PHASE II ENVIRONMENTAL SITE ASSESSMENT
WATER LINE REPLACEMENT
IN SHARPSTOWN
COUNTRY CLUB ESTATES AREA
WBS NO. S-000035-0173-3
HOUSTON, TEXAS

Reported to:

KCI TECHNOLOGIES

Houston, Texas

Submitted by:

GEOTEST ENGINEERING, INC.

Houston, Texas

REPORT NO. 1130020801

December 24, 2014

Key Map No. 530 B, C, F & G

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Report No. 1130020801
December 24, 2014

KCI Technologies
7120 Grand Boulevard #100
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Reference: Phase II Environmental Site Assessment (ESA)
Water Line Replacement in Sharpstown
Country Club Estates Area
WBS NO. S-000035-0173-3
Houston, Texas

Dear Gentlemen:

We are pleased to submit the final Phase II Environmental Site Assessment report for the referenced project. A draft report was submitted to you on November 4, 2014. This final report will supersede previously submitted reports, transmittals, e-mails, etc. for the referenced project. This study was authorized by Notice to Proceed letter dated September 8, 2014 by accepting our proposal No. 1130025999 dated August 5, 2014.

We appreciate the opportunity to be of service to you. If we can be of further assistance, please call us.

Sincerely,
GEOTEST ENGINEERING, INC.
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1.0 EXECUTIVE SUMMARY

A Phase II Environmental Site Assessment was conducted for KCI Technologies for the Water Line Replacement in Sharpstown Country Club Estates Area in Houston, Texas. The project includes the replacement of approximately 27,950 Linear Feet (LF) of existing water lines.

As per the Phase I ESA study performed by Aviles Engineering, Inc., Report No. E107-14 dated July 23, 2014; ten (10) Recognized Environmental Conditions (REC) were identified in the Project Area. The RECs are listed below:

- Sharpstown Cleaners DCRPS site at 7616 Clarewood Drive
- Pro Auto Care PST site at 7626 Dashwood Drive
- T & J Import Motor Cars operated at 6606 Marinette Drive
- U Haul Center LPST site at 5726 Fondren Road
- Diamond Shamrock 563 LPST site at 5726 Fondren Road
- Shell gasoline filling station (LPST and PST site) 5803 Fondren Road
- Exxon LPST site at 7634 Bellaire Boulevard
- Sterling Steel Company LPST site at 5890 and 5908 Allday Drive
- Speedy Mart/Diamond Shamrock LPST sites at 9401 Harwin Drive
- Express Lube at 9425 Harwin Drive

This assessment was based on the ASTM guidelines for Phase II Environmental Site Assessment, designation ASTM E1903-11 and modified by the City of Houston Department of Public Works and Engineering Design Manual, Chapter 11 – Geotechnical and Environmental Requirements Subsection, Phase II Environmental Requirements, dated July 1, 2012. This study included drilling and continuous sampling of twenty five (25) environmental borings, each to a depth of 15 feet; screening each soil sample in the field for the presence of volatile organic compounds using Photo Ionization Detector (PID); developing 1-inch temporary wells for groundwater (if encountered) sampling and then plug and abandon; conducting analytical tests on soil and groundwater samples (if encountered) to evaluate the presence or absence of soil and/or groundwater contamination and preparation of a Phase II ESA report.

The principal findings and conclusions developed from this assessment are summarized below:

- The measured values of organic vapors in the field ranged from 0.0 ppm to 9.2 ppm.
- Twenty five (25) soil samples with highest available PID readings from borings EB-1 through EB-25 and six (6) groundwater samples from borings EB-2, EB-6, EB-9, EB-10A, EB-13 and EB-16 were tested for BTEX (Benzene, Toluene, Ethyl Benzene and Xylene)/MTBE (Methyl Tertiary Butyl Ether), TPH (Total Petroleum Hydrocarbon), Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compound (SVOCs).
- The results of the analytical tests were compared against Texas Commission on Environmental Quality (TCEQ), Texas Risk Reduction Program (TRRP), TIER 1 Protective Concentration Levels (PCLs) for Residential Guidelines for both soil and groundwater. Based on the analytical test results, all detected chemicals of concern (COC) were below the TIER1 PCLs for residential guidelines using 0.5 acre source area and $^{GW}soil_{ing}$ and $^{GW}GW_{ing}$ exposure pathways (revised on June 29, 2012). However, the following chemicals of concern were detected in soil in borings EB-1, EB-2, EB-3, EB-14, EB-16, EB-19, EB-23, EB-24 and EB-25 and in groundwater in borings EB-2, EB-10A, EB-13 and EB-16.

Boring	**Matrix**	**Chemicals of Concern**
EB-1	Soil	Methylene Chloride and Bis (2-Ethylhexl) Phthalate
EB-2	Soil	Bis(2-ethyhexyl) phthalate, and Methylene Chloride
	Groundwater	Toluene, and 1,2,4 Trimethylbenzene
EB-3	Soil	Bis(2-ethyhexyl) phthalate, and Methylene Chloride

EB-10A	Groundwater	Toluene, Ethylbenzene and Total Xylenes
Boring	**Matrix**	**Chemicals of Concern**
EB-13	Groundwater	Toluene, Ethylbenzene and Total Xylenes
EB-14	Soil	Ethylbenzene
EB-16	Soil	Ethylbenzene and Total Xylenes
	Groundwater	Toluene, Ethylbenzene and Total Xylenes
EB-19	Soil	Methylene Chloride
EB-23	Soil	Ethylbenzene
EB-24	Soil	Toluene, Total Xylenes, Methylene Chloride and Napthalene
EB-25	Soil	Methylene Chloride

Based on the above results, the water line replacement along various streets given below in Sharpstown Country Club Estates Area are identified as Potentially Petroleum Contaminated Areas (PPCA). The details are given below.

Street Name	**Station No.**	
	From	**To**
Clarewood Street	**16+50**	**East End**
	8+50	**11+00**
Hiawatha Street	**8+00**	**East End**
Green Ash Street	**5+00**	**East End**
Allday Street	**8+50**	**North End**

It is recommended that the Occupational Safety and Health Administration (OSHA) requirements (29 CFR 1926) and COH Guide Specifications 02105 and 02120 should be followed for workers safety during excavations and handling of the soils and groundwater in the designated PPCA.

- Activities related to excavation and handling of soils in the designated PPCA are regulated under the OSHA Construction Standard 29 CFR 1910 Subpart H.

2.0 INTRODUCTION

2.1 General

A Phase II Environmental Site Assessment was conducted for KCI Technologies for the Water Line Replacement in Sharpstown Country Club Estates Area in Houston, Texas. The project includes the replacement of approximately 27,950 Linear Feet (LF) of existing water lines. The Vicinity Map is shown on Figure 1.

As per the Phase I Environmental Site Assessment (ESA) performed by Aviles Engineering Corporation (AEC) for the Water Line Replacement in Sharpstown Country Club Estates Area in Houston, Texas (AEC Report No. E107-14 dated July 23, 2014) (Reference 1), ten (10) RECs were identified in the Project Area. The RECs are listed below:

- Sharpstown Cleaners DCRPS site at 7616 Clarewood Drive
- Pro Auto Care PST site at 7626 Dashwood Drive
- T & J Import Motor Cars operated at 6606 Marinette Drive
- U Haul Center LPST site at 5726 Fondren Road
- Diamond Shamrock 563 LPST site at 5726 Fondren Road
- Shell gasoline filling station (LPST and PST site) 5803 Fondren Road
- Exxon LPST site at 7634 Bellaire Boulevard
- Sterling Steel Company LPST site at 5890 and 5908 Allday Drive
- Speedy Mart/Diamond Shamrock LPST sites at 9401 Harwin Drive
- Express Lube at 9425 Harwin Drive

To evaluate the migration of the contaminants in soil and groundwater (if encountered) along the alignments in the Project Area, a Phase II Environmental Site Assessment was recommended.

This study was authorized by Notice to Proceed letter dated September 8, 2014 by accepting our proposal No. 1130025999 dated August 5, 2014.

2.2 Objectives

The objectives of this study are to evaluate the presence of soil and groundwater (if encountered) contamination from the REC sites along the proposed Project Alignments and to identify the potential impacts on the proposed construction. This study was performed in general accordance with ASTM guidelines for Phase II Environmental Site Assessment, designation ASTM E1903-11 (Reference 2) and modified by the City of Houston Department of Public Works and Engineering Infrastructure Design Manual, Chapter 11 – Geotechnical and Environmental Requirements Subsection, Phase II Environmental Requirements, dated July 1, 2012 (Reference 3).

2.3 Scope of the Study

The scope of work is generally based on the ASTM guidelines for Phase II Environmental Site Assessment, designation ASTM E1903-11 Standard. The scope consisted of the following:

- Drilled and continuously sampled twenty five (25) environmental borings utilizing Geoprobe each to a depth of 15 feet;
- Screened each soil sample in the field for the presence of volatile organic compounds using a Photo Ionization Detector (PID);
- Developed 1-inch diameter temporary monitoring wells for groundwater samples (if encountered), and then plug and abandoned;
- Conducted analytical tests on twenty five (25) soil samples and six (6) groundwater samples;
- Prepared a Phase II ESA report documenting the field investigation and analytical test results in accordance with ASTM Practice E1903-11 as modified by the City of Houston Infrastructure Design Manual, Chapter 11, and Environmental Requirements

Section 11.26.

2.4 Special Terms and Conditions

There were no special terms or conditions.

2.5 Limitations and Exceptions of Assessment

The scope of this Phase II ESA is limited to matters expressly described herein. In preparing this report, Geotest has relied upon the information derived from secondary sources. All recommendations, findings and conclusions stated in this report are based upon the facts and circumstances as they existed at the time this report was prepared (e.g., Federal, State and Local Laws, Rules, Regulations and other matters that Geotest deemed relevant). A change in any facts or circumstances upon which this report was based may affect the findings, conclusions and validity of our recommendations expressed herein.

The subsurface conditions described in this report and the results of analytical tests are based on twenty five (25) completed borings drilled at specific locations. However, variation in soil conditions and level of contamination, if any, may occur between the completed borings. The depth of the groundwater level may vary with changes in environmental conditions such as frequency and magnitude of rainfall.

2.6 Limiting Conditions and Methodology Used

This Phase II ESA is limited to the data derived from the soil borings and the laboratory tests performed on the samples recovered from the project site. Following this section of the report, Section 3 provides a subsurface investigation; Section 4 describes the laboratory analytical program, Section 5 describes the data evaluation, Section 6 contains conclusions and Section 7 contains references.

3.0 SUBSURFACE INVESTIGATION

3.1 Field Investigation Methodologies

The field investigation methodology takes into consideration the potential distribution of contaminants with respect to the properties, behavior and transportation characteristics. The sampling plan was designed to provide for the collection of potentially contaminated environmental media, if they occur, at locations and depths where the highest concentrations are likely to occur.

These investigation methodologies were developed in general accordance with ASTM Standard D 5730: Guide to Site Characteristics for Environmental Purposes with Emphasis on Soil, Rock, The Vadose Zone and Groundwater (Reference 4).

Personal health and safety precautions were followed in accordance with applicable federal and state laws or local equivalents and any requirements imposed by the owner, occupant or field personnel.

No test pits were excavated as part of this Phase II ESA study.

The field investigation included drilling and continuously sampling of twenty five (25) environmental borings (designated as EB-1 through EB-25) each to a depth of 15 feet at the REC sites for the Project Area. All the boring locations including the location of REC sites are shown in Plan of Borings, Figures 2.1 through 2.3.

In each boring, geoprobe tubes were pushed to collect samples. At the starting of each boring, all sampling tools were decontaminated with a phosphate-free Liquid-Nox detergent, followed by a Freon rinse and a final deionized water rinse to reduce possible sample cross-contamination. The sampling tools, however, were decontaminated after every sample recovery. After extrusion, the soil samples were placed in EPA-approved laboratory-provided glass jars. All samples were then placed in a cooler with ice.

Geotest's environmental professional visually field-classified the recovered soil samples. Notations of soil type, color and odor, if present, were recorded on the soil boring logs. Soil classifications presented on the log of borings are based on visual field classification and have not been verified by geotechnical laboratory soil testing. All the borings were grouted with cement-bentonite grout at the end of drilling.

The environmental boring logs are presented on Figures A-1 through A-25 in Appendix A. A key to symbols and terms used on the boring logs is presented on Figure A-26 in Appendix A.

During the field investigation, field screening for organic vapor concentrations was performed on all soil samples recovered from the borings. The measurements were made in the field with a benzene-calibrated, HNU DL-101 Photo-Ionization Detector (PID) equipped with a 10.2 eV lamp. Results of the field PID screening are summarized as "Field Screening – Organic Vapor" on the boring logs presented on Figures A-1 through A-25 in Appendix A.

Groundwater was encountered during drilling at borings EB-2, EB-6, EB-9, EB-10A, EB-13 and EB-16. Temporary monitoring wells were installed in these borings and groundwater samples were collected from each of these borings for the analytical testing.

3.2 Selected Sites

The selected RECs sites are listed below:

- Sharpstown Cleaners DCRPS site at 7616 Clarewood Drive
- Pro Auto Care PST site at 7626 Dashwood Drive
- T & J Import Motor Cars operated at 6606 Marinette Drive
- U Haul Center LPST site at 5726 Fondren Road
- Diamond Shamrock 563 LPST site at 5726 Fondren Road
- Shell gasoline filling station (LPST and PST site) 5803 Fondren Road
- Exxon LPST site at 7634 Bellaire Boulevard

- Sterling Steel Company LPST site at 5890 and 5908 Allday Drive
- Speedy Mart/Diamond Shamrock LPST sites at 9401 Harwin Drive
- Express Lube at 9425 Harwin Drive

4.0 LABORATORY ANALYTICAL PROGRAM

4.1 Chemical Testing Plan

All soil samples were screened in the field for organic vapors with a Photo-Ionization Detector (PID). Twenty five (25) soil samples with the highest PID readings and six (6) groundwater samples were selected for the analytical testing. The analytical testing includes BTEX (Benzene, Toluene, Ethyl Benzene and Xylene)/MTBE (Methyl Tertiary Butyl Ether), TPH (Total Petroleum Hydrocarbon), VOC (Volatile Organic Compound) and SVOCs (Semi-Volatile Organic Compound).

4.2 Sampling and Chemical Analyses and Methods

4.2.1 Soil. Soil samples were obtained by pushing a geoprobe tube. After extrusion, the soil samples were collected and placed in EPA-approved laboratory-provided glass jars and then placed in a portable ice cooler with ice. Based on the field screening for organic vapor, one soil sample from each boring with highest PID reading or near invert depth whichever is applicable was selected for analytical testing. The samples selected for analytical testing are given below.

Boring No.	Sample No	Depth, ft
EB-1	S-5	8-10
EB-2	S-3	4-6
EB-3	S-7	12-14
EB-4	S-4	6-8
EB-5	S-6	10-12
EB-6	S-8	14-15
EB-7	S-5	8-10
EB-8	S-5	8-10
EB-9	S-6	10-12

EB-10A	S-3	4-6
Boring No.	**Sample No**	**Depth, ft**
EB-11A	S-5	8-10
EB-12	S-3	4-6
EB-13	S-5	8-10
EB-14	S-7	12-14
EB-15	S-4	6-8
EB-16	S-8	14-15
EB-17	S-3	4-6
EB-18	S-7	12-14
EB-19	S-7	12-14
EB-20	S-7	12-14
EB-21	S-7	12-14
EB-22	S-4	6-8
EB-23	S-5	8-10
EB-24	S-3	4-6
EB-25	S-5	8-10

4.2.2 Groundwater. The groundwater samples collected from borings EB-2, EB-6, EB-9, EB10A, EB13 and EB-16 were selected for analytical tests.

