 130	%	
1-Chlorooctane	91	70 - 130	%	

Certificate of Analytical Results 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id:	**632549-1-BLK**	Matrix: Solid		Sample Depth:	
Lab Sample Id:	**632549-1-BLK**	Date Collected:		Date Received: 01.14.13 16.18	
Analytical Method:	**VOAs by SW-846 8260**		% Moist:	Prep Method: 5030B	
Date Anal:	01.16.13 20.13	Analyst: ZHO	Date Prep: 01.16.13 19.06	Tech: ZHO	
Anal seq:	904937		Prep seq: 632549		

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Benzene	71-43-2	U	0.00500	0.000300	mg/kg	U	1
Bromobenzene	108-86-1	U	0.00500	0.000198	mg/kg	U	1
Bromochloromethane	74-97-5	U	0.00500	0.000215	mg/kg	U	1
Bromodichloromethane	75-27-4	U	0.00500	0.000186	mg/kg	U	1
Bromoform	75-25-2	U	0.00500	0.000393	mg/kg	U	1
Bromomethane	74-83-9	U	0.00500	0.000274	mg/kg	U	1
MTBE	1634-04-4	U	0.00500	0.000142	mg/kg	U	1
tert-Butylbenzene	98-06-6	U	0.00500	0.0000900	mg/kg	U	1
Sec-Butylbenzene	135-98-8	U	0.00500	0.000121	mg/kg	U	1
n-Butylbenzene	104-51-8	U	0.00500	0.0000990	mg/kg	U	1
Carbon Tetrachloride	56-23-5	U	0.00500	0.000132	mg/kg	U	1
Chlorobenzene	108-90-7	U	0.00500	0.000104	mg/kg	U	1
Chloroethane	75-00-3	U	0.0100	0.000254	mg/kg	U	1
Chloroform	67-66-3	U	0.00500	0.000139	mg/kg	U	1
Chloromethane	74-87-3	U	0.0100	0.000322	mg/kg	U	1
2-Chlorotoluene	95-49-8	U	0.00500	0.000217	mg/kg	U	1
4-Chlorotoluene	106-43-4	U	0.00500	0.000118	mg/kg	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	U	0.00500	0.0000800	mg/kg	U	1
Dibromochloromethane	124-48-1	U	0.00500	0.000422	mg/kg	U	1
Dibromomethane	74-95-3	U	0.00500	0.000260	mg/kg	U	1
1,2-Dichlorobenzene	95-50-1	U	0.00500	0.000129	mg/kg	U	1
1,3-Dichlorobenzene	541-73-1	U	0.00500	0.000159	mg/kg	U	1
1,4-Dichlorobenzene	106-46-7	U	0.00500	0.0000970	mg/kg	U	1
Dichlorodifluoromethane	75-71-8	U	0.00500	0.000484	mg/kg	U	1
1,2-Dichloroethane	107-06-2	U	0.00500	0.000177	mg/kg	U	1
1,1-Dichloroethane	75-34-3	U	0.00500	0.000125	mg/kg	U	1
trans-1,2-dichloroethene	156-60-5	U	0.00500	0.000123	mg/kg	U	1
cis-1,2-Dichloroethene	156-59-2	U	0.00500	0.000165	mg/kg	U	1
1,1-Dichloroethene	75-35-4	U	0.00500	0.000192	mg/kg	U	1
2,2-Dichloropropane	594-20-7	U	0.00500	0.000127	mg/kg	U	1
1,3-Dichloropropane	142-28-9	U	0.00500	0.000227	mg/kg	U	1
1,2-Dichloropropane	78-87-5	U	0.00500	0.000162	mg/kg	U	1
trans-1,3-dichloropropene	10061-02-6	U	0.00500	0.000361	mg/kg	U	1
1,1-Dichloropropene	563-58-6	U	0.00500	0.000198	mg/kg	U	1
cis-1,3-Dichloropropene	10061-01-5	U	0.00500	0.000128	mg/kg	U	1
Ethylbenzene	100-41-4	U	0.00500	0.000104	mg/kg	U	1
Hexachlorobutadiene	87-68-3	U	0.00500	0.000346	mg/kg	U	1
isopropylbenzene	98-82-8	U	0.00500	0.000112	mg/kg	U	1
Methylene Chloride	75-09-2	U	0.0200	0.000427	mg/kg	U	1
Naphthalene	91-20-3	U	0.0100	0.000148	mg/kg	U	1
n-Propylbenzene	103-65-1	U	0.00500	0.000137	mg/kg	U	1
Styrene	100-42-5	U	0.00500	0.000158	mg/kg	U	1
1,1,1,2-Tetrachloroethane	630-20-6	U	0.00500	0.000148	mg/kg	U	1
1,1,2,2-Tetrachloroethane	79-34-5	U	0.00500	0.000194	mg/kg	U	1

Final 1.000

Certificate of Analytical Results 455684

Berg - Oliver Associates, Houston, TX

Spring Woods South

Sample Id: 632549-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 632549-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **VOAs by SW-846 8260** | % Moist: | Prep Method: 5030B

Date Anal: 01.16.13 20.13 | Analyst: ZHO | Date Prep: 01.16.13 19.06 | Tech: ZHO

Anal seq: 904937 | Prep seq: 632549

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Tetrachloroethylene	127-18-4	U	0.00500	0.000173	mg/kg	U	1
Toluene	108-88-3	U	0.00500	0.000117	mg/kg	U	1
1,2,4-Trichlorobenzene	120-82-1	U	0.00500	0.000191	mg/kg	U	1
1,2,3-Trichlorobenzene	87-61-6	U	0.00500	0.000106	mg/kg	U	1
1,1,2-Trichloroethane	79-00-5	U	0.00500	0.000225	mg/kg	U	1
1,1,1-Trichloroethane	71-55-6	U	0.00500	0.000602	mg/kg	U	1
Trichloroethene	79-01-6	U	0.00500	0.000147	mg/kg	U	1
Trichlorofluoromethane	75-69-4	U	0.00500	0.000186	mg/kg	U	1
1,2,4-Trimethylbenzene	95-63-6	U	0.00500	0.000103	mg/kg	U	1
1,3,5-trimethylbenzene	108-67-8	U	0.00500	0.000166	mg/kg	U	1
Vinyl Chloride	75-01-4	U	0.00200	0.000193	mg/kg	U	1
o-Xylene	95-47-6	U	0.00500	0.000149	mg/kg	U	1
m,p-Xylenes	179601-23-1	U	0.0100	0.000185	mg/kg	U	1

Surrogate	% Rec	Limits	Units	Flag
Dibromofluoromethane	95	53 - 142	%	
1,2-Dichloroethane-D4	93	56 - 150	%	
Toluene-D8	128	70 - 130	%	
4-Bromofluorobenzene	126	68 - 152	%	

Sample Id: 904817-1-BLK | Matrix: Solid | Sample Depth:

Lab Sample Id: 904817-1-BLK | Date Collected: | Date Received: 01.14.13 16.18

Analytical Method: **Percent Moisture** | % Moist: | Prep Method:

Date Anal: 01.16.13 17.16 | Analyst: KUG | Date Prep: | Tech: KUG

Anal seq: 904817 | Prep seq:

Parameter	CAS Number	Result	MQL	SDL	Units	Flag	Dil Factor
Percent Moisture	TMOIST	U			%	U	

Final 1.000

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : Percent Moisture

Client : Berg - Oliver Associates

Work Order #: **455684**

Project ID:

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
IDW	Jan. 11, 2013	Jan. 14, 2013				Jan.16, 2013	45	5	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : EDB by EPA 8011

Client : Berg - Oliver Associates

Work Order #: **455684**

Project ID:

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
IDW	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : VOAs by SW-846 8260

Client : Berg - Oliver Associates

Work Order #: **455684**

Project ID:

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
IDW	Jan. 11, 2013	Jan. 14, 2013				Jan.17, 2013	14	6	P

XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES

Analytical Method : Total Petroleum Hydrocarbons by Texas 1005 Client : Berg - Oliver Associates

Work Order #: **455684** Project ID:

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
IDW	Jan. 11, 2013	Jan. 14, 2013	Jan. 16, 2013	14	5	Jan.17, 2013	14	1	P

F = These samples were analyzed outside the recommended holding time.
P = Samples analyzed within the recommended holding time.

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantiation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

* Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

XENCO Laboratories

Analytical Log

Analytical Method:	Percent Moisture	Batch #:	904817
Project Name:	Spring Woods South	Project ID:	
Client Name:	Berg - Oliver Associates	WO Number:	455684

Client Sample Id	Lab Sample Id	QC Types
IDW	455684-001	SMP
	455683-011 D	MD
	904817-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	VOAs by SW-846 8260	Batch #:	904937
Project Name:	Spring Woods South	Project ID:	
Client Name:	Berg - Oliver Associates	WO Number:	455684

Client Sample Id	Lab Sample Id	QC Types
IDW	455684-001	SMP
	455683-001 S	MS
	455683-001 SD	MSD
	632549-1-BKS	BKS
	632549-1-BLK	BLK

XENCO Laboratories

Analytical Log

Analytical Method:	Total Petroleum Hydrocarbons by Texa	Batch #:	904996
Project Name:	Spring Woods South	Project ID:	
Client Name:	Berg - Oliver Associates	WO Number:	455684

Client Sample Id	Lab Sample Id	QC Types
IDW	455684-001	SMP
	455683-001 S	MS
	455683-001 SD	MSD
	632475-1-BKS	BKS
	632475-1-BLK	BLK
	632475-1-BSD	BSD

XENCO Laboratories

Analytical Log

Analytical Method:	EDB by EPA 8011	Batch #:	905058
Project Name:	Spring Woods South	Project ID:	
Client Name:	Berg - Oliver Associates	WO Number:	455684

Client Sample Id	Lab Sample Id	QC Types
IDW	455684-001	SMP
	455683-011 S	MS
	455683-011 SD	MSD
	632429-1-BKS	BKS
	632429-1-BLK	BLK

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455684, **Project ID:** 8496y

Lab Batch #: 905058 **Sample:** 632429-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: ug/kg **Date Analyzed:** 01/17/13 19:26