The analytical tests and corresponding test methods are listed below.

- BTEX/MTBE (SW 8260)
- TPH (TX 1005)
- VOC (SW-846 8260)
- SVOC (EPA 8270C)

The samples were then transported along with the chain-of-custody documentation to XENCO Laboratories in Houston, Texas for analytical testing.

5.0 DATA EVALUATION

5.1 Subsurface Conditions

5.1.1 Geologic Setting. Based on the Geologic Atlas of Texas - Houston Sheet, the project area is in the Beaumont Formation. The clays and sands of this formation are over consolidated as a result of desiccation or frequent raising and lowering of the sea level and subsequently the groundwater table. Consequently, clays of this formation have moderate to high shear strength and relatively low compressibility. Sands of the Beaumont Formation are typically very fine and often silty. Further there is evidence in the Houston area of the occurrence of cemented material (sandstone and siltstone) deposits within the Beaumont Formation.

5.1.2 Hydrogeologic Conditions. There are three major water-producing components in the region; Chicot (shallowest), Evangeline and Jasper (deepest) aquifers. The Chicot and Evangeline aquifers have base altitudes as deep as 600 and 1,500 feet below mean sea level, respectively. Most of the groundwater usage in the region is supplied by the Chicot and Evangeline aquifers. The permeability of the subsurface soils ranges from low permeable sandy lean clay and lean clay to very low permeable fat clay. The general groundwater flow in the area is typically from northwest to southeast.

5.1.3 Verification of Conceptual Site Model. The conceptual site model and sampling plan developed for the site were verified during the Phase II ESA assessment activities. The Quality Assurance (QA)/Quality Control (QC) procedures described in the chemical testing plan were adequate to verify the data acceptability.

5.2 Analytical Data

The following chemicals of concern were detected in soil in borings EB-1, EB-2, EB-3, EB-14, EB-16, EB-19, EB-23, EB-24 and EB-25 and in groundwater in borings EB-2, EB-10A, EB-13 and EB-16.

Boring	**Matrix**	**Chemicals of Concern**
EB-1	Soil	Methylene Chloride and Bis (2-Ethyhexyl) Phthalate
EB-2	Soil	Bis(2-ethyhexyl) phthalate, and Methylene Chloride
	Groundwater	Toluene, and 1,2,4 Trimethylbenzene
EB-3	Soil	Bis(2-ethyhexyl) phthalate, and Methylene Chloride
EB-10A	Groundwater	Toluene, Ethylbenzene and Total Xylenes
EB-13	Groundwater	Toluene, Ethylbenzene and Total Xylenes
EB-14	Soil	Ethylbenzene
EB-16	Soil	Ethylbenzene and Total Xylenes
	Groundwater	Toluene, Ethylbenzene and Total Xylenes
EB-19	Soil	Methylene Chloride
EB-23	Soil	Ethylbenzene
EB-24	Soil	Toluene, Total Xylenes, Methylene Chloride and Napthalene
EB-25	Soil	Methylene Chloride

Soil and groundwater contamination levels were compared to regulatory guidance document TCEQ RG-366/ TRRP-23 (Texas Risk Remediation Program)/ TIER1 PCLs (Protective Concentration Levels) for residential guidelines using 0.5-acre source area and $^{GW}soil_{ing}$ and $^{GW}GW_{ing}$ exposure pathways (Reference 5) revised on June 29, 2012. Based on the results of the analytical tests, COCs detected were below the TIER1 PCLs. The details of analytical test results are presented in Tables 1 through 4 and also in Appendix B.

6.0 CONCLUSIONS

6.1 Summary of the Investigation Results

The measured values of organic vapor for the soil samples in the field ranged from 0.0 ppm to 9.2 ppm.

The results of the analytical tests were compared against TCEQ, TRRP, TIER 1 PCLs for Residential Guidelines for both soil and groundwater. Based on the analytical test results, all detected COCs were below the TIER1 PCLs for residential guidelines using 0.5 acre source area and $^{GW}soil_{ing}$ and $^{GW}GW_{ing}$ exposure pathways (revised on Jun 29, 2012). However, the following chemicals of concern were detected in soil in borings EB-1, EB-2, EB-3, EB-14, EB-16, EB-19, EB-23, EB-24 and EB-25 and in groundwater in borings EB-2, EB-10A, EB-13 and EB-16.

Boring	**Matrix**	**Chemicals of Concern**
EB-1	Soil	Methylene Chloride and Bis (2-Ethyhexyl) Phthalate
EB-2	Soil	Bis(2-ethyhexyl) phthalate, and Methylene Chloride
	Groundwater	Toluene, and 1,2,4 Trimethylbenzene
EB-3	Soil	Bis(2-ethyhexyl) phthalate, and Methylene Chloride
EB-10A	Groundwater	Toluene, Ethylbenzene and Total Xylenes
EB-13	Groundwater	Toluene, Ethylbenzene and Total Xylenes
EB-14	Soil	Ethylbenzene
EB-16	Soil	Ethylbenzene and Total Xylenes
	Groundwater	Toluene, Ethylbenzene and Total Xylenes
EB-19	Soil	Methylene Chloride
EB-23	Soil	Ethylbenzene
EB-24	Soil	Toluene, Total Xylenes, Methylene Chloride and Napthalene
EB-25	Soil	Methylene Chloride

6.2 Impact on Planned Construction

Based on the above results, the water line replacement along various streets given below for the project area are identified as Potentially Petroleum Contaminated Areas (PPCA). The details are given below.

Street Name	Station No.	
	From	To
Clarewood Street	16+50	East End
	8+50	11+00
Hiawatha Street	8+00	East End
Green Ash Street	5+00	East End
Allday Street	8+50	North End

It is recommended that the Occupational Safety and Health Administration (OSHA) requirements (29 CFR 1926) and COH Guide Specifications 02105 and 02120 should be followed for workers safety during excavations and handling of the soils and groundwater in the designated PPCA.

Activities that related to excavation and handling of soils in the designated PPCA are regulated under the OSHA Construction Standard 29 CFR 1910 Subpart H (Reference 6).

7.0 REFERENCES

1. Phase I Environmental Site Assessment (ESA), for Water Line Replacement Sharpstown Country Club Estates Area in Houston, Texas; WBS No. S - 000035-0173-3," Aviles Engineering, Inc. Report No. E107-14 dated July 23, 2014.

2. ASTM E1903-11, ASTM Guidelines for Phase II Environmental Site Assessment, ASTM E1903-11.

3. The City of Houston Department of Public Works and Engineering Infrastructure Design Manual, Chapter 11 – Geotechnical and Environmental Requirements, Subsection Phase II Environmental Requirements, dated July 1, 2012.

4. ASTM Standard D 5730 Guide to Site Characteristics for Environmental Purposes with Emphasis on Soil, Rock, the Vadose Zone and Groundwater.

5. TCEQ (TNRCC) Regulatory Guidance-Remediation Division-RG-366/TRRP/Tier 1 PCL Tables, dated June 19, 2012.

6. OSHA Regulations (Standards – 29 CFR)

TABLES

	Table
Summary of Analytical Test Results (Soil) – BTEX and MTBE	1
Summary of Analytical Test Results (Soil) – SVOC and VOC	2
Summary of Analytical Test Results (Water) – BTEX and MTBE	3
Summary of Analytical Test Results (Water) – SVOC and VOC	4

TABLE 1

SUMMARY OF ANALYTICAL TEST RESULTS (Soil) – BTEX and MTBE

LOCATION (See Figure 2)		TCEQ TRRP TIER 1 Soil PCLs (mg/kg)	BTEX (mg/kg)				MTBE (mg/kg)	TPH (mg/kg)
			Benzene	Toluene	Ethyl Benzene	Total Xylenes		
Boring No.	Sample Depth, ft	Residential (1)	*0.026*	*8.2*	*7.6*	*120*	*0.62*	*65*
EB-1	8-10		<0.000183	<0.000540	<0.000502	<0.000452	<0.000398	NA
EB-2	4-6		<0.000200	<0.000590	<0.000549	<0.000493	<0.00434	NA
EB-3	12-14		<0.000185	<0.000545	<0.000507	<0.000456	<0.000402	NA
EB-4	6-8		NA	NA	NA	NA	NA	<11.1
EB-5	10-12		NA	NA	NA	NA	NA	<12.5
EB-6	14-15		NA	NA	NA	NA	NA	<11.3
EB-7	8-10		NA	NA	NA	NA	NA	<15.3
EB-8	8-10		NA	NA	NA	NA	NA	<14.4
EB-9	10-12		NA	NA	NA	NA	NA	<10.9
EB-10A	4-6		<0.000248	<0.000167	<0.000123	<0.000295	<0.000758	<11.5
EB-11A	8-10		<0.000261	<0.000175	<0.000129	<0.000310	<0.000798	<12.3
EB-12	4-6		<0.000255	<0.000171	<0.000126	<0.000303	<0.000780	<12.0
EB-13	8-10		<0.000278	<0.000187	<0.000138	<0.000331	<0.000851	<12.8
EB-14	12-14		<0.000233	<0.000157	0.000303	<0.000277	<0.000713	<10.8
EB-15	6-8		<0.000242	<0.000163	<0.000120	<0.000289	<0.000742	<11.3
EB-16	14-15		<0.000240	<0.000161	0.000312	0.000736	<0.000735	<11.2
EB-17	4-6		<0.000317	<0.000213	<0.000157	<0.000377	<0.000969	<14.9
EB-18	12-14		<0.000239	<0.000160	<0.000118	<0.000284	<0.000730	<11.2
EB-19	12-14		<0.000183	<0.000539	<0.000502	<0.000451	<0.000397	<10.5

Note: Value in **BOLD** shows exceeds the TCEQ TRRP TIER 1 PCLs
Details of these tests are provided in Appendix B.

(1) TCEQ TRRP TIER 1 PCLS For 0.5 acre source area and $^{GW}soil_{ing}$ exposure pathway

TABLE 1 (cont'd)

SUMMARY OF ANALYTICAL TEST RESULTS (Soil) – BTEX and MTBE

LOCATION (See Figure 2)		TCEQ TRRP TIER 1 Soil PCLs (mg/kg)	BTEX (mg/kg)				MTBE (mg/kg)	TPH (mg/kg)
			Benzene	Toluene	Ethyl Benzene	Total Xylenes		
Boring No.	Sample Depth, ft	Residential (1)	*0.026*	*8.2*	*7.6*	*120*	*0.62*	*65*
EB-20	12-14		<0.000226	<0.000152	<0.000112	<0.000269	<0.000692	<10.7
EB-21	12-14		<0.000236	<0.000159	<0.000117	<0.000282	<0.000724	<11.1
EB-22	6-8		<0.000245	<0.00165	<0.000122	<0.000291	<0.000749	<11.4
EB-23	8-10		<0.000296	<0.000199	0.000216	<0.000353	<0.000907	<13.7
EB-24	4-6		<0.000513	0.00196	<0.00140	0.00186	<0.00111	<14.7
EB-25	8-10		<0.000211	<0.000623	<0.000579	<0.000521	<0.000459	<12.0

Note: Value in **BOLD** shows exceeds the TCEQ TRRP TIER 1 PCLs
Details of these tests are provided in Appendix B.

(1) TCEQ TRRP TIER 1 PCLS For 0.5 acre source area and $^{GW}soil_{ing}$ exposure pathway

TABLE 2

SUMMARY OF ANALYTICAL TEST RESULTS (Soil) – SVOC and VOC

LOCATION (See Figure 2)		TCEQ TRRP TIER 1 Soil PCLs (mg/kg)	SVOC (mg/kg)	VOC (mg/kg)	
			Bis(2-ethyhexyl) phthalate (mg/kg)	Methylene Chloride (mg/kg)	Napthalene (mg/kg)
Boring No.	Sample Depth, ft	Residential (1)	*160*	*0.013*	*31*
EB-1	8-10		0.0613	0.00137	NA
EB-2	4-6		0.0775	0.00124	NA
EB-3	12-14		0.0506	0.00125	NA
EB-19	12-14		NA	0.00188	NA
EB-24	4-6		NA	0.00673	0.00147
EB-25	8-10		NA	0.00155	NA

Note: Value in **BOLD** shows exceeds the TCEQ TRRP TIER 1 PCLs
Details of these tests are provided in Appendix B.

(1) TCEQ TRRP TIER 1 PCLS For 0.5 acre source area and $^{GW}soil_{ing}$ exposure pathway

TABLE 3

SUMMARY OF ANALYTICAL TEST RESULTS (Water) – BTEX and MTBE

LOCATION (See Figure 2)	TCEQ TRRP TIER 1 Soil PCLs (mg/kg)	BTEX (mg/L)				MTBE (mg/L)	TPH (mg/L)
		Benzene	Toluene	Ethyl Benzene	Total Xylenes		
Boring No.	Residential (1)	*0.005*	*1.0*	*0.70*	*10.0*	*0.24*	*0.98*
EB-2		<0.000204	0.000620	<0.000221	<0.000847	<0.00122	NA
EB-6		NA	NA	NA	NA	NA	<0.906
EB-9		NA	NA	NA	NA	NA	<0.925
EB-10A		<0.000147	0.000750	0.000260	0.00113	<0.000508	<0.844
EB-13		<0.000147	0.000750	0.000210	0.000620	<0.000508	<0.852
EB-16		<0.000147	0.000780	0.000170	0.000670	<0.000508	<0.763

Note: Value in **BOLD** shows exceeds the TCEQ TRRP TIER 1 PCLs
Details of these tests are provided in Appendix B.