SURROGATE RECOVERY STUDY

EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	51.2	50.0	102	60-140	

Lab Batch #: 905058 **Sample:** 632429-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: ug/kg **Date Analyzed:** 01/17/13 19:43

SURROGATE RECOVERY STUDY

EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	54.6	50.0	109	60-140	

Lab Batch #: 905058 **Sample:** 455683-011 S / MS **Batch:** 1 **Matrix:** Soil

Units: ug/kg **Date Analyzed:** 01/17/13 21:38

SURROGATE RECOVERY STUDY

EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	55.6	50.0	111	60-140	

Lab Batch #: 905058 **Sample:** 455683-011 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: ug/kg **Date Analyzed:** 01/18/13 08:43

SURROGATE RECOVERY STUDY

EDB by EPA 8011 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	56.9	50.0	114	60-140	

Lab Batch #: 904996 **Sample:** 632475-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 10:08

SURROGATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	43.9	50.0	88	70-130	
1-Chlorooctane	90.6	100	91	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455684, **Project ID:** 8496y

Lab Batch #: 904996 **Sample:** 632475-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 10:29

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	52.2	50.0	104	70-130	
1-Chlorooctane	118	100	118	70-130	

Lab Batch #: 904996 **Sample:** 632475-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/17/13 10:49

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	48.2	50.0	96	70-130	
1-Chlorooctane	114	100	114	70-130	

Lab Batch #: 904996 **Sample:** 455683-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/13 11:31

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	51.9	50.0	104	70-130	
1-Chlorooctane	110	100	110	70-130	

Lab Batch #: 904996 **Sample:** 455683-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/17/13 11:51

Total Petroleum Hydrocarbons by Texas 1005 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
o-Terphenyl	52.3	50.0	105	70-130	
1-Chlorooctane	112	100	112	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Spring Woods South

Work Orders : 455684,

Project ID: 8496y

Lab Batch #: 904937 **Sample:** 632549-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/16/13 18:50

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0480	0.0500	96	53-142	
1,2-Dichloroethane-D4	0.0486	0.0500	97	56-150	
Toluene-D8	0.0481	0.0500	96	70-130	
4-Bromofluorobenzene	0.0506	0.0500	101	68-152	

Lab Batch #: 904937 **Sample:** 632549-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 01/16/13 20:13

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0475	0.0500	95	53-142	
1,2-Dichloroethane-D4	0.0467	0.0500	93	56-150	
Toluene-D8	0.0640	0.0500	128	70-130	
4-Bromofluorobenzene	0.0632	0.0500	126	68-152	

Lab Batch #: 904937 **Sample:** 455683-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/16/13 21:39

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0484	0.0500	97	53-142	
1,2-Dichloroethane-D4	0.0500	0.0500	100	56-150	
Toluene-D8	0.0498	0.0500	100	70-130	
4-Bromofluorobenzene	0.0493	0.0500	99	68-152	

Lab Batch #: 904937 **Sample:** 455683-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 01/16/13 22:03

VOAs by SW-846 8260 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0498	0.0500	100	53-142	
1,2-Dichloroethane-D4	0.0496	0.0500	99	56-150	
Toluene-D8	0.0487	0.0500	97	70-130	
4-Bromofluorobenzene	0.0495	0.0500	99	68-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Blank Spike Recovery

Project Name: Spring Woods South

Work Order #: 455684 **Project ID:** 8496y

Lab Batch #: 905058 **Sample:** 632429-1-BKS **Matrix:** Solid

Date Analyzed: 01/17/2013 **Date Prepared:** 01/17/2013 **Analyst:** KKO

Reporting Units: mg/kg **Batch #:** 1

EDB by EPA 8011 Analytes	Blank Result [A]	BLANK /BLANK SPIKE RECOVERY STUDY Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,2-Dibromoethane	<0.000350	0.0500	0.0555	111	60-140	
1,2-Dibromo-3-Chloropropane (DBCP)	<0.000350	0.0500	0.0571	114	60-140	
1,2,3-Trichloropropane	<0.000350	0.0500	0.0575	115	60-140	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Blank Spike Recovery

Project Name: Spring Woods South

Work Order #: 455684 **Project ID:** 8496y

Lab Batch #: 904937 **Sample:** 632549-1-BKS **Matrix:** Solid

Date Analyzed: 01/16/2013 **Date Prepared:** 01/16/2013 **Analyst:** ZHO

Reporting Units: mg/kg **Batch #:** 1 **BLANK /BLANK SPIKE RECOVERY STUDY**

VOAs by SW-846 8260 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.00500	0.0500	0.0495	99	71-119	
Bromobenzene	<0.00500	0.0500	0.0475	95	84-123	
Bromochloromethane	<0.00500	0.0500	0.0438	88	71-120	
Bromodichloromethane	<0.00500	0.0500	0.0476	95	78-126	
Bromoform	<0.00500	0.0500	0.0440	88	63-136	
Bromomethane	<0.00500	0.0500	0.0451	90	57-118	
MTBE	<0.00500	0.100	0.106	106	64-148	
tert-Butylbenzene	<0.00500	0.0500	0.0524	105	83-132	
Sec-Butylbenzene	<0.00500	0.0500	0.0531	106	84-131	
n-Butylbenzene	<0.00500	0.0500	0.0527	105	82-127	
Carbon Tetrachloride	<0.00500	0.0500	0.0465	93	63-135	
Chlorobenzene	<0.00500	0.0500	0.0475	95	83-121	
Chloroethane	<0.0100	0.0500	0.0413	83	57-122	
Chloroform	<0.00500	0.0500	0.0481	96	74-118	
Chloromethane	<0.0100	0.0500	0.0477	95	58-110	
2-Chlorotoluene	<0.00500	0.0500	0.0521	104	83-129	
4-Chlorotoluene	<0.00500	0.0500	0.0522	104	83-125	
p-Cymene (p-Isopropyltoluene)	<0.00500	0.0500	0.0534	107	84-130	
Dibromochloromethane	<0.00500	0.0500	0.0442	88	77-130	
Dibromomethane	<0.00500	0.0500	0.0467	93	73-126	
1,2-Dichlorobenzene	<0.00500	0.0500	0.0489	98	84-121	
1,3-Dichlorobenzene	<0.00500	0.0500	0.0509	102	84-124	
1,4-Dichlorobenzene	<0.00500	0.0500	0.0486	97	82-120	
Dichlorodifluoromethane	<0.00500	0.0500	0.0411	82	54-122	
1,2-Dichloroethane	<0.00500	0.0500	0.0451	90	70-123	
1,1-Dichloroethane	<0.00500	0.0500	0.0506	101	73-124	
trans-1,2-dichloroethene	<0.00500	0.0500	0.0475	95	63-110	
cis-1,2-Dichloroethene	<0.00500	0.0500	0.0489	98	72-131	
1,1-Dichloroethene	<0.00500	0.0500	0.0464	93	68-119	
2,2-Dichloropropane	<0.00500	0.0500	0.0523	105	67-137	
1,3-Dichloropropane	<0.00500	0.0500	0.0498	100	82-131	
1,2-Dichloropropane	<0.00500	0.0500	0.0482	96	75-122	
trans-1,3-dichloropropene	<0.00500	0.0500	0.0464	93	73-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Blank Spike Recovery

Project Name: Spring Woods South

Work Order #: 455684 **Project ID:** 8496y

Lab Batch #: 904937 **Sample:** 632549-1-BKS **Matrix:** Solid

Date Analyzed: 01/16/2013 **Date Prepared:** 01/16/2013 **Analyst:** ZHO

Reporting Units: mg/kg **Batch #:** 1

VOAs by SW-846 8260 Analytes	Blank Result [A]	BLANK /BLANK SPIKE RECOVERY STUDY Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
1,1-Dichloropropene	<0.00500	0.0500	0.0497	99	72-118	
cis-1,3-Dichloropropene	<0.00500	0.0500	0.0501	100	74-135	
Ethylbenzene	<0.00500	0.0500	0.0501	100	80-123	
Hexachlorobutadiene	<0.00500	0.0500	0.0436	87	77-130	
isopropylbenzene	<0.00500	0.0500	0.0487	97	55-155	
Methylene Chloride	<0.0200	0.0500	0.0459	92	57-134	
Naphthalene	<0.0100	0.0500	0.0481	96	53-162	
n-Propylbenzene	<0.00500	0.0500	0.0542	108	84-131	
Styrene	<0.00500	0.0500	0.0507	101	80-126	
1,1,1,2-Tetrachloroethane	<0.00500	0.0500	0.0468	94	81-127	
1,1,2,2-Tetrachloroethane	<0.00500	0.0500	0.0471	94	75-133	
Tetrachloroethylene	<0.00500	0.0500	0.0485	97	79-124	
Toluene	<0.00500	0.0500	0.0474	95	74-122	
1,2,4-Trichlorobenzene	<0.00500	0.0500	0.0454	91	79-128	
1,2,3-Trichlorobenzene	<0.00500	0.0500	0.0469	94	75-131	
1,1,2-Trichloroethane	<0.00500	0.0500	0.0454	91	75-131	
1,1,1-Trichloroethane	<0.00500	0.0500	0.0490	98	71-124	
Trichloroethene	<0.00500	0.0500	0.0486	97	78-119	
Trichlorofluoromethane	<0.00500	0.0500	0.0636	127	71-148	
1,2,4-Trimethylbenzene	<0.00500	0.0500	0.0531	106	60-159	
1,3,5-trimethylbenzene	<0.00500	0.0500	0.0534	107	61-160	
Vinyl Chloride	<0.00200	0.0500	0.0499	100	60-123	
o-Xylene	<0.00500	0.0500	0.0502	100	79-125	
m,p-Xylenes	<0.0100	0.100	0.102	102	78-127	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: Spring Woods South

Work Order #: 455684
Analyst: CYE
Lab Batch ID: 904996 **Sample:** 632475-1-BKS
Units: mg/kg

Date Prepared: 01/16/2013
Batch #: 1

Project ID: 8496y
Date Analyzed: 01/17/2013
Matrix: Solid

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Total Petroleum Hydrocarbons by Texas 1005 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<50.0	1000	977	98	1000	976	98	0	75-125	30	
C12-C28 Diesel Range Hydrocarbons	<50.0	1000	858	86	1000	806	81	6	75-125	30	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Final 1.000