(1) TCEQ TRRP TIER 1 PCLS For 0.5 acre source area and $^{GW}soil_{ing}$ exposure pathway

TABLE 4

SUMMARY OF ANALYTICAL TEST RESULTS (Water) – SVOC and VOC

LOCATION (See Figure 2)		TCEQ TRRP TIER 1 Soil PCLs (mg/kg)	SVOC (mg/L)	VOC (mg/L)
			Bis(2-ethyhexyl) phthalate	1,2,4-Trimethylbenzene
Boring No.	Sample Depth, ft	Residential (1)	*0.60*	*120*
EB-2	4-6		NA	0.0000800

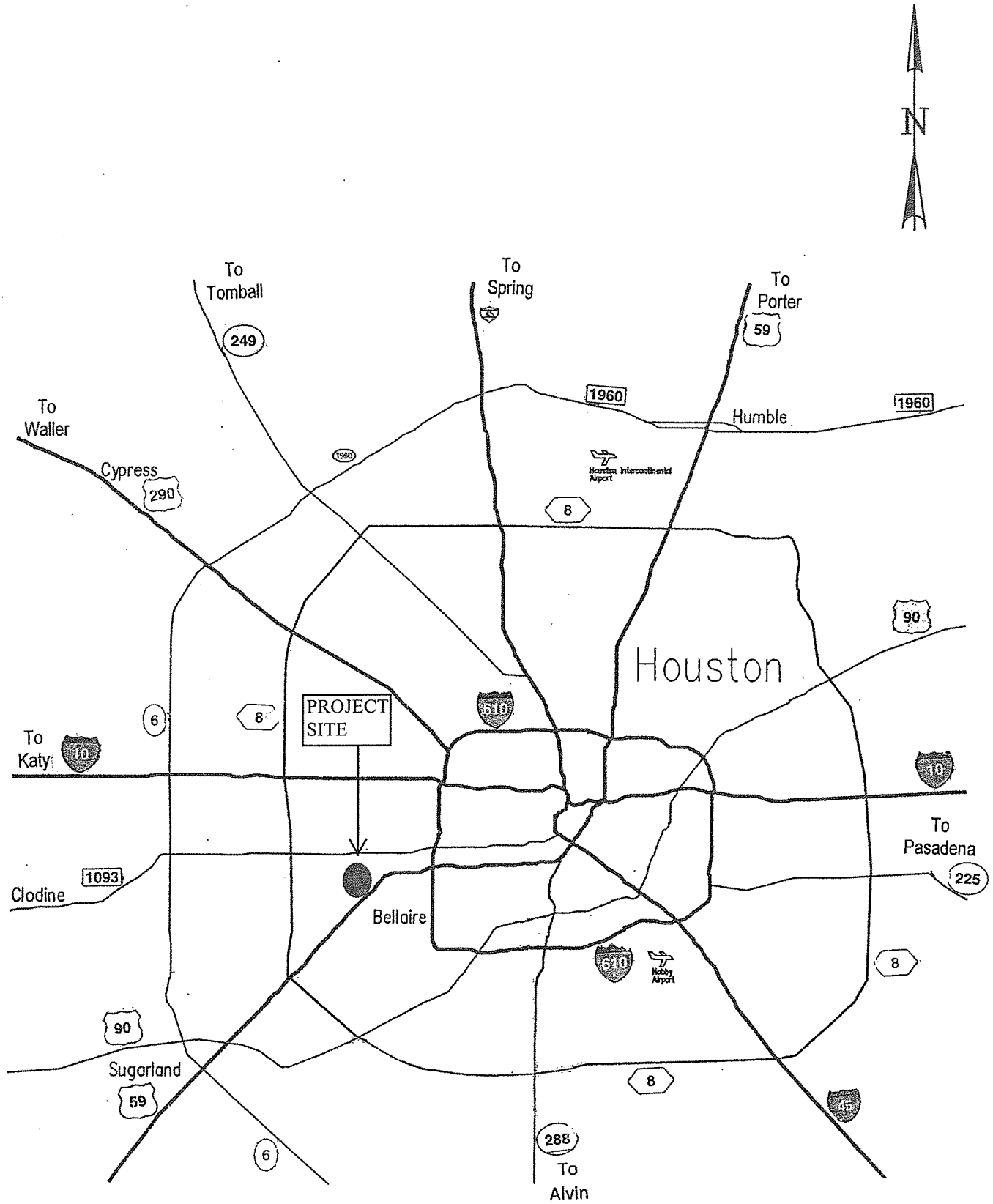
Note: Value in **BOLD** shows exceeds the TCEQ TRRP TIER 1 PCLs
Details of these tests are provided in Appendix B.

(1) TCEQ TRRP TIER 1 PCLS For 0.5 acre source area and $^{GW}soil_{ing}$ exposure pathway

ILLUSTRATIONS

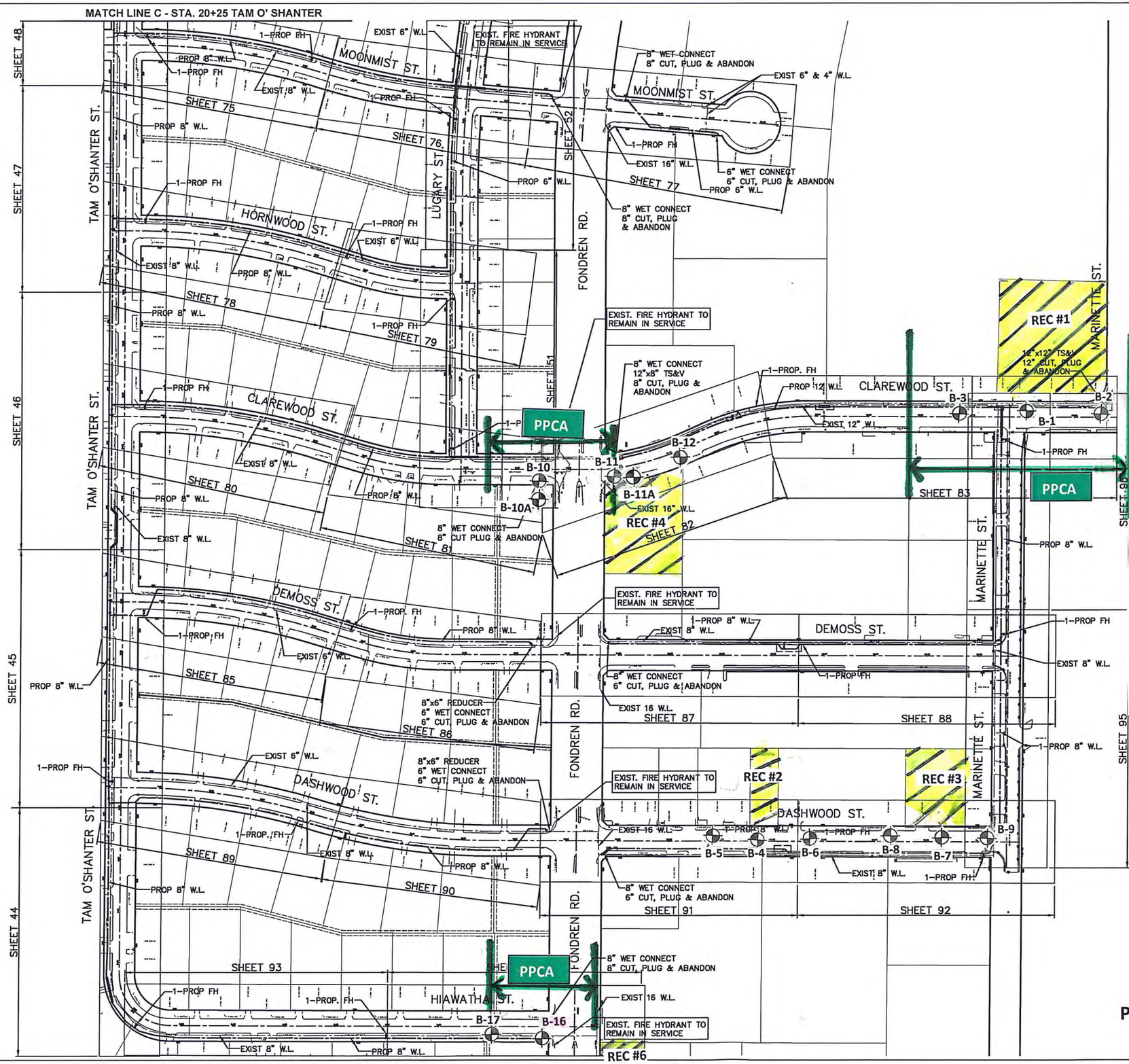
	Figure
Vicinity Map	1
Plan of Borings and REC sites	2.1 thru 2.3

Job No. 1130020801



VICINITY MAP
(NOT TO SCALE)

Job No. 1130020801



0 50 100 200

SCALE: 1"=100'

BENCHMARK:

BENCHMARKS: ELEVATIONS ON CITY OF HOUSTON (C.O.H.) SURVEY MARKER NOS. XXX-XXXX & XXXX-XXXX WERE ESTABLISHED BY GPS OBSERVATIONS ON JUNE X, 20XX AND TIED TO THE C.O.H. NGS CORS NETWORK. THE GPS DERIVED ELEVATIONS ARE BASED ON NAVD '88, GEOID12A, U.S. SURVEY FEET. ALL ELEVATIONS ARE REFERENCED TO C.O.H. SURVEY MARKER NOS.

C.O.H. SURVEY MARKER NO. XXX-XXXX:
ELEVATION = XX.XX (NAVD'88, GEOID12A)

C.O.H. SURVEY MARKER NO. XXXX-XXXX:
ELEVATION = XX.XX (NAVD'88, GEOID12A)

TBM: REFER TO TEMPORARY BENCHMARK TABLE ON SHEET XX

REC	Location	Borings
#1	Sharpstown Cleaners DCRPS Site; 7616 Clarewood Drive	B-1, B-2, B-3
#2	Pro Auto Care PST site at 7626 Dashwood Drive	B-4, B-5, B-6
#3	T & J Import Motor Cars operating at 6606 Marinette Drive	B-7, B-8, B-9
#4	U Haul Center LPST site at 6505 Fondren Road	B-10, B-11, B-12
#6	Exxon LPST site at 7634 Bellaire Blvd	B-16, B-17

No.	Date	Revisions	APP.

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NOTICE:

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VERIFICATION OF PRIVATE UTILITY LINES

Date

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Date

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AT&T TEXAS/SBC UTILITY LINES SHOWN

APPROVED FOR AT&T TEXAS/SVBT UNDERGROUND CONDUIT FACILITIES ONLY. SIGNATURE VALID FOR ONE YEAR

Date

CABLE COMPANY

ESPA
ENGINEERS · SCIENTISTS · PLANNERS · ARCHITECTS
7120 Grand Boulevard Suite 100
Houston, TX 77054
713-680-008
Fax 713-680-0738
TBPE FIRM NO. F002518

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SURVEYED BY: UNITED ENGINEERS INC.
C.O.H. Field Book P-5777

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER LINE REPLACEMENT IN SHARPSTOWN COUNTRY CLUB ESTATES AREA

OVERALL
LAYOUT PLAN 3
SHARPSTOWN AREA

C.O.H. WBS NO.
S-000035-0173-4

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
1"=100'

CITY OF HOUSTON PM
VENUS NAHID, P.E.

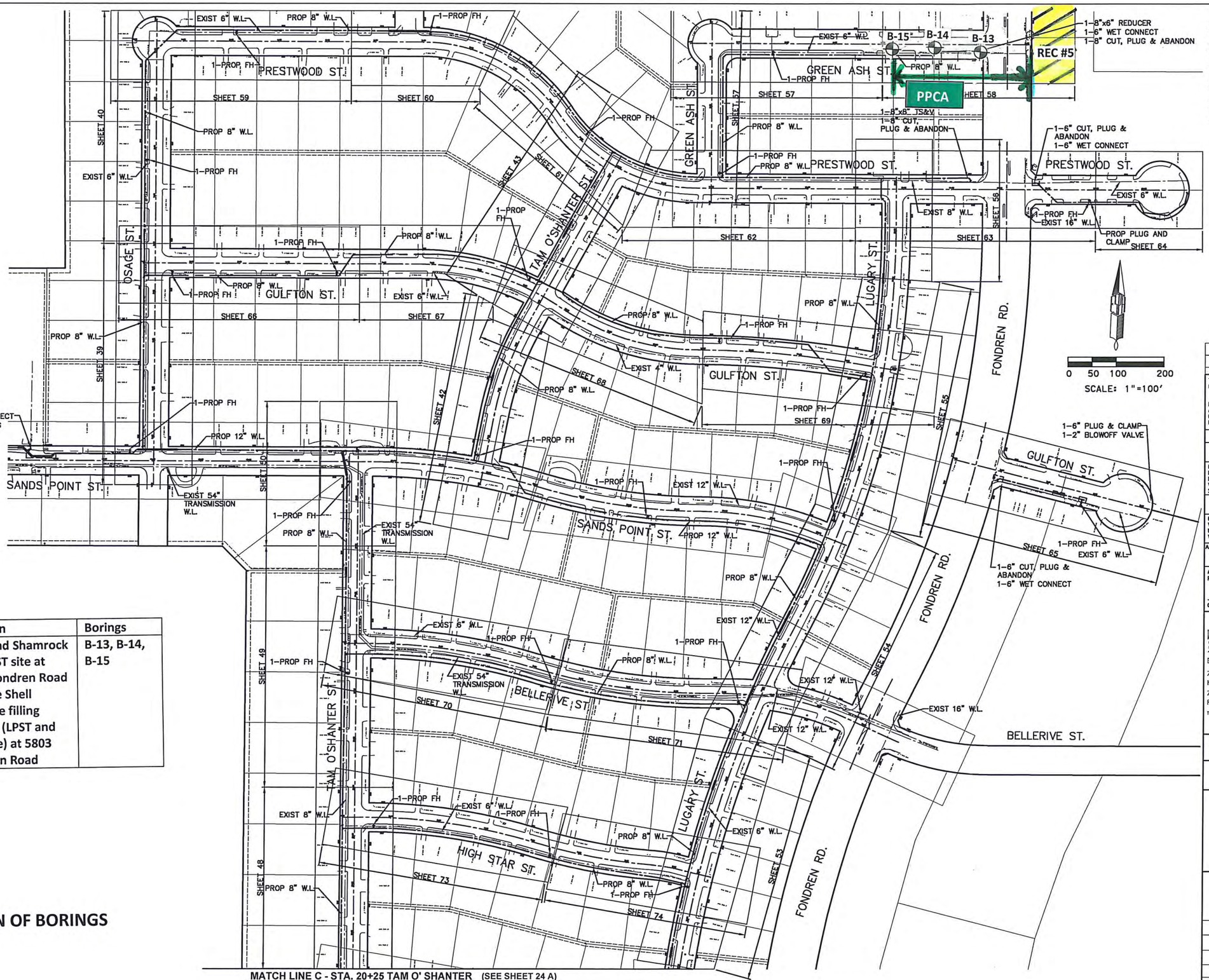
SHEET NO. 6 OF 132

PLAN OF BORINGS

FIGURE 2.1

F:\2005-026 WLR Sharpstown\Construction Documents\6 Sharpstown Area Overall Plan 3.dwg Plotted: Aug 15, 2014 - 11:26am by LLOYD.OVERSHOWN

Job No. 1130020801



REC	Location	Borings
#5	Diamond Shamrock 563 LPST site at 5726 Fondren Road and the Shell gasoline filling station (LPST and PST site) at 5803 Fondren Road	B-13, B-14, B-15

PLAN OF BORINGS

BENCHMARK:

BENCHMARKS: ELEVATIONS ON CITY OF HOUSTON (C.O.H.) SURVEY MARKER NOS. XXX-XXXX & XXXX-XXXX WERE ESTABLISHED BY GPS OBSERVATIONS ON JUNE X, 20XX AND TIED TO THE C.O.H. NGS CORS NETWORK. THE GPS DERIVED ELEVATIONS ARE BASED ON NAVD '88, GEOID12A, U.S. SURVEY FEET. ALL ELEVATIONS ARE REFERENCED TO C.O.H. SURVEY MARKER NOS.

C.O.H. SURVEY MARKER NO. XXX-XXXX:
ELEVATION = XX.XX (NAVD'88, GEOID12A)

C.O.H. SURVEY MARKER NO. XXXX-XXXX:
ELEVATION = XX.XX (NAVD'88, GEOID12A)

TBM: REFER TO TEMPORARY BENCHMARK TABLE ON SHEET XX

No.	Date	Revisions	App.