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455684 **Project ID:** 8496y

Lab Batch ID: 905058 **QC- Sample ID:** 455683-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/17/2013 **Date Prepared:** 01/17/2013 **Analyst:** KKO

Reporting Units: mg/kg

EDB by EPA 8011 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2-Dibromoethane	<0.000394	0.0563	0.0649	115	0.0563	0.0597	106	2	60-140	20	
1,2-Dibromo-3-Chloropropane (DBCP)	<0.000394	0.0563	0.0686	122	0.0563	0.0619	110	10	60-140	20	
1,2,3-Trichloropropane	<0.000394	0.0563	0.0666	118	0.0563	0.0694	123	4	60-140	20	

Lab Batch ID: 904996 **QC- Sample ID:** 455683-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/17/2013 **Date Prepared:** 01/16/2013 **Analyst:** CYE

Reporting Units: mg/kg

Total Petroleum Hydrocarbons by Texas 1005 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<61.0	1220	1150	94	1220	1190	98	3	75-125	30	
C12-C28 Diesel Range Hydrocarbons	<61.0	1220	1060	87	1220	1050	86	1	75-125	30	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455684 **Project ID:** 8496y

Lab Batch ID: 904937 **QC- Sample ID:** 455683-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/16/2013 **Date Prepared:** 01/16/2013 **Analyst:** ZHO

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00616	0.0616	0.0563	91	0.0616	0.0551	89	2	66-142	25	
Bromobenzene	<0.00616	0.0616	0.0541	88	0.0616	0.0534	87	1	75-125	25	
Bromochloromethane	<0.00616	0.0616	0.0516	84	0.0616	0.0509	83	1	60-140	25	
Bromodichloromethane	<0.00616	0.0616	0.0549	89	0.0616	0.0538	87	2	75-125	25	
Bromoform	<0.00616	0.0616	0.0543	88	0.0616	0.0561	91	3	75-125	25	
Bromomethane	<0.00616	0.0616	0.0755	123	0.0616	0.0736	119	3	60-140	25	
MTBE	<0.00616	0.123	0.124	101	0.123	0.129	105	4	60-140	25	
tert-Butylbenzene	<0.00616	0.0616	0.0558	91	0.0616	0.0540	88	3	75-125	25	
Sec-Butylbenzene	<0.00616	0.0616	0.0557	90	0.0616	0.0537	87	4	75-125	25	
n-Butylbenzene	<0.00616	0.0616	0.0544	88	0.0616	0.0453	74	18	75-125	25	X
Carbon Tetrachloride	<0.00616	0.0616	0.0507	82	0.0616	0.0504	82	1	62-125	25	
Chlorobenzene	<0.00616	0.0616	0.0541	88	0.0616	0.0540	88	0	60-133	25	
Chloroethane	<0.0123	0.0616	0.0474	77	0.0616	0.0494	80	4	60-140	25	
Chloroform	<0.00616	0.0616	0.0540	88	0.0616	0.0546	89	1	74-125	25	
Chloromethane	<0.0123	0.0616	0.0521	85	0.0616	0.0506	82	3	60-140	25	
2-Chlorotoluene	<0.00616	0.0616	0.0559	91	0.0616	0.0551	89	1	73-125	25	
4-Chlorotoluene	<0.00616	0.0616	0.0561	91	0.0616	0.0546	89	3	74-125	25	
p-Cymene (p-Isopropyltoluene)	<0.00616	0.0616	0.0564	92	0.0616	0.0544	88	4	75-125	25	
Dibromochloromethane	<0.00616	0.0616	0.0540	88	0.0616	0.0538	87	0	73-125	25	
Dibromomethane	<0.00616	0.0616	0.0554	90	0.0616	0.0541	88	2	69-127	25	
1,2-Dichlorobenzene	<0.00616	0.0616	0.0553	90	0.0616	0.0538	87	3	75-125	25	
1,3-Dichlorobenzene	<0.00616	0.0616	0.0560	91	0.0616	0.0551	89	2	75-125	25	
1,4-Dichlorobenzene	<0.00616	0.0616	0.0544	88	0.0616	0.0532	86	2	75-125	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455684 **Project ID:** 8496y

Lab Batch ID: 904937 **QC- Sample ID:** 455683-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 01/16/2013 **Date Prepared:** 01/16/2013 **Analyst:** ZHO

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Dichlorodifluoromethane	<0.00616	0.0616	0.0422	69	0.0616	0.0411	67	3	65-135	25	
1,2-Dichloroethane	<0.00616	0.0616	0.0543	88	0.0616	0.0523	85	4	68-127	25	
1,1-Dichloroethane	<0.00616	0.0616	0.0549	89	0.0616	0.0566	92	3	72-125	25	
trans-1,2-dichloroethene	<0.00616	0.0616	0.0512	83	0.0616	0.0526	85	3	75-125	25	
cis-1,2-Dichloroethene	<0.00616	0.0616	0.0539	88	0.0616	0.0538	87	0	75-125	25	
1,1-Dichloroethene	<0.00616	0.0616	0.0493	80	0.0616	0.0508	82	3	59-172	25	
2,2-Dichloropropane	<0.00616	0.0616	0.0552	90	0.0616	0.0533	87	4	75-125	25	
1,3-Dichloropropane	<0.00616	0.0616	0.0598	97	0.0616	0.0597	97	0	75-125	25	
1,2-Dichloropropane	<0.00616	0.0616	0.0549	89	0.0616	0.0547	89	0	74-125	25	
trans-1,3-dichloropropene	<0.00616	0.0616	0.0539	88	0.0616	0.0533	87	1	66-125	25	
1,1-Dichloropropene	<0.00616	0.0616	0.0534	87	0.0616	0.0521	85	2	75-125	25	
cis-1,3-Dichloropropene	<0.00616	0.0616	0.0576	94	0.0616	0.0556	90	4	74-125	25	
Ethylbenzene	<0.00616	0.0616	0.0547	89	0.0616	0.0554	90	1	75-125	25	
Hexachlorobutadiene	<0.00616	0.0616	0.0503	82	0.0616	0.0465	75	8	75-125	25	
isopropylbenzene	<0.00616	0.0616	0.0522	85	0.0616	0.0510	83	2	75-125	25	
Methylene Chloride	<0.0246	0.0616	0.0505	82	0.0616	0.0512	83	1	75-125	25	
Naphthalene	<0.0123	0.0616	0.0563	91	0.0616	0.0576	94	2	70-130	25	
n-Propylbenzene	<0.00616	0.0616	0.0576	94	0.0616	0.0564	92	2	75-125	25	
Styrene	<0.00616	0.0616	0.0584	95	0.0616	0.0585	95	0	75-125	25	
1,1,1,2-Tetrachloroethane	<0.00616	0.0616	0.0536	87	0.0616	0.0543	88	1	72-125	25	
1,1,2,2-Tetrachloroethane	<0.00616	0.0616	0.0543	88	0.0616	0.0536	87	1	74-125	25	
Tetrachloroethylene	<0.00616	0.0616	0.0536	87	0.0616	0.0529	86	1	71-125	25	
Toluene	<0.00616	0.0616	0.0534	87	0.0616	0.0529	86	1	59-139	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Form 3 - MS / MSD Recoveries

Project Name: Spring Woods South

Work Order # : 455684

Project ID: 8496y

Lab Batch ID: 904937

QC- Sample ID: 455683-001 S

Batch #: 1

Matrix: Soil

Date Analyzed: 01/16/2013

Date Prepared: 01/16/2013

Analyst: ZHO

Reporting Units: mg/kg

VOAs by SW-846 8260 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,2,4-Trichlorobenzene	<0.00616	0.0616	0.0511	83	0.0616	0.0500	81	2	75-135	25	
1,2,3-Trichlorobenzene	<0.00616	0.0616	0.0520	84	0.0616	0.0499	81	4	75-137	25	
1,1,2-Trichloroethane	<0.00616	0.0616	0.0553	90	0.0616	0.0551	89	0	75-127	25	
1,1,1-Trichloroethane	<0.00616	0.0616	0.0512	83	0.0616	0.0523	85	2	75-125	25	
Trichloroethene	<0.00616	0.0616	0.0543	88	0.0616	0.0550	89	1	62-137	25	
Trichlorofluoromethane	<0.00616	0.0616	0.0669	109	0.0616	0.0661	107	1	67-125	25	
1,2,4-Trimethylbenzene	<0.00616	0.0616	0.0575	93	0.0616	0.0555	90	4	75-125	25	
1,3,5-trimethylbenzene	<0.00616	0.0616	0.0574	93	0.0616	0.0549	89	4	70-130	25	
Vinyl Chloride	<0.00246	0.0616	0.0513	83	0.0616	0.0512	83	0	60-140	25	
o-Xylene	<0.00616	0.0616	0.0568	92	0.0616	0.0560	91	1	75-125	25	
m,p-Xylenes	<0.0123	0.123	0.112	91	0.123	0.113	92	1	75-125	25	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: Spring Woods South

Work Order #: 455684

Lab Batch #: 904817 **Project ID:** 8496y

Date Analyzed: 01/16/2013 17:16 **Date Prepared:** 01/16/2013 **Analyst:** KUG

QC- Sample ID: 455683-011 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	11.2	11.3	1	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Berg - Oliver Associates, Houston, TX

Spring Woods South

Analytical Method: EDB by EPA 8011 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
1,2-Dibromoethane	0.000300	0.000264	mg/kg
1,2-Dibromo-3-Chloropropane (DBCP)	0.000300	0.000603	mg/kg
1,2,3-Trichloropropane	0.000300	0.000389	mg/kg

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Matrix: Soil

Parameter	Spike Amount	Actual Amount	Units
C6-C12 Gasoline Range Hydrocarbons	25.0	25.0	mg/kg
C12-C28 Diesel Range Hydrocarbons	25.0	21.0	mg/kg
Total TPH 1005	50.0	46.0	mg/kg

APPENDIX C

Photographs

View of push drilling activity at soil boring SB-1 (Timber Oak Drive).