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AT&T TEXAS/SBC UTILITY LINES SHOWN

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Date

CABLE COMPANY

ESPA
A WHOLLY OWNED SUBSIDIARY OF AECOM
ENGINEERS · SCIENTISTS · PLANNERS · ARCHITECTS
7120 Grand Boulevard Suite 100
Houston, TX 77054
713-680-008
Fax 713-680-0738
TBPE FIRM NO. F-002518

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER LINE REPLACEMENT IN SHARPSTOWN COUNTRY CLUB ESTATES AREA

OVERALL
LAYOUT PLAN 2
SHARPSTOWN AREA

C.O.H. WBS NO.
S-000035-0173-4

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
1"=100'

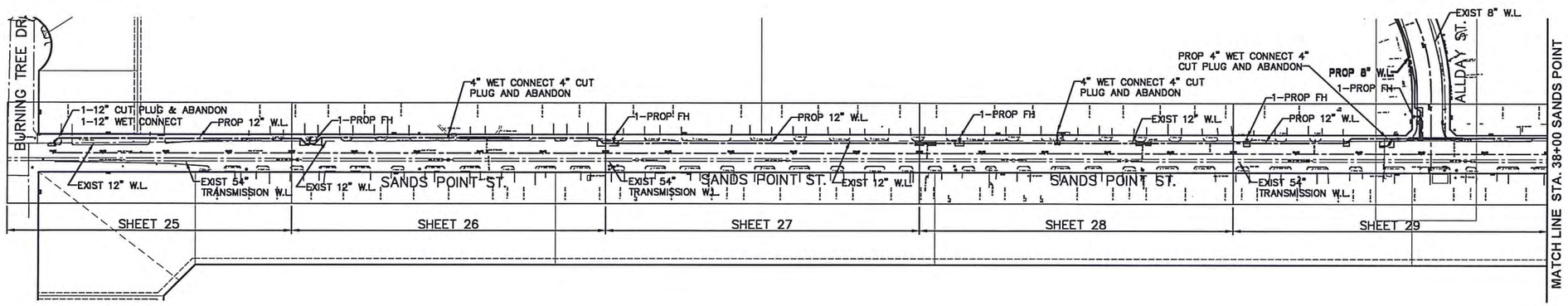
CITY OF HOUSTON PM
VENUS NAHID, P.E.

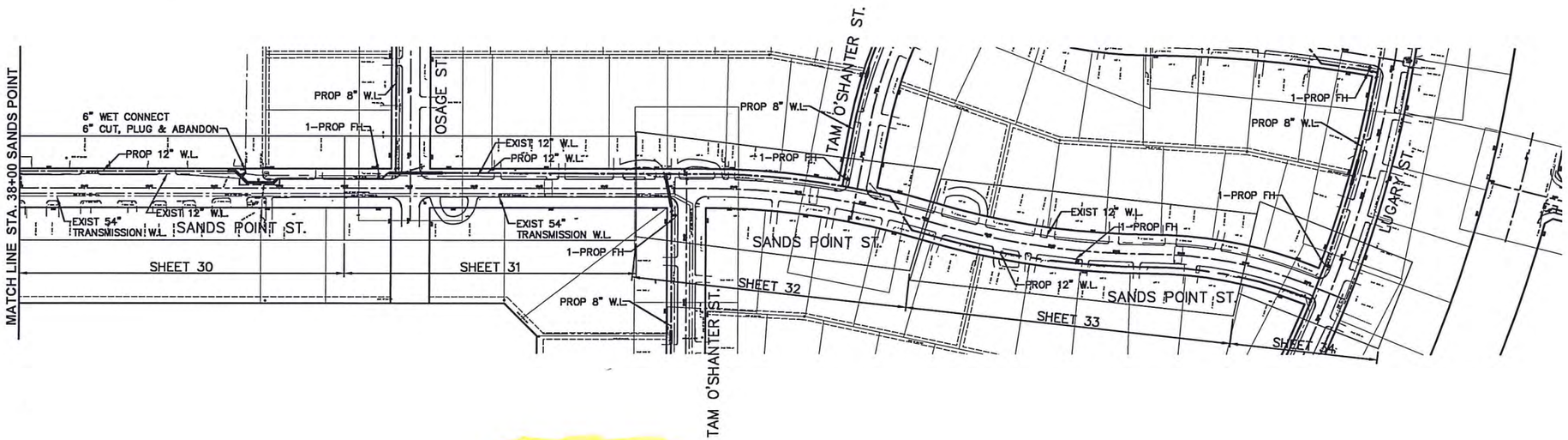
SHEET NO. 5 OF 132

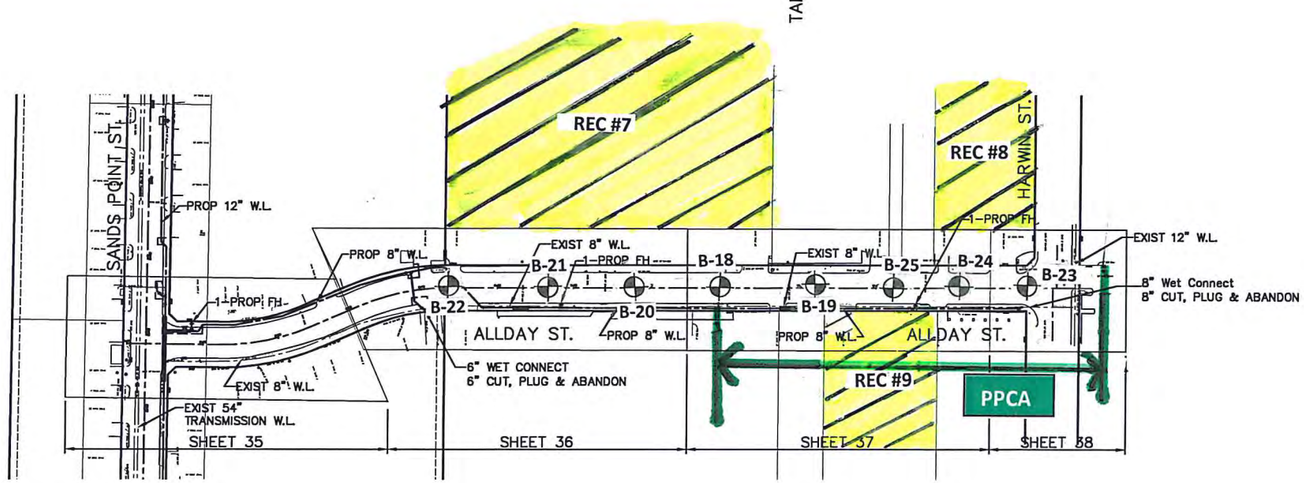
FIGURE 2.2

F:\2005-026 WLR Sharpstown\Construction Documents\5 Sharpstown Area Overall Plan 2.dwg Plotted: Aug 15, 2014 - 11:24am by LLOYD.OVERSHOWN

Job No. 1130020801







PLAN OF BORINGS

REC	Location	Borings
#7	Sterling Steel Company LPST site at 5890 and 5908 Allday Drive	B-18, B-19, B-20, B-21, B-22
#8	Speedy Mart/Diamond Shamrock LPST sites at 9401 Harwin Drive	B-19, B-23, B-24
#9	Express Lube at 9425 Harwin Drive	B-19, B-24, B-25

0 50 100 200
SCALE: 1"=100'

BENCHMARK:

BENCHMARKS: ELEVATIONS ON CITY OF HOUSTON (C.O.H.) SURVEY MARKER NOS. XXX-XXXX & XXXX-XXXX WERE ESTABLISHED BY GPS OBSERVATIONS ON JUNE X, 20XX AND TIED TO THE C.O.H. NGS CORS NETWORK. THE GPS DERIVED ELEVATIONS ARE BASED ON NAVD '88, GEOID12A, U.S. SURVEY FEET. ALL ELEVATIONS ARE REFERENCED TO C.O.H. SURVEY MARKER NOS.

C.O.H. SURVEY MARKER NO. XXX-XXXX:
ELEVATION = XX.XX (NAVD'88, GEOID12A)

C.O.H. SURVEY MARKER NO. XXXX-XXXX:
ELEVATION = XX.XX (NAVD'88, GEOID12A)

TBM: REFER TO TEMPORARY BENCHMARK TABLE ON SHEET XX

No.	Date	Revisions	App.

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CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER LINE REPLACEMENT IN SHARPSTOWN COUNTRY CLUB ESTATES AREA

OVERALL
LAYOUT PLAN 1
SHARPSTOWN AREA

C.O.H. WBS NO.
S-000035-0173-4

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
1"=100'
CITY OF HOUSTON PM
VENUS NAHID, P.E.
SHEET NO. 4 OF 132

FIGURE 2.3

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APPENDIX A

Log of Borings and Symbols Used

LOG OF BORING NO. EB-1

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Barings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7.5" Concrete												
			Dark gray CLAY (CH)			1.3									
			– reddish brown and gray 4'–10'			2.3									
5						2.7									
						1.9									
10						5.0	ND	ND	ND	ND	ND	ND		*	
			Gray and brown SANDY CLAY (CL)			1.3									
						1.2									
15						3.7									
20															
25															
30															
35															

NOTE :
ND – Not Detected

* SVOC (mg/kg)
Bis (2-ethylhexyl phthalate)
0.0613

VOC (mg/kg)
Methylene Chloride
0.00137

DEPTH TO WATER IN BORING :
▽: Free water encountered at 11.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-1

LOG OF BORING NO. EB-2

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0	6.75" Concrete												
	Reddish brown and gray CLAY (CH) w/sand seams			3.6									
				2.7									
	-yellowish brown and gray w/ferrous nodules 4'-10'			7.8	ND	ND	**	ND	ND	ND		*	
				6.2									
10				4.3									
	Yellowish brown and gray SANDY CLAY (CL)			3.0									
				3.2									
15				4.6									
20													
25													
30													
35													

NOTE :
ND - Not Detected

* SVOC (mg/kg)
Bis (2-ethylhexyl phthalate)
0.0775

VOC (mg/kg)
Methylene Chloride
0.00124

Trimethyl Benzene
0.0000800 (Water)

** TOLUENE = 0.000620 (Water)

DEPTH TO WATER IN BORING :
▽: Free water encountered at 10.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-2

LOG OF BORING NO. EB-3

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7" Concrete												
			Dark gray CLAY (CH) w/calcareous nodules -gray and brown 2'-8'			3.1									
						3.2									
5						2.7									
			-yellowish brown and gray 8'-12'			1.6									
10						2.9									
						2.6									
			Yellowish brown and gray SANDY CLAY (CL)			4.3	ND	ND	ND	ND	ND	ND		*	
15						2.3									
20															
25															
30															
35															

NOTE :
ND - Not Detected

* SVOC (mg/kg)
Bis (2-ethylhexyl phthalate)
0.0506

VOC (mg/kg)
Methylene Chloride
0.00125

DEPTH TO WATER IN BORING :
▽: Free water encountered at 11.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-3

LOG OF BORING NO. EB-4

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			8" Concrete												
			Reddish brown and gray CLAY (CH) w/sand and ferrous nodules			3.8									
						2.7									
5						5.3									
						6.0	ND								
10						4.5									
						5.2									
						5.6									
15						4.2									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
▽: Free water encountered at 15.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-4

LOG OF BORING NO. EB-5

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			8" Concrete												
			Reddish brown and gray CLAY (CH) w/calcareous and ferrous nodules			4.6									
						7.3									
5						4.5									
			-yellowish brown and gray 8'-15'			1.4									
10						2.7									
						6.8	ND								
						3.7									
15						4.2									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
▽: Free water encountered at 15.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-5

LOG OF BORING NO. EB-6

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7.5" Concrete												
			Reddish brown and gray CLAY (CH) w/calcareous and ferrous nodules			2.0									
						3.8									
5			-yellowish brown and gray 6'-15'			4.0									
						4.5									
10						4.1									
						4.2									
						4.1									
15						4.5	ND								
20			NOTE : ND - Not Detected												
25															
30															
35															

DEPTH TO WATER IN BORING :
▽: Free water encountered at 15.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-6

LOG OF BORING NO. EB-7

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			8.5" Concrete												
			Dark gray CLAY (CH) w/calcareous nodules -gray and brown 2'-6'			0.0									
						0.0									
5						0.0									
			Yellowish brown and gray SANDY CLAY (CL) -w/ferrous nodules 8'-15'			0.0									
10						0.8	ND								
						0.0									
						0.0									
15						0.0									
20			NOTE : ND - Not Detected												
25															
30															
35															

DEPTH TO WATER IN BORING :
▽: Free water encountered at 14.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-7

LOG OF BORING NO. EB-8

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0	0.6		7.5" Concrete												
			Brown and gray CLAY (CH) w/calcareous nodules			0.0									
						0.0									
5						0.0									
			-yellowish brown and gray 8'-15'			2.7									
10						3.5	ND								
						0.0									
						1.0									
15						0.0									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-8

LOG OF BORING NO. EB-9

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-12-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			2" Asphalt												
			7" Concrete			0.0									
			Dark gray CLAY (CH) w/sand and calcareous nodules			0.0									
			-gray and brown 4'-10'												
5						0.0									
						0.0									
						0.0									
10			Reddish brown and gray SANDY CLAY (CL) w/sand seams and calcareous nodules			0.0	ND								
						0.0									
15						0.0									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
▽: Free water encountered at 14.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-9

LOG OF BORING NO. EB-10A

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			8.5" Concrete												
			Reddish brown and gray CLAY (CH) w/ferrous nodules			6.4									
			-gray and brown 4'-8'			9.2									
5						8.6	ND	ND	*	*	*	ND			
						7.4									
10						7.9									
						6.3									
						2.3									
15						0.7									
20															
25															
30															
35															

NOTE :
ND - Not Detected

Hard obstruction was encountered in boring EB-10 at 2 feet. Boring was offset to EB-10A.

* TOLUENE = 0.000750 (Water)
ETHYLBENZENE = 0.000260 (Water)
TOTAL
XYLENE = 0.00113 (Water)

DEPTH TO WATER IN BORING :
▽: Free water encountered at 13.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-10

LOG OF BORING NO. EB-11A

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			10" Concrete												
			Dark gray CLAY (CH) w/calcareous nodules			2.6									
						0.2									
5						3.5									
						3.0									
10						8.1	ND	ND	ND	ND	ND	ND			
						2.2									
						2.1									
15						1.1									
20															
25															
30															
35															

NOTE :
ND - Not Detected

Hard obstruction was encountered in boring EB-11 at 2 feet. Boring was offset to EB-11A.

DEPTH TO WATER IN BORING :
▽: Free water encountered ot 12.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-11

LOG OF BORING NO. EB-12

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-16-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			6.5" Concrete												
			Reddish gray CLAY (CH) w/calcareous nodules			6.1									
			-w/ferrous nodules 4'-8'			3.6									
5						6.4	ND	ND	ND	ND	ND	ND			
			-yellowish brown and gray 8'-15'			5.9									
10						4.7									
						5.8									
						2.0									
15						1.6									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
▽: Free water encountered at 11.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-12

LOG OF BORING NO. EB-13

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Barings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-15-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			6" Concrete												
			Dark gray CLAY (CH) w/calcareous nodules -brown and gray 2'-8'			1.0									
						1.7									
5						1.7									
						1.8									
			Yellowish brown and gray SANDY CLAY (CL) w/sand and ferrous nodules			4.1	ND	ND	*	*	*	ND			
10						2.7									
						3.7									
15						0.8									
20															
25															
30															
35															

NOTE :
ND - Not Detected

* TOLUENE = 0.000750 (Water)
ETHYLBENZENE = 0.000210 (Water)
TOTAL
XYLENE = 0.000620 (Water)

DEPTH TO WATER IN BORING :
▽: Free water encountered at 10.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-13

LOG OF BORING NO. EB-14

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-15-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			6" Concrete												
			Dark gray CLAY (CH) w/calcareous nodules			1.7									
			-w/ferrous nodules 4'-8'			0.8									
5						1.2									
						0.7									
			Yellowish brown and gray SANDY CLAY (CL) w/calcareous nodules			2.7									
10						1.3									
						5.2	ND	ND	ND	*	ND	ND			
15						2.1									
20															
25															
30															
35															

NOTE :
ND - Not Detected

* ETHYLBENZENE = 0.000303

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-14

LOG OF BORING NO. EB-15

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-15-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7" Concrete												
			Dark gray CLAY (CH) w/sand seams			0.2									
			-w/ferrous nodules 4'-10'			1.8									
5						0.9									
						2.2	ND	ND	ND	ND	ND	ND			
10						2.1									
						1.7									
						2.6									
15						0.1									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-15

LOG OF BORING NO. EB-16

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-15-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			6" Concrete												
			Brown and gray CLAY (CH) w/calcareous nodules			1.2									
			– w/ferrous nodules 4'–8'			3.2									
5			– reddish brown and gray 6'–15'			3.6									
						3.5									
10						3.6									
						2.3									
						4.0									
15						4.6	ND	ND	*	*	*	ND			
20															
25															
30															
35															

NOTE :
ND – Not Detected

* TOLUENE = 0.000780 (Water)

ETHYLBENZENE = 0.000312 (Soil)
= 0.000170 (Water)

TOTAL
XYLENE = 0.000736 (Soil)
= 0.000670 (Water)

DEPTH TO WATER IN BORING :
▽: Free water encountered at 11.0 ft. during drilling.