View west of the SB-1 through SB-3 sample location.

View of push drilling at soil boring SB-2

Close up view of push drilling activities.

View push drilling at SB-3.

View of push drilling at SB-4 (Haddington Drive).

SITE PHOTOGRAPHS

Water Line Replacement in Spring Wood South Area
Houston, Texas

View of push drilling at soil boring SB-5.

View of push drilling at soil boring SB-6.

View of some of the soil cores generated during drilling.

View of the push drilling at SB-7.

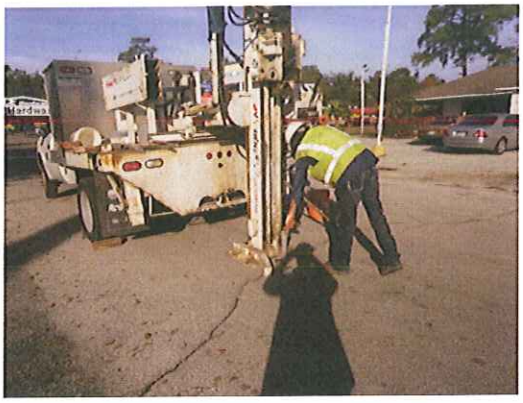
View of the push drilling at SB-8.

View of drilling at soil boring SB-9.

SITE PHOTOGRAPHS

Water Line Replacement in Spring Woods South Area
Houston, Texas

View of push drilling at SB-9.



View push drilling at soil boring SB-14 (Whiteside Lane).

View of some of the soil cores at SB-14.

View of setting up at soil boring SB-16.

View push drilling at soil boring SB-16 (Hanka Drive).

View of push drilling activity at soil boring SB-17.

SITE PHOTOGRAPHS

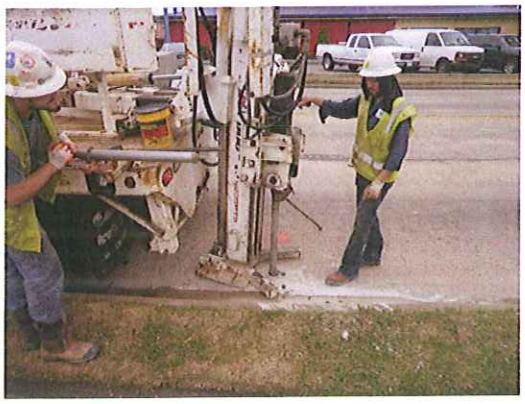
Water Line Replacement in Spring Wood South Area
Houston, Texas

View of push drilling at soil boring SB-19
(N. Gessner at Long Point Roads).

View of concrete patch at SB-19.

View of push drilling activity at SB-20.

View of the push drilling at SB-21.



View of the push drilling at SB-23
(Long Point and Witte Roads).

View of drilling at soil boring SB-24.

SITE PHOTOGRAPHS

Water Line Replacement in Spring Woods South Area
Houston, Texas

APPENDIX D

Qualifications of Environmental Professionals

BENJAMIN M. PRICE, GEOLOGIST
VICE PRESIDENT AND PROJECT MANAGER
HAZARDOUS AND TOXIC WASTE DEPARTMENT

EDUCATION

Master of Science, Geology
Texas A&M University (1991)

Bachelor of Science, Geology
Florida Atlantic University (1981)

CERTIFICATIONS/AFFILIATIONS

Professional Geoscientist (TX #3423)
Certified Wetland Delineator 1997
Certified Environmental Auditor, 1997
Registered Environmental Manager (R.E.M. #10916)
Federal Energy Regulatory Commission (FERC) Training and Certification
National Environmental Policy Act (NEPA) Training and Certification
Society of Wetland Scientists
Texas Association of Environmental Professionals
National Registry of Environmental Professional
Texas Department of Transportation Certification No. 6550
TxDOT precertified in 2.3.1, 2.4.1, 2.6.1, 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 that 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

- ***Andrau Industrial and Airpark Environmental Site Assessments,*** Private Development Project, Houston, Texas: Project Manager for the development and implementation of a work plan to assess the environmental risks posed by potential hazardous materials at the site. Tasks included sampling analytical methods, review of laboratory data for completeness and accuracy, interpretation of results, and preparation of final report.

- ***Pearland Manvel Dump Site***, Brazoria County District Attorney: Project Manager responsible for the Phase I Environmental Site Assessment and Phase II Testing. The project involved identifying portions of the site containing hazardous and radioactive liquids within the dumpsite. Groundwater monitoring and testing was conducted to evaluate potential off site transport of contaminants. Groundwater flow directions were determined for purposes of site closure. Recommendations to the PRP were made for future remediation goals to obtain state closure.

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

- ***The Sprint Companies Landfill Expansion Environmental Assessment and Permitting Services***, Fort Bend County, Texas: Project Manager for the preparation of the Phase I Environmental Site Assessment for a 365-acre landfill site proposed to be expanded. The project was approved by the USACE, TCEQ, USFWS, and TPWD under a Clean Water Act Section 404 Permit with off-site mitigation banking.

- ***Houston Comprehensive Bikeway Program Environmental Assessment***, 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.

  - ***Little White Oak Bayou Hike & Bikeway Trail***: The proposed 0.6-mile trail begins southwest of the intersection of IH 45 and Loop 610 at Calvalcade Road and terminates along the IH 45 frontage road approximately 240 feet north of the intersection of Sylvester Road with the frontage road, in Harris County, Texas. Environmental clearance from TxDOT has been granted.

  - ***Keegans Bayou Hike & Bike Trail***: The proposed 3.9-mile trail begins on the north bank of Keegans Bayou at Kirkwood Drive and terminates on the south bank of Brays Bayou at S. Gessner Drive in southwestern Harris County, Texas.

  - ***Houston Heritage Corridor Bayou Trails (East Segment III)***: The proposed trail extends entirely on the southside of the bayou between North York Street and Lockwood Drive. The project is one segment of the multi-segment Houston Heritage Corridor System adopted by the City of Houston.

  - ***Westchase District Hike and Bike Trail***: The proposed trail would begin on Riverview Way, on the west side of the Harris County Flood Control District drainage ditch W157-00-00, and terminate at Richmond Avenue in southwestern Harris County, Texas. Environmental clearance from TxDOT has been granted.

  - ***Columbia Tap Hike and Bike Trail***: The proposed trail will begin at the on-street bicycle lane on Polk Street at the crossing of the abandoned Union Pacific (formerly Missouri-Pacific) Railroad tracks and terminate at the intersection of Bastrop Street and Texas Street in central Harris County, Texas. Environmental clearance from TxDOT has been granted.

  - ***Halls Bayou Hike and Bike Trail***: The proposed trail will begin on the north bank of Halls Bayou at Hirsch Road and terminate on the north bank of the bayou at Bretshire Road, west of the Union Pacific Railroad in central Harris County, Texas.

- ***Stafford-Staffordshire Road Expansion Environmental Assessment,*** City of Stafford, east Fort Bend County: 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 Environmental Assessment and Planning,*** Private Client, east Fort Bend County, Texas: 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, and hazardous waste assessments. The project also included historic, cultural, and archaeological preservation; threatened and endangered species, coordination, land management, and contractor supervision.

- ***US 59 and Grand Parkway Limited Environmental Assessment,*** Private Development Project, Fort Bend County, Texas: Project Hazards Manager for the preparation of a Limited Environmental Assessment (EA) for a 500-acre land development between the Brazos River and US 59, 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.

- ***Independence Boulevard, Murphy Road Detention and Drainage Facilities Environmental Assessments,*** City of Missouri City, east Fort Bend County, Texas: 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 Field Assessment and Compliance Review,*** Private Oil Company, northeast Fort Bend County: 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.

- ***Dayton Rice Milling Environmental Services,*** Harris County, Texas: Evaluation of agricultural pump house on Lake Houston. The project involved responding to citizen complaint of hydrocarbon contamination in Lake Houston, placing booms in lake to contain discharge, remediation of impacted soils to eliminate the source of hydrocarbon leaks and coordinate with TCEQ, COH to receive NFA from agencies.

- ***Farias Ranch Environmental Site Assessment and Phase II Testing,*** PW Park 10, Inc., Maverick County, Texas: Conducted environmental site assessment and testing at a 100,000-acre ranch. The project involved performing Phase II Testing to identify potential impacts related to livestock dipping facilities located on the ranch property. The testing identified COC's, concentrations exceeding the TCEQ Texas specific background levels for certain metals and arsenic impacted soil at 3 historical cattle dipping vats. The project also involved remediation of the soils at each location, and submitting an Affected Property Assessment Report to the TCEQ and obtained state closure for these sites.

- ***Harris County Sports Authority Environmental Site Assessment and Phase II Testing***, Harris County, Texas: Conducted Environmental site assessment Phase I, Phase II Testing and Phase III of future Reliant Stadium site. Identify onsite LPST sites and ACM containing structures. Remediate and obtain closure for LPST sites through TCEQ. Perform ACM abatement of several structures and historic onsite pipeline. Perform demolition at structures. Conduct all projects simultaneously to be completed within tight time constraints for Reliant Stadium construction.

- ***AFG Properties Environmental Site Assessment and Phase II Testing***, Fort Bend County, Texas: Perform Phase I Environmental Site Assessment and Phase II Testing of the 3,000-acre historic sugarcane plantation. Discover impacted soil at two cattle dipping vat locations and oil and gas well site. Perform site clean up to residential standards for future master planned community.

- ***FM 1960 Roadway Widening***, *Harris County, Texas:* Performed environmental site assessment for TxDOT to identify potential constraints related to the widening of FM 1960. Identify multiple adjoining properties, which could impact alignment.

- ***Gosling Road***, Harris County, Texas: Project Coordinator for a Phase 1 Environmental Site Assessment for this TxDOT EA and Public Involvement for a 0.5-mile extension of Gosling Road, and its associated easements, located in northern Harris County. Project activities included a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-00 for the proposed project. Along with a visual survey of the project area, sources reviewed include the USGS Tomball quadrangle, NRCS soil surveys, FEMA maps, city directories, historical aerial photographs, reviews of standard environmental record sources (including selected agency files), and a Tobin Oil and Gas Survey Map.