Geotest Engineering, Inc.

FIGURE A-16

LOG OF BORING NO. EB-17

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-15-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			6" Concrete												
			Gray and brown CLAY (CH) w/calcareous nodules			1.3									
						1.3									
5						3.9	ND	ND	ND	ND	ND	ND			
			Reddish brown and gray SANDY CLAY (CL) w/calcareous nodules			3.2									
10						3.1									
						2.0									
						2.1									
15						2.8									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-17

LOG OF BORING NO. EB-18

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-12-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7" Concrete												
			Dark brown CLAY (CH) w/calcareous nodules -gray and brown 2'-6'			3.5									
						3.5									
5						1.0									
			Yellowish brown and gray SANDY CLAY (CL) w/ferrous nodules			3.2									
10						3.6									
						2.7									
						5.7	ND	ND	ND	ND	ND	ND			
15						1.3									
20			NOTE : ND - Not Detected												
25															
30															
35															

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-18

LOG OF BORING NO. EB-19

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Barings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-12-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			6.5" Concrete												
			Dark gray CLAY (CH) -brown and gray w/ferrous nodules 2'-8'			1.9									
						3.2									
5						2.5									
						1.6									
			Reddish brown and gray SANDY CLAY (CL) w/calcareous nodules			1.3									
10						2.0									
						3.1	ND	ND	ND	ND	ND	ND		*	
15						2.6									
20															
25															
30															
35															

NOTE :
ND - Not Detected

* VOC (mg/kg)
Methylene Chloride
0.00188

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-19

LOG OF BORING NO. EB-20

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-12-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7" Concrete												
			Dark gray CLAY (CH) w/calcareous nodules -gray and brown 2'-12'			4.6									
						6.7									
5						3.2									
						6.2									
10						2.2									
						1.9									
			Yellowish brown and gray SANDY CLAY (CL) w/sand seams and ferrous nodules			6.0	ND	ND	ND	ND	ND	ND			
15						3.2									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-20

LOG OF BORING NO. EB-21

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-12-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			8" Concrete												
			Dark gray CLAY (CH) -gray and brown 2'-6'			1.9									
						2.1									
5						3.8									
						0.0									
10			Reddish brown and gray SANDY CLAY (CL) w/colcareous nodules			2.1									
						0.9									
						5.8	ND	ND	ND	ND	ND	ND			
15						2.1									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-21

LOG OF BORING NO. EB-22

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-12-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7.5" Concrete												
			Dark gray CLAY (CH) w/calcareous nodules			0.0									
						0.0									
5						0.0									
						4.0	ND	ND	ND	ND	ND	ND			
			Reddish brown and gray SANDY CLAY (CL) w/calcoreous nodules			3.0									
10						0.0									
						0.0									
15						1.9									
20															
25															
30															
35															

NOTE :
ND - Not Detected

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-22

LOG OF BORING NO. EB-23

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-15-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			6.5" Concrete												
			Dark gray FAT CLAY (CH) -brown and groy w/ferrous nodules 2'-8'			0.0									
						0.9									
5						1.1									
						1.8									
10						2.8	ND	ND	ND	*	ND	ND			
			Yellowish brown and gray SANDY CLAY (CL) w/calcareous and ferrous nodules			1.6									
						1.1									
15						1.6									
20															
25															
30															
35															

NOTE :
ND - Not Detected

* ETHYLBENZENE = 0.000216

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

LOG OF BORING NO. EB-24

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-12-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7" Concrete												
			Dark gray CLAY (CH) w/calcareous nodules			5.3									
			-yellowish brown and gray 4'-8'			4.3									
5						5.7	ND	ND	**	ND	**	ND		*	
						3.9									
10						4.2									
						1.4									
			Reddish brown and gray SANDY CLAY (CL) w/calcareous nodules			4.2									
15						2.2									
20															
25															
30															
35															

NOTE :
ND - Not Detected

* VOC (mg/kg)
Methylene Chloride
0.00673

Naphthalene
0.00147

** TOLUENE = 0.00196
TOTAL
XYLENE = 0.00186

DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-24

LOG OF BORING NO. EB-25

PROJECT : Phase II Environmental Site Assessment
Water Line Replacement in Sharpstown County Club Estate
WBS No. S-000035-0173-3; Houston, Texas

PROJECT NO. : 1130020801

LOCATION : See Plan of Borings (Figure 2)

COMPLETION DEPTH : 15.0 FT.

SURFACE ELEVATION : Existing Grade

DATE : 09-15-2014

SAMPLER : Shelby Tube/Split Spoon
DRY AUGER : .0 TO 15.0 FT.
WASH BORE : -- TO -- FT.

DEPTH, FEET	SYMBOL	SAMPLES	DESCRIPTION OF MATERIAL	SPT N-VALUE, BLOWS PER FOOT	HAND PENETROMETER READING, TSF	FIELD SCREENING - ORGANIC VAPOR, ppm	TOTAL PETROLEUM HYDROCARBONS, mg/kg	BTEX, mg/kg: BENZENE	BTEX, mg/kg: TOLUENE	BTEX, mg/kg: ETHYLBENZENE	BTEX, mg/kg: TOTAL XYLENE	TOTAL BTEX, mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS, mg/kg	VOLATILE ORGANIC COMPOUNDS, mg/kg	TOTAL LEAD, mg/kg
0			7" Concrete												
			Grayish CLAY (CH) w/calcareous nodules			0.9									
						1.6									
5						1.9									
						1.2									
10						2.2	ND	ND	ND	ND	ND	ND		*	
			Reddish brown and gray SANDY CLAY (CL)			0.5									
						1.0									
15						0.0									
20															
25															
30															
35															

NOTE :
ND - Not Detected

* VOC (mg/kg)
Methylene Chloride
0.00155

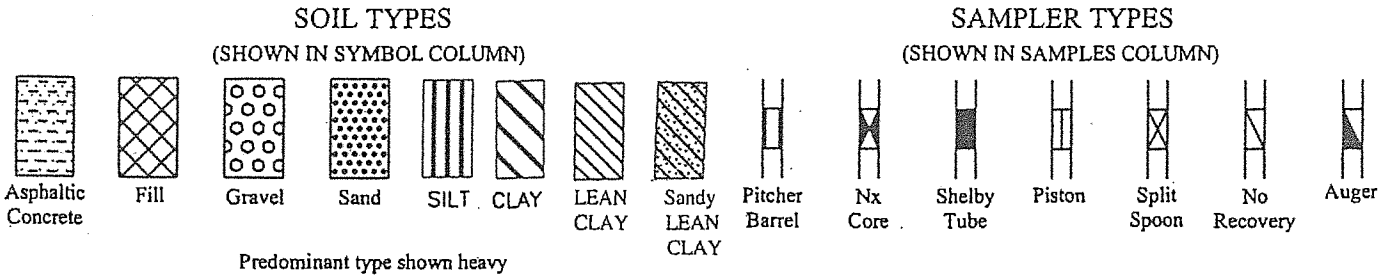
DEPTH TO WATER IN BORING :
Hole was backfilled immediately after completion of drilling, reading of water level could not be obtained.

Geotest Engineering, Inc.

FIGURE A-25

Job No. 1130020801

SYMBOLS AND TERMS USED ON BORING LOGS



TERMS DESCRIBING CONSISTENCY OR CONDITION

Basic Soil Type	Density or Consistency	Standard Penetration Resistance, (1) Blows/ft.	Unconfined Compressive Strength (q_u), (2) Tons/sq. ft.
Cohesionless	Very loose	Less than 4	Not applicable
	Loose	4 to <10	Not applicable
	Medium dense	10 to <30	Not applicable
	Dense	30 to <50	Not applicable
	Very dense	50 or greater	Not applicable
Cohesive	Very soft	Less than 2	Less than 0.25
	Soft	2 to <4	0.25 to <0.5
	Firm/Medium stiff	4 to <8	0.5 to <1.0
	Stiff	8 to <15	1.0 to <2.0
	Very stiff	15 to <30	2.0 to <4.0
	Hard	30 or greater	4 or greater

(1) Number of blows from 140-lb. weight falling 30-in. to drive 2-in. OD, 1-3/8-in. ID, split barrel sampler (ASTM D1586)

(2) q_u may also be approximated using a pocket penetrometer

TERMS CHARACTERIZING SOIL STRUCTURE

Parting: -paper thin in size Seam: -1/8" to 3" thick Layer: -greater than 3"

Slickensided	- having inclined planes of weakness that are slick and glossy in appearance.
Fissured	- containing shrinkage cracks, frequently filled with fine sand or silt; usually more or less vertical.
Laminated	- composed of thin layers of varying color and texture.
Interbedded	- composed of alternate layers of different soil types.
Calcareous	- containing appreciable quantities of calcium carbonate.
Well graded	- having wide range in grain sizes and substantial amounts of all intermediate particle sizes.
Poorly graded	- predominantly of one grain size, or having a range of sizes with some intermediate size missing.
Flocculated	- pertaining to cohesive soils that exhibit a loose knit or flakey structure.

APPENDIX B

LABORATORY REPORT WITH
QUALITY CONTROL INFORMATION

Analytical Report 493688,493661,493344

for

Geotest Engineering, Inc.

Project Manager: Naresh Kolli

Phase II ESA Waterline Replacement

1130020801

23-OCT-14

Collected By: Client

4143 Greenbriar Dr., Stafford, TX 77477

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

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)

23-OCT-14

Project Manager: **Naresh Kolli**
Geotest Engineering, Inc.
5600 Bintliff
Houston, TX 77036

Reference: XENCO Report No(s): **493688,493661,493344**
Phase II ESA Waterline Replacement
Project Address: Sharpstown Area

Naresh Kolli:

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) 493688,493661,493344. 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. 493661 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 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EB-4	S	09-12-14 11:00	6 - 8 ft	493344-001
EB-5	S	09-12-14 11:30	10 - 12 ft	493344-002
EB-6	S	09-12-14 11:00	14 - 15 ft	493344-003
EB-7	S	09-12-14 11:00	8 - 10 ft	493344-004
EB-8	S	09-12-14 11:30	8 - 10 ft	493344-005
EB-9	S	09-12-14 11:30	10 - 12 ft	493344-006
EB-18	S	09-12-14 11:30	12 - 14 ft	493344-007
EB-19	S	09-12-14 10:30	12 - 14 ft	493344-008
EB-20	S	09-12-14 10:00	12 - 14 ft	493344-009
EB-21	S	09-12-14 10:00	12 - 14 ft	493344-010
EB-22	S	09-12-14 10:30	6 - 8 ft	493344-011
EB-24	S	09-12-14 11:30	4 - 6 ft	493344-012
EB-6	W	09-12-14 11:00		493344-013
EB-9	W	09-12-14 11:30		493344-014
EB1	S	09-16-14 15:45	8 - 10 ft	493661-001
EB2	S	09-16-14 16:30	4 - 6 ft	493661-002
EB3	S	09-16-14 15:00	12 - 14 ft	493661-003
EB10A	S	09-16-14 10:00	4 - 6 ft	493661-004
EB11A	S	09-16-14 13:00	8 - 10 ft	493661-005
EB12	S	09-16-14 14:00	4 - 6 ft	493661-006
EB13	S	09-16-14 13:45	8 - 10 ft	493661-007
EB14	S	09-16-14 13:15	12 - 14 ft	493661-008
EB15	S	09-16-14 12:45	6 - 8 ft	493661-009
EB16	S	09-16-14 15:30	14 - 15 ft	493661-010
EB17	S	09-16-14 16:00	4 - 6	493661-011
EB23	S	09-16-14 11:30	8 - 10	493661-012
EB25	S	09-16-14 12:00	8 - 10	493661-013
EB2	W	09-16-14 16:30		493661-014
EB10A	W	09-16-14 10:00		493661-015
EB13	W	09-16-14 13:45		493661-016
EB16	W	09-16-14 15:30		493661-017
COMPOSITE	S	09-16-14 00:00		493661-018
EB2	W	09-16-14 16:30		493688-001
Trip Blank	W	09-04-14 00:00		Not Analyzed

CASE NARRATIVE

Client Name: Geotest Engineering, Inc.
Project Name: Phase II ESA Waterline Replacement

Project ID: *1130020801*
Work Order Number(s): *493688,493661,493344*

Report Date: *23-OCT-14*
Date Received: *09/19/2014*

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-951138 VOAs by SW-846 8260B
Note: All vials received contained headspace.

Batch: LBA-951236 VOAs by SW-846 8260B
SW8260B
Batch 951236,
Methylene Chloride detected in the blank below the MQL but above the SDL; possible laboratory contamination indicating a potential high bias. Samples affected are: 493344-012.

Batch: LBA-951236 VOAs by SW-846 8260B
SW8260B
Batch 951236,
Methylene Chloride detected in the blank below the MQL but above the SDL; possible laboratory contamination indicating a potential high bias. Samples affected are: 493661-002, -018, -001, -003, -013.

Batch: LBA-951378 BTEX-MTBE by SW 8260B
Note: -015, -016 and -017 were received with headspace. -017 had pH6.

Batch: LBA-951536 BTEX-MTBE by SW 8260B
o-Xylene recovered below QC limits in the Matrix Spike. Samples affected are: 493661-011, -008, -010, -012, -009.
The Laboratory Control Sample for o-Xylene is within laboratory Control Limits

CASE NARRATIVE

Client Name: Geotest Engineering, Inc.
Project Name: Phase II ESA Waterline Replacement

Project ID: *1130020801*
Work Order Number(s): *493688,493661,493344*

Report Date: *23-OCT-14*
Date Received: *09/19/2014*

Sample receipt non conformances and comments:

EB-2 SVOC container missing, client will resubmit EB-2 SVOC on separate COC.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-951138 VOAs by SW-846 8260B
Note: All vials received contained headspace.

Batch: LBA-951236 VOAs by SW-846 8260B
SW8260B
Batch 951236,
Methylene Chloride detected in the blank below the MQL but above the SDL; possible laboratory contamination indicating a potential high bias. Samples affected are: 493344-012.

Batch: LBA-951236 VOAs by SW-846 8260B
SW8260B
Batch 951236,
Methylene Chloride detected in the blank below the MQL but above the SDL; possible laboratory contamination indicating a potential high bias. Samples affected are: 493661-002, -018, -001, -003, -013.

Batch: LBA-951378 BTEX-MTBE by SW 8260B
Note: -015, -016 and -017 were received with headspace. -017 had pH6.

Batch: LBA-951536 BTEX-MTBE by SW 8260B
o-Xylene recovered below QC limits in the Matrix Spike. Samples affected are: 493661-011, -008, -010, -012, -009.
The Laboratory Control Sample for o-Xylene is within laboratory Control Limits

Sample receipt non conformances and comments:

per phone conversation with Naresh Kolli 9/17, change samples EB-19 (493344-008) and EB-24 (493344-012) from BTEX/M to VOCs.

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-951138 VOAs by SW-846 8260B
Note: All vials received contained headspace.

Batch: LBA-951236 VOAs by SW-846 8260B
SW8260B
Batch 951236,
Methylene Chloride detected in the blank below the MQL but above the SDL; possible laboratory contamination indicating a potential high bias. Samples affected are: 493344-012.

Batch: LBA-951236 VOAs by SW-846 8260B
SW8260B
Batch 951236,
Methylene Chloride detected in the blank below the MQL but above the SDL; possible laboratory contamination indicating a potential high bias. Samples affected are: 493661-002, -018, -001, -003, -013.

Batch: LBA-951378 BTEX-MTBE by SW 8260B
Note: -015, -016 and -017 were received with headspace. -017 had pH6.

Batch: LBA-951536 BTEX-MTBE by SW 8260B
o-Xylene recovered below QC limits in the Matrix Spike. Samples affected are: 493661-011, -008, -010, -012, -009.
The Laboratory Control Sample for o-Xylene is within laboratory Control Limits

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-4** Matrix: Soil Sample Depth: 6 - 8 ft

Lab Sample Id: 493344-001 Date Collected: 09.12.14 11.00 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 18.78 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 11.36

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<11.1	61.4	11.1	mg/kg	09.18.14 22:44	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<11.1	61.4	11.1	mg/kg	09.18.14 22:44	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<11.1	61.4	11.1	mg/kg	09.18.14 22:44	U	1
Total TPH 1005	PHC635	<11.1		11.1	mg/kg	09.18.14 22:44	U	

Sample Id: **EB-5** Matrix: Soil Sample Depth: 10 - 12 ft

Lab Sample Id: 493344-002 Date Collected: 09.12.14 11.30 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 27.91 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 11.45

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<12.5	69.3	12.5	mg/kg	09.18.14 23:42	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<12.5	69.3	12.5	mg/kg	09.18.14 23:42	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<12.5	69.3	12.5	mg/kg	09.18.14 23:42	U	1
Total TPH 1005	PHC635	<12.5		12.5	mg/kg	09.18.14 23:42	U	

Sample Id: **EB-6** Matrix: Soil Sample Depth: 14 - 15 ft

Lab Sample Id: 493344-003 Date Collected: 09.12.14 11.00 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 20.36 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 11.48

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<11.3	62.5	11.3	mg/kg	09.19.14 00:02	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<11.3	62.5	11.3	mg/kg	09.19.14 00:02	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<11.3	62.5	11.3	mg/kg	09.19.14 00:02	U	1
Total TPH 1005	PHC635	<11.3		11.3	mg/kg	09.19.14 00:02	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-7** Matrix: Soil Sample Depth: 8 - 10 ft

Lab Sample Id: 493344-004 Date Collected: 09.12.14 11.00 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 41.29 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 11.51

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<15.3	85.2	15.3	mg/kg	09.19.14 00:21	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<15.3	85.2	15.3	mg/kg	09.19.14 00:21	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.3	85.2	15.3	mg/kg	09.19.14 00:21	U	1
Total TPH 1005	PHC635	<15.3		15.3	mg/kg	09.19.14 00:21	U	

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

Lab Sample Id: 493344-005 Date Collected: 09.12.14 11.30 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 37.47 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 11.54

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<14.4	79.8	14.4	mg/kg	09.19.14 00:41	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<14.4	79.8	14.4	mg/kg	09.19.14 00:41	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<14.4	79.8	14.4	mg/kg	09.19.14 00:41	U	1
Total TPH 1005	PHC635	<14.4		14.4	mg/kg	09.19.14 00:41	U	

Sample Id: **EB-9** Matrix: Soil Sample Depth: 10 - 12 ft

Lab Sample Id: 493344-006 Date Collected: 09.12.14 11.30 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 17.8 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 11.57

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<10.9	60.5	10.9	mg/kg	09.19.14 01:00	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<10.9	60.5	10.9	mg/kg	09.19.14 01:00	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<10.9	60.5	10.9	mg/kg	09.19.14 01:00	U	1
Total TPH 1005	PHC635	<10.9		10.9	mg/kg	09.19.14 01:00	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-18** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493344-007 Date Collected: 09.12.14 11.30 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 20.14 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 12.00

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<11.2	62.5	11.2	mg/kg	09.19.14 01:20	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<11.2	62.5	11.2	mg/kg	09.19.14 01:20	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<11.2	62.5	11.2	mg/kg	09.19.14 01:20	U	1
Total TPH 1005	PHC635	<11.2		11.2	mg/kg	09.19.14 01:20	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 20.14 Tech: SAD

Seq Number: 951260 Date Prep: 09.22.14 17.59

Prep seq: 661912

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000730	0.00620	0.000730	mg/kg	09.23.14 03:50	U	1
Benzene	71-43-2	<0.000239	0.00124	0.000239	mg/kg	09.23.14 03:50	U	1
Toluene	108-88-3	<0.000160	0.00124	0.000160	mg/kg	09.23.14 03:50	U	1
Ethylbenzene	100-41-4	<0.000118	0.00124	0.000118	mg/kg	09.23.14 03:50	U	1
m,p-Xylenes	179601-23-1	<0.000449	0.00248	0.000449	mg/kg	09.23.14 03:50	U	1
o-Xylene	95-47-6	<0.000284	0.00124	0.000284	mg/kg	09.23.14 03:50	U	1
Total Xylenes	1330-20-7	<0.000284		0.000284	mg/kg	09.23.14 03:50	U	
Total BTEX		<0.000118		0.000118	mg/kg	09.23.14 03:50	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-19** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493344-008 Date Collected: 09.12.14 10.30 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 14.7 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 12.03

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<10.5	58.4	10.5	mg/kg	09.19.14 01:39	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<10.5	58.4	10.5	mg/kg	09.19.14 01:39	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<10.5	58.4	10.5	mg/kg	09.19.14 01:39	U	1
Total TPH 1005	PHC635	<10.5		10.5	mg/kg	09.19.14 01:39	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-19** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493344-008 Date Collected: 09.12.14 10.30 Date Received: 09.16.14 12.25

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 14.7 Tech: MCH

Seq Number: 951027 Date Prep: 09.18.14 15.15

Prep seq: 661766

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000183	0.00584	0.000183	mg/kg	09.18.14 16:22	U	1
Bromobenzene	108-86-1	<0.000512	0.00584	0.000512	mg/kg	09.18.14 16:22	U	1
Bromochloromethane	74-97-5	<0.000555	0.00584	0.000555	mg/kg	09.18.14 16:22	U	1
Bromodichloromethane	75-27-4	<0.000310	0.00584	0.000310	mg/kg	09.18.14 16:22	U	1
Bromoform	75-25-2	<0.000816	0.00584	0.000816	mg/kg	09.18.14 16:22	U	1
Bromomethane	74-83-9	<0.00123	0.00584	0.00123	mg/kg	09.18.14 16:22	U	1
MTBE	1634-04-4	<0.000397	0.00584	0.000397	mg/kg	09.18.14 16:22	U	1
tert-Butylbenzene	98-06-6	<0.000241	0.00584	0.000241	mg/kg	09.18.14 16:22	U	1
Sec-Butylbenzene	135-98-8	<0.000572	0.00584	0.000572	mg/kg	09.18.14 16:22	U	1
n-Butylbenzene	104-51-8	<0.000548	0.00584	0.000548	mg/kg	09.18.14 16:22	U	1
Carbon Tetrachloride	56-23-5	<0.000273	0.00584	0.000273	mg/kg	09.18.14 16:22	U	1
Chlorobenzene	108-90-7	<0.000279	0.00584	0.000279	mg/kg	09.18.14 16:22	U	1
Chloroethane	75-00-3	<0.000641	0.0117	0.000641	mg/kg	09.18.14 16:22	U	1
Chloroform	67-66-3	<0.000341	0.00584	0.000341	mg/kg	09.18.14 16:22	U	1
Chloromethane	74-87-3	<0.000349	0.0117	0.000349	mg/kg	09.18.14 16:22	U	1
2-Chlorotoluene	95-49-8	<0.000458	0.00584	0.000458	mg/kg	09.18.14 16:22	U	1
4-Chlorotoluene	106-43-4	<0.000513	0.00584	0.000513	mg/kg	09.18.14 16:22	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000491	0.00584	0.000491	mg/kg	09.18.14 16:22	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00181	0.00584	0.00181	mg/kg	09.18.14 16:22	UX	1
Dibromochloromethane	124-48-1	<0.000552	0.00584	0.000552	mg/kg	09.18.14 16:22	U	1
Dibromomethane	74-95-3	<0.000411	0.00584	0.000411	mg/kg	09.18.14 16:22	U	1
1,2-Dichlorobenzene	95-50-1	<0.000503	0.00584	0.000503	mg/kg	09.18.14 16:22	U	1
1,3-Dichlorobenzene	541-73-1	<0.000434	0.00584	0.000434	mg/kg	09.18.14 16:22	U	1
1,4-Dichlorobenzene	106-46-7	<0.000277	0.00584	0.000277	mg/kg	09.18.14 16:22	U	1
Dichlorodifluoromethane	75-71-8	<0.000497	0.00584	0.000497	mg/kg	09.18.14 16:22	U	1
1,2-Dichloroethane	107-06-2	<0.000410	0.00584	0.000410	mg/kg	09.18.14 16:22	U	1
1,1-Dichloroethane	75-34-3	<0.000235	0.00584	0.000235	mg/kg	09.18.14 16:22	U	1
1,2-Dibromoethane	106-93-4	<0.000494	0.00584	0.000494	mg/kg	09.18.14 16:22	U	1
trans-1,2-dichloroethene	156-60-5	<0.000341	0.00584	0.000341	mg/kg	09.18.14 16:22	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000397	0.00584	0.000397	mg/kg	09.18.14 16:22	U	1
1,1-Dichloroethene	75-35-4	<0.000277	0.00584	0.000277	mg/kg	09.18.14 16:22	U	1
2,2-Dichloropropane	594-20-7	<0.00138	0.00584	0.00138	mg/kg	09.18.14 16:22	U	1
1,3-Dichloropropane	142-28-9	<0.000292	0.00584	0.000292	mg/kg	09.18.14 16:22	U	1
1,2-Dichloropropane	78-87-5	<0.000552	0.00584	0.000552	mg/kg	09.18.14 16:22	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000354	0.00584	0.000354	mg/kg	09.18.14 16:22	U	1
1,1-Dichloropropene	563-58-6	<0.000494	0.00584	0.000494	mg/kg	09.18.14 16:22	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000499	0.00584	0.000499	mg/kg	09.18.14 16:22	U	1
Ethylbenzene	100-41-4	<0.000502	0.00584	0.000502	mg/kg	09.18.14 16:22	U	1
Hexachlorobutadiene	87-68-3	<0.00101	0.00584	0.00101	mg/kg	09.18.14 16:22	U	1
isopropylbenzene	98-82-8	<0.000195	0.00584	0.000195	mg/kg	09.18.14 16:22	U	1
Methylene Chloride	75-09-2	**0.00188**	0.0234	0.000687	mg/kg	09.18.14 16:22	BJ	1
Naphthalene	91-20-3	<0.000317	0.0117	0.000317	mg/kg	09.18.14 16:22	U	1
n-Propylbenzene	103-65-1	<0.000209	0.00584	0.000209	mg/kg	09.18.14 16:22	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-19** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493344-008 Date Collected: 09.12.14 10.30 Date Received: 09.16.14 12.25

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 14.7 Tech: MCH

Seq Number: 951027 Date Prep: 09.18.14 15.15

Prep seq: 661766

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000175	0.00584	0.000175	mg/kg	09.18.14 16:22	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000475	0.00584	0.000475	mg/kg	09.18.14 16:22	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000536	0.00584	0.000536	mg/kg	09.18.14 16:22	U	1
Tetrachloroethylene	127-18-4	<0.000299	0.00584	0.000299	mg/kg	09.18.14 16:22	U	1
Toluene	108-88-3	<0.000539	0.00584	0.000539	mg/kg	09.18.14 16:22	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000507	0.00584	0.000507	mg/kg	09.18.14 16:22	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000283	0.00584	0.000283	mg/kg	09.18.14 16:22	U	1
1,1,2-Trichloroethane	79-00-5	<0.000380	0.00584	0.000380	mg/kg	09.18.14 16:22	U	1
1,1,1-Trichloroethane	71-55-6	<0.000396	0.00584	0.000396	mg/kg	09.18.14 16:22	U	1
Trichloroethene	79-01-6	<0.000382	0.00584	0.000382	mg/kg	09.18.14 16:22	U	1
Trichlorofluoromethane	75-69-4	<0.000567	0.00584	0.000567	mg/kg	09.18.14 16:22	U	1
1,2,3-Trichloropropane	96-18-4	<0.000819	0.00584	0.000819	mg/kg	09.18.14 16:22	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000132	0.00584	0.000132	mg/kg	09.18.14 16:22	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000464	0.00584	0.000464	mg/kg	09.18.14 16:22	U	1
Vinyl Chloride	75-01-4	<0.000966	0.00234	0.000966	mg/kg	09.18.14 16:22	U	1
o-Xylene	95-47-6	<0.000325	0.00584	0.000325	mg/kg	09.18.14 16:22	U	1
m,p-Xylenes	179601-23-1	<0.000451	0.0117	0.000451	mg/kg	09.18.14 16:22	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-20** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493344-009 Date Collected: 09.12.14 10.00 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 15.75 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 12.06

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<10.7	59.2	10.7	mg/kg	09.19.14 02:18	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<10.7	59.2	10.7	mg/kg	09.19.14 02:18	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<10.7	59.2	10.7	mg/kg	09.19.14 02:18	U	1
Total TPH 1005	PHC635	<10.7		10.7	mg/kg	09.19.14 02:18	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 15.75 Tech: SAD

Seq Number: 951260 Date Prep: 09.22.14 18.00

Prep seq: 661912

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000692	0.00588	0.000692	mg/kg	09.23.14 04:16	U	1
Benzene	71-43-2	<0.000226	0.00118	0.000226	mg/kg	09.23.14 04:16	U	1
Toluene	108-88-3	<0.000152	0.00118	0.000152	mg/kg	09.23.14 04:16	U	1
Ethylbenzene	100-41-4	<0.000112	0.00118	0.000112	mg/kg	09.23.14 04:16	U	1
m,p-Xylenes	179601-23-1	<0.000425	0.00235	0.000425	mg/kg	09.23.14 04:16	U	1
o-Xylene	95-47-6	<0.000269	0.00118	0.000269	mg/kg	09.23.14 04:16	U	1
Total Xylenes	1330-20-7	<0.000269		0.000269	mg/kg	09.23.14 04:16	U	
Total BTEX		<0.000112		0.000112	mg/kg	09.23.14 04:16	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-21** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493344-010 Date Collected: 09.12.14 10.00 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 19.26 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 12.09

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<11.1	61.9	11.1	mg/kg	09.19.14 02:38	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<11.1	61.9	11.1	mg/kg	09.19.14 02:38	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<11.1	61.9	11.1	mg/kg	09.19.14 02:38	U	1
Total TPH 1005	PHC635	<11.1		11.1	mg/kg	09.19.14 02:38	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 19.26 Tech: SAD

Seq Number: 951260 Date Prep: 09.22.14 18.01

Prep seq: 661912

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000724	0.00614	0.000724	mg/kg	09.23.14 04:42	U	1
Benzene	71-43-2	<0.000236	0.00123	0.000236	mg/kg	09.23.14 04:42	U	1
Toluene	108-88-3	<0.000159	0.00123	0.000159	mg/kg	09.23.14 04:42	U	1
Ethylbenzene	100-41-4	<0.000117	0.00123	0.000117	mg/kg	09.23.14 04:42	U	1
m,p-Xylenes	179601-23-1	<0.000444	0.00246	0.000444	mg/kg	09.23.14 04:42	U	1
o-Xylene	95-47-6	<0.000282	0.00123	0.000282	mg/kg	09.23.14 04:42	U	1
Total Xylenes	1330-20-7	<0.000282		0.000282	mg/kg	09.23.14 04:42	U	
Total BTEX		<0.000117		0.000117	mg/kg	09.23.14 04:42	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-22** Matrix: Soil Sample Depth: 6 - 8 ft

Lab Sample Id: 493344-011 Date Collected: 09.12.14 10.30 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 21.24 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 12.12

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<11.4	63.4	11.4	mg/kg	09.19.14 02:57	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<11.4	63.4	11.4	mg/kg	09.19.14 02:57	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<11.4	63.4	11.4	mg/kg	09.19.14 02:57	U	1
Total TPH 1005	PHC635	<11.4		11.4	mg/kg	09.19.14 02:57	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 21.24 Tech: SAD

Seq Number: 951282 Date Prep: 09.23.14 11.40

Prep seq: 661921

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000749	0.00636	0.000749	mg/kg	09.23.14 11:59	U	1
Benzene	71-43-2	<0.000245	0.00127	0.000245	mg/kg	09.23.14 11:59	U	1
Toluene	108-88-3	<0.000165	0.00127	0.000165	mg/kg	09.23.14 11:59	U	1
Ethylbenzene	100-41-4	<0.000122	0.00127	0.000122	mg/kg	09.23.14 11:59	U	1
m,p-Xylenes	179601-23-1	<0.000460	0.00254	0.000460	mg/kg	09.23.14 11:59	U	1
o-Xylene	95-47-6	<0.000291	0.00127	0.000291	mg/kg	09.23.14 11:59	U	1
Total Xylenes	1330-20-7	<0.000291		0.000291	mg/kg	09.23.14 11:59	U	
Total BTEX		<0.000122		0.000122	mg/kg	09.23.14 11:59	U	

Sample Id: **EB-24** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: 493344-012 Date Collected: 09.12.14 11.30 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 38.82 Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 12.15

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<14.7	81.5	14.7	mg/kg	09.19.14 03:17	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<14.7	81.5	14.7	mg/kg	09.19.14 03:17	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<14.7	81.5	14.7	mg/kg	09.19.14 03:17	U	1
Total TPH 1005	PHC635	<14.7		14.7	mg/kg	09.19.14 03:17	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-24** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: 493344-012 Date Collected: 09.12.14 11.30 Date Received: 09.16.14 12.25

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 38.82 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 16.04

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000513	0.0163	0.000513	mg/kg	09.22.14 20:33	U	2
Bromobenzene	108-86-1	<0.00143	0.0163	0.00143	mg/kg	09.22.14 20:33	U	2
Bromochloromethane	74-97-5	<0.00155	0.0163	0.00155	mg/kg	09.22.14 20:33	U	2
Bromodichloromethane	75-27-4	<0.000868	0.0163	0.000868	mg/kg	09.22.14 20:33	U	2
Bromoform	75-25-2	<0.00228	0.0163	0.00228	mg/kg	09.22.14 20:33	U	2
Bromomethane	74-83-9	<0.00345	0.0163	0.00345	mg/kg	09.22.14 20:33	U	2
MTBE	1634-04-4	<0.00111	0.0163	0.00111	mg/kg	09.22.14 20:33	U	2
tert-Butylbenzene	98-06-6	<0.000675	0.0163	0.000675	mg/kg	09.22.14 20:33	U	2
Sec-Butylbenzene	135-98-8	<0.00160	0.0163	0.00160	mg/kg	09.22.14 20:33	U	2
n-Butylbenzene	104-51-8	<0.00154	0.0163	0.00154	mg/kg	09.22.14 20:33	U	2
Carbon Tetrachloride	56-23-5	<0.000764	0.0163	0.000764	mg/kg	09.22.14 20:33	U	2
Chlorobenzene	108-90-7	<0.000782	0.0163	0.000782	mg/kg	09.22.14 20:33	U	2
Chloroethane	75-00-3	<0.00179	0.0327	0.00179	mg/kg	09.22.14 20:33	U	2
Chloroform	67-66-3	<0.000956	0.0163	0.000956	mg/kg	09.22.14 20:33	U	2
Chloromethane	74-87-3	<0.000976	0.0327	0.000976	mg/kg	09.22.14 20:33	U	2
2-Chlorotoluene	95-49-8	<0.00128	0.0163	0.00128	mg/kg	09.22.14 20:33	U	2
4-Chlorotoluene	106-43-4	<0.00144	0.0163	0.00144	mg/kg	09.22.14 20:33	U	2
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.00137	0.0163	0.00137	mg/kg	09.22.14 20:33	U	2
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00507	0.0163	0.00507	mg/kg	09.22.14 20:33	U	2
Dibromochloromethane	124-48-1	<0.00155	0.0163	0.00155	mg/kg	09.22.14 20:33	U	2
Dibromomethane	74-95-3	<0.00115	0.0163	0.00115	mg/kg	09.22.14 20:33	U	2
1,2-Dichlorobenzene	95-50-1	<0.00141	0.0163	0.00141	mg/kg	09.22.14 20:33	U	2
1,3-Dichlorobenzene	541-73-1	<0.00121	0.0163	0.00121	mg/kg	09.22.14 20:33	U	2
1,4-Dichlorobenzene	106-46-7	<0.000777	0.0163	0.000777	mg/kg	09.22.14 20:33	U	2
Dichlorodifluoromethane	75-71-8	<0.00139	0.0163	0.00139	mg/kg	09.22.14 20:33	U	2
1,2-Dichloroethane	107-06-2	<0.00115	0.0163	0.00115	mg/kg	09.22.14 20:33	U	2
1,1-Dichloroethane	75-34-3	<0.000657	0.0163	0.000657	mg/kg	09.22.14 20:33	U	2
1,2-Dibromoethane	106-93-4	<0.00138	0.0163	0.00138	mg/kg	09.22.14 20:33	U	2
trans-1,2-dichloroethene	156-60-5	<0.000956	0.0163	0.000956	mg/kg	09.22.14 20:33	U	2
cis-1,2-Dichloroethene	156-59-2	<0.00111	0.0163	0.00111	mg/kg	09.22.14 20:33	U	2
1,1-Dichloroethene	75-35-4	<0.000775	0.0163	0.000775	mg/kg	09.22.14 20:33	U	2
2,2-Dichloropropane	594-20-7	<0.00387	0.0163	0.00387	mg/kg	09.22.14 20:33	U	2
1,3-Dichloropropane	142-28-9	<0.000817	0.0163	0.000817	mg/kg	09.22.14 20:33	U	2
1,2-Dichloropropane	78-87-5	<0.00154	0.0163	0.00154	mg/kg	09.22.14 20:33	U	2
trans-1,3-dichloropropene	10061-02-6	<0.000992	0.0163	0.000992	mg/kg	09.22.14 20:33	U	2
1,1-Dichloropropene	563-58-6	<0.00138	0.0163	0.00138	mg/kg	09.22.14 20:33	U	2
cis-1,3-Dichloropropene	10061-01-5	<0.00140	0.0163	0.00140	mg/kg	09.22.14 20:33	U	2
Ethylbenzene	100-41-4	<0.00140	0.0163	0.00140	mg/kg	09.22.14 20:33	U	2
Hexachlorobutadiene	87-68-3	<0.00282	0.0163	0.00282	mg/kg	09.22.14 20:33	U	2
isopropylbenzene	98-82-8	<0.000547	0.0163	0.000547	mg/kg	09.22.14 20:33	U	2
Methylene Chloride	75-09-2	**0.00673**	0.0654	0.00192	mg/kg	09.22.14 20:33	J	2
Naphthalene	91-20-3	**0.00147**	0.0327	0.000887	mg/kg	09.22.14 20:33	J	2
n-Propylbenzene	103-65-1	<0.000586	0.0163	0.000586	mg/kg	09.22.14 20:33	U	2

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-24** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: 493344-012 Date Collected: 09.12.14 11.30 Date Received: 09.16.14 12.25

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 38.82 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 16.04

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000491	0.0163	0.000491	mg/kg	09.22.14 20:33	U	2
1,1,1,2-Tetrachloroethane	630-20-6	<0.00133	0.0163	0.00133	mg/kg	09.22.14 20:33	U	2
1,1,2,2-Tetrachloroethane	79-34-5	<0.00150	0.0163	0.00150	mg/kg	09.22.14 20:33	U	2
Tetrachloroethylene	127-18-4	<0.000837	0.0163	0.000837	mg/kg	09.22.14 20:33	U	2
Toluene	108-88-3	**0.00196**	0.0163	0.00151	mg/kg	09.22.14 20:33	J	2
1,2,4-Trichlorobenzene	120-82-1	<0.00142	0.0163	0.00142	mg/kg	09.22.14 20:33	U	2
1,2,3-Trichlorobenzene	87-61-6	<0.000793	0.0163	0.000793	mg/kg	09.22.14 20:33	U	2
1,1,2-Trichloroethane	79-00-5	<0.00106	0.0163	0.00106	mg/kg	09.22.14 20:33	U	2
1,1,1-Trichloroethane	71-55-6	<0.00111	0.0163	0.00111	mg/kg	09.22.14 20:33	U	2
Trichloroethene	79-01-6	<0.00107	0.0163	0.00107	mg/kg	09.22.14 20:33	U	2
Trichlorofluoromethane	75-69-4	<0.00159	0.0163	0.00159	mg/kg	09.22.14 20:33	U	2
1,2,3-Trichloropropane	96-18-4	<0.00229	0.0163	0.00229	mg/kg	09.22.14 20:33	U	2
1,2,4-Trimethylbenzene	95-63-6	<0.000369	0.0163	0.000369	mg/kg	09.22.14 20:33	U	2
1,3,5-trimethylbenzene	108-67-8	<0.00130	0.0163	0.00130	mg/kg	09.22.14 20:33	U	2
Vinyl Chloride	75-01-4	<0.00270	0.00654	0.00270	mg/kg	09.22.14 20:33	U	2
o-Xylene	95-47-6	<0.000911	0.0163	0.000911	mg/kg	09.22.14 20:33	U	2
m,p-Xylenes	179601-23-1	**0.00186**	0.0327	0.00126	mg/kg	09.22.14 20:33	J	2

Sample Id: **EB-6** Matrix: Water Sample Depth:

Lab Sample Id: 493344-013 Date Collected: 09.12.14 11.00 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 950868 Date Prep: 09.17.14 09.58

Prep seq: 661610

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<0.906	5.04	0.906	mg/L	09.17.14 15:49	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<0.906	5.04	0.906	mg/L	09.17.14 15:49	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<0.906	5.04	0.906	mg/L	09.17.14 15:49	U	1
Total TPH 1005	PHC635	<0.906		0.906	mg/L	09.17.14 15:49	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB-9** Matrix: Water Sample Depth:

Lab Sample Id: 493344-014 Date Collected: 09.12.14 11.30 Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 950868 Date Prep: 09.17.14 10.01

Prep seq: 661610

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<0.925	5.14	0.925	mg/L	09.17.14 16:08	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<0.925	5.14	0.925	mg/L	09.17.14 16:08	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<0.925	5.14	0.925	mg/L	09.17.14 16:08	U	1
Total TPH 1005	PHC635	<0.925		0.925	mg/L	09.17.14 16:08	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB1** | Matrix: Soil | Sample Depth: 8 - 10 ft

Lab Sample Id: 493661-001 | Date Collected: 09.16.14 15.45 | Date Received: 09.19.14 14.05

Analytical Method: SVOCs by EPA 8270C | Prep Method: 3550B

Analyst: PKH | % Moist: 14.14 | Tech: PKH

Seq Number: 951234 | Date Prep: 09.20.14 09.00

Prep seq: 661716

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.0181	0.194	0.0181	mg/kg	09.24.14 12:33	U	1
Acenaphthylene	208-96-8	<0.0172	0.194	0.0172	mg/kg	09.24.14 12:33	U	1
Aniline (Phenylamine, Aminobenzene)	62-53-3	<0.0159	0.388	0.0159	mg/kg	09.24.14 12:33	U	1
Anthracene	120-12-7	<0.0161	0.194	0.0161	mg/kg	09.24.14 12:33	U	1
Benzo(a)anthracene	56-55-3	<0.0164	0.194	0.0164	mg/kg	09.24.14 12:33	U	1
Benzo(a)pyrene	50-32-8	<0.0200	0.194	0.0200	mg/kg	09.24.14 12:33	U	1
Benzo(b)fluoranthene	205-99-2	<0.0146	0.194	0.0146	mg/kg	09.24.14 12:33	U	1
Benzo(g,h,i)perylene	191-24-2	<0.0179	0.194	0.0179	mg/kg	09.24.14 12:33	U	1
Benzo(k)fluoranthene	207-08-9	<0.0225	0.194	0.0225	mg/kg	09.24.14 12:33	U	1
Benzoic Acid	65-85-0	<0.0251	1.16	0.0251	mg/kg	09.24.14 12:33	U	1
Benzyl Butyl Phthalate	85-68-7	<0.0211	0.194	0.0211	mg/kg	09.24.14 12:33	U	1
bis(2-chloroethoxy) methane	111-91-1	<0.0196	0.194	0.0196	mg/kg	09.24.14 12:33	U	1
bis(2-chloroethyl) ether	111-44-4	<0.0177	0.194	0.0177	mg/kg	09.24.14 12:33	U	1
bis(2-chloroisopropyl) ether	39638-32-9	<0.0207	0.194	0.0207	mg/kg	09.24.14 12:33	U	1
bis(2-ethylhexyl) phthalate	117-81-7	**0.0613**	0.194	0.0172	mg/kg	09.24.14 12:33	J	1
4-Bromophenyl-phenylether	101-55-3	<0.0154	0.194	0.0154	mg/kg	09.24.14 12:33	U	1
di-n-Butyl Phthalate	84-74-2	<0.0187	0.194	0.0187	mg/kg	09.24.14 12:33	U	1
4-chloro-3-methylphenol	59-50-7	<0.0214	0.194	0.0214	mg/kg	09.24.14 12:33	U	1
4-Chloroaniline	106-47-8	<0.0147	0.388	0.0147	mg/kg	09.24.14 12:33	U	1
2-Chloronaphthalene	91-58-7	<0.0338	0.194	0.0338	mg/kg	09.24.14 12:33	U	1
2-Chlorophenol	95-57-8	<0.0184	0.194	0.0184	mg/kg	09.24.14 12:33	U	1
4-Chlorophenyl Phenyl Ether	7005-72-3	<0.0188	0.194	0.0188	mg/kg	09.24.14 12:33	U	1
Chrysene	218-01-9	<0.0192	0.194	0.0192	mg/kg	09.24.14 12:33	U	1
Dibenz(a,h)Anthracene	53-70-3	<0.0148	0.194	0.0148	mg/kg	09.24.14 12:33	U	1
Dibenzofuran	132-64-9	<0.0180	0.194	0.0180	mg/kg	09.24.14 12:33	U	1
1,2-Dichlorobenzene	95-50-1	<0.0179	0.194	0.0179	mg/kg	09.24.14 12:33	U	1
1,3-Dichlorobenzene	541-73-1	<0.0162	0.194	0.0162	mg/kg	09.24.14 12:33	U	1
1,4-Dichlorobenzene	106-46-7	<0.0174	0.194	0.0174	mg/kg	09.24.14 12:33	U	1
3,3-Dichlorobenzidine	91-94-1	<0.0179	0.388	0.0179	mg/kg	09.24.14 12:33	U	1
2,4-Dichlorophenol	120-83-2	<0.0203	0.194	0.0203	mg/kg	09.24.14 12:33	U	1
Diethyl Phthalate	84-66-2	<0.0178	0.194	0.0178	mg/kg	09.24.14 12:33	U	1
Dimethyl Phthalate	131-11-3	<0.0185	0.194	0.0185	mg/kg	09.24.14 12:33	U	1
2,4-Dimethylphenol	105-67-9	<0.0192	0.194	0.0192	mg/kg	09.24.14 12:33	U	1
4,6-dinitro-2-methyl phenol	534-52-1	<0.0148	0.388	0.0148	mg/kg	09.24.14 12:33	U	1
2,4-Dinitrophenol	51-28-5	<0.0282	0.388	0.0282	mg/kg	09.24.14 12:33	U	1
2,4-Dinitrotoluene	121-14-2	<0.0148	0.194	0.0148	mg/kg	09.24.14 12:33	U	1
2,6-Dinitrotoluene	606-20-2	<0.0271	0.194	0.0271	mg/kg	09.24.14 12:33	U	1
Fluoranthene	206-44-0	<0.0171	0.194	0.0171	mg/kg	09.24.14 12:33	U	1
Fluorene	86-73-7	<0.0161	0.194	0.0161	mg/kg	09.24.14 12:33	U	1
Hexachlorobenzene	118-74-1	<0.0189	0.194	0.0189	mg/kg	09.24.14 12:33	U	1
Hexachlorobutadiene	87-68-3	<0.0161	0.194	0.0161	mg/kg	09.24.14 12:33	U	1
Hexachlorocyclopentadiene	77-47-4	<0.0177	0.194	0.0177	mg/kg	09.24.14 12:33	U	1
Hexachloroethane	67-72-1	<0.0201	0.194	0.0201	mg/kg	09.24.14 12:33	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB1** | Matrix: Soil | Sample Depth: 8 - 10 ft

Lab Sample Id: 493661-001 | Date Collected: 09.16.14 15.45 | Date Received: 09.19.14 14.05

Analytical Method: SVOCs by EPA 8270C | Prep Method: 3550B

Analyst: PKH | % Moist: 14.14 | Tech: PKH

Seq Number: 951234 | Date Prep: 09.20.14 09.00

Prep seq: 661716

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.0156	0.194	0.0156	mg/kg	09.24.14 12:33	U	1
Isophorone	78-59-1	<0.0169	0.194	0.0169	mg/kg	09.24.14 12:33	U	1
2-Methylnaphthalene	91-57-6	<0.0526	0.194	0.0526	mg/kg	09.24.14 12:33	U	1
2-methylphenol	95-48-7	<0.0216	0.194	0.0216	mg/kg	09.24.14 12:33	U	1
3&4-Methylphenol	15831-10-4	<0.0179	0.194	0.0179	mg/kg	09.24.14 12:33	U	1
Naphthalene	91-20-3	<0.0182	0.194	0.0182	mg/kg	09.24.14 12:33	U	1
4-Nitroaniline	100-01-6	<0.0161	0.388	0.0161	mg/kg	09.24.14 12:33	U	1
3-Nitroaniline	99-09-2	<0.0162	0.388	0.0162	mg/kg	09.24.14 12:33	U	1
2-Nitroaniline	88-74-4	<0.0182	0.388	0.0182	mg/kg	09.24.14 12:33	U	1
Nitrobenzene	98-95-3	<0.0215	0.194	0.0215	mg/kg	09.24.14 12:33	U	1
2-Nitrophenol	88-75-5	<0.0171	0.194	0.0171	mg/kg	09.24.14 12:33	U	1
4-Nitrophenol	100-02-7	<0.0301	0.388	0.0301	mg/kg	09.24.14 12:33	U	1
N-Nitrosodi-n-Propylamine	621-64-7	<0.0202	0.194	0.0202	mg/kg	09.24.14 12:33	U	1
N-Nitrosodiphenylamine	86-30-6	<0.0217	0.194	0.0217	mg/kg	09.24.14 12:33	U	1
di-n-Octyl Phthalate	117-84-0	<0.0155	0.194	0.0155	mg/kg	09.24.14 12:33	U	1
Pentachlorophenol	87-86-5	<0.0141	0.388	0.0141	mg/kg	09.24.14 12:33	U	1
Phenanthrene	85-01-8	<0.0193	0.194	0.0193	mg/kg	09.24.14 12:33	U	1
Phenol	108-95-2	<0.0174	0.388	0.0174	mg/kg	09.24.14 12:33	U	1
Pyrene	129-00-0	<0.0170	0.194	0.0170	mg/kg	09.24.14 12:33	U	1
Pyridine	110-86-1	<0.0195	0.388	0.0195	mg/kg	09.24.14 12:33	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.0169	0.194	0.0169	mg/kg	09.24.14 12:33	U	1
2,4,6-Trichlorophenol	88-06-2	<0.0183	0.194	0.0183	mg/kg	09.24.14 12:33	U	1
2,4,5-Trichlorophenol	95-95-4	<0.0222	0.194	0.0222	mg/kg	09.24.14 12:33	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB1** Matrix: Soil Sample Depth: 8 - 10 ft

Lab Sample Id: 493661-001 Date Collected: 09.16.14 15.45 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 14.14 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 13.00

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000183	0.00585	0.000183	mg/kg	09.22.14 14:23	U	1
Bromobenzene	108-86-1	<0.000512	0.00585	0.000512	mg/kg	09.22.14 14:23	U	1
Bromochloromethane	74-97-5	<0.000556	0.00585	0.000556	mg/kg	09.22.14 14:23	U	1
Bromodichloromethane	75-27-4	<0.000310	0.00585	0.000310	mg/kg	09.22.14 14:23	U	1
Bromoform	75-25-2	<0.000817	0.00585	0.000817	mg/kg	09.22.14 14:23	U	1
Bromomethane	74-83-9	<0.00124	0.00585	0.00124	mg/kg	09.22.14 14:23	U	1
MTBE	1634-04-4	<0.000398	0.00585	0.000398	mg/kg	09.22.14 14:23	U	1
tert-Butylbenzene	98-06-6	<0.000241	0.00585	0.000241	mg/kg	09.22.14 14:23	U	1
Sec-Butylbenzene	135-98-8	<0.000573	0.00585	0.000573	mg/kg	09.22.14 14:23	U	1
n-Butylbenzene	104-51-8	<0.000549	0.00585	0.000549	mg/kg	09.22.14 14:23	U	1
Carbon Tetrachloride	56-23-5	<0.000273	0.00585	0.000273	mg/kg	09.22.14 14:23	U	1
Chlorobenzene	108-90-7	<0.000280	0.00585	0.000280	mg/kg	09.22.14 14:23	U	1
Chloroethane	75-00-3	<0.000642	0.0117	0.000642	mg/kg	09.22.14 14:23	U	1
Chloroform	67-66-3	<0.000342	0.00585	0.000342	mg/kg	09.22.14 14:23	U	1
Chloromethane	74-87-3	<0.000349	0.0117	0.000349	mg/kg	09.22.14 14:23	U	1
2-Chlorotoluene	95-49-8	<0.000459	0.00585	0.000459	mg/kg	09.22.14 14:23	U	1
4-Chlorotoluene	106-43-4	<0.000514	0.00585	0.000514	mg/kg	09.22.14 14:23	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000492	0.00585	0.000492	mg/kg	09.22.14 14:23	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00181	0.00585	0.00181	mg/kg	09.22.14 14:23	U	1
Dibromochloromethane	124-48-1	<0.000553	0.00585	0.000553	mg/kg	09.22.14 14:23	U	1
Dibromomethane	74-95-3	<0.000412	0.00585	0.000412	mg/kg	09.22.14 14:23	U	1
1,2-Dichlorobenzene	95-50-1	<0.000504	0.00585	0.000504	mg/kg	09.22.14 14:23	U	1
1,3-Dichlorobenzene	541-73-1	<0.000434	0.00585	0.000434	mg/kg	09.22.14 14:23	U	1
1,4-Dichlorobenzene	106-46-7	<0.000278	0.00585	0.000278	mg/kg	09.22.14 14:23	U	1
Dichlorodifluoromethane	75-71-8	<0.000498	0.00585	0.000498	mg/kg	09.22.14 14:23	U	1
1,2-Dichloroethane	107-06-2	<0.000410	0.00585	0.000410	mg/kg	09.22.14 14:23	U	1
1,1-Dichloroethane	75-34-3	<0.000235	0.00585	0.000235	mg/kg	09.22.14 14:23	U	1
1,2-Dibromoethane	106-93-4	<0.000495	0.00585	0.000495	mg/kg	09.22.14 14:23	U	1
trans-1,2-dichloroethene	156-60-5	<0.000342	0.00585	0.000342	mg/kg	09.22.14 14:23	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000398	0.00585	0.000398	mg/kg	09.22.14 14:23	U	1
1,1-Dichloroethene	75-35-4	<0.000277	0.00585	0.000277	mg/kg	09.22.14 14:23	U	1
2,2-Dichloropropane	594-20-7	<0.00138	0.00585	0.00138	mg/kg	09.22.14 14:23	U	1
1,3-Dichloropropane	142-28-9	<0.000292	0.00585	0.000292	mg/kg	09.22.14 14:23	U	1
1,2-Dichloropropane	78-87-5	<0.000553	0.00585	0.000553	mg/kg	09.22.14 14:23	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000355	0.00585	0.000355	mg/kg	09.22.14 14:23	U	1
1,1-Dichloropropene	563-58-6	<0.000495	0.00585	0.000495	mg/kg	09.22.14 14:23	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000500	0.00585	0.000500	mg/kg	09.22.14 14:23	U	1
Ethylbenzene	100-41-4	<0.000502	0.00585	0.000502	mg/kg	09.22.14 14:23	U	1
Hexachlorobutadiene	87-68-3	<0.00101	0.00585	0.00101	mg/kg	09.22.14 14:23	U	1
isopropylbenzene	98-82-8	<0.000196	0.00585	0.000196	mg/kg	09.22.14 14:23	U	1
Methylene Chloride	75-09-2	**0.00137**	0.0234	0.000688	mg/kg	09.22.14 14:23	BJ	1
Naphthalene	91-20-3	<0.000317	0.0117	0.000317	mg/kg	09.22.14 14:23	U	1
n-Propylbenzene	103-65-1	<0.000209	0.00585	0.000209	mg/kg	09.22.14 14:23	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB1** Matrix: Soil Sample Depth: 8 - 10 ft

Lab Sample Id: 493661-001 Date Collected: 09.16.14 15.45 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 14.14 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 13.00

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000176	0.00585	0.000176	mg/kg	09.22.14 14:23	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000476	0.00585	0.000476	mg/kg	09.22.14 14:23	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000536	0.00585	0.000536	mg/kg	09.22.14 14:23	U	1
Tetrachloroethylene	127-18-4	<0.000299	0.00585	0.000299	mg/kg	09.22.14 14:23	U	1
Toluene	108-88-3	<0.000540	0.00585	0.000540	mg/kg	09.22.14 14:23	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000507	0.00585	0.000507	mg/kg	09.22.14 14:23	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000284	0.00585	0.000284	mg/kg	09.22.14 14:23	U	1
1,1,2-Trichloroethane	79-00-5	<0.000381	0.00585	0.000381	mg/kg	09.22.14 14:23	U	1
1,1,1-Trichloroethane	71-55-6	<0.000396	0.00585	0.000396	mg/kg	09.22.14 14:23	U	1
Trichloroethene	79-01-6	<0.000382	0.00585	0.000382	mg/kg	09.22.14 14:23	U	1
Trichlorofluoromethane	75-69-4	<0.000568	0.00585	0.000568	mg/kg	09.22.14 14:23	U	1
1,2,3-Trichloropropane	96-18-4	<0.000820	0.00585	0.000820	mg/kg	09.22.14 14:23	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000132	0.00585	0.000132	mg/kg	09.22.14 14:23	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000465	0.00585	0.000465	mg/kg	09.22.14 14:23	U	1
Vinyl Chloride	75-01-4	<0.000967	0.00234	0.000967	mg/kg	09.22.14 14:23	U	1
o-Xylene	95-47-6	<0.000326	0.00585	0.000326	mg/kg	09.22.14 14:23	U	1
m,p-Xylenes	179601-23-1	<0.000452	0.0117	0.000452	mg/kg	09.22.14 14:23	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB2** | Matrix: Soil | Sample Depth: 4 - 6 ft

Lab Sample Id: 493661-002 | Date Collected: 09.16.14 16.30 | Date Received: 09.19.14 14.05

Analytical Method: SVOCs by EPA 8270C | Prep Method: 3550B

Analyst: PKH | % Moist: 21.39 | Tech: PKH

Seq Number: 951234 | Date Prep: 09.20.14 09.03

Prep seq: 661716

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.0197	0.212	0.0197	mg/kg	09.24.14 12:58	U	1
Acenaphthylene	208-96-8	<0.0188	0.212	0.0188	mg/kg	09.24.14 12:58	U	1
Aniline (Phenylamine, Aminobenzene)	62-53-3	<0.0173	0.424	0.0173	mg/kg	09.24.14 12:58	U	1
Anthracene	120-12-7	<0.0176	0.212	0.0176	mg/kg	09.24.14 12:58	U	1
Benzo(a)anthracene	56-55-3	<0.0179	0.212	0.0179	mg/kg	09.24.14 12:58	U	1
Benzo(a)pyrene	50-32-8	<0.0219	0.212	0.0219	mg/kg	09.24.14 12:58	U	1
Benzo(b)fluoranthene	205-99-2	<0.0160	0.212	0.0160	mg/kg	09.24.14 12:58	U	1
Benzo(g,h,i)perylene	191-24-2	<0.0195	0.212	0.0195	mg/kg	09.24.14 12:58	U	1
Benzo(k)fluoranthene	207-08-9	<0.0246	0.212	0.0246	mg/kg	09.24.14 12:58	U	1
Benzoic Acid	65-85-0	<0.0274	1.27	0.0274	mg/kg	09.24.14 12:58	U	1
Benzyl Butyl Phthalate	85-68-7	<0.0231	0.212	0.0231	mg/kg	09.24.14 12:58	U	1
bis(2-chloroethoxy) methane	111-91-1	<0.0214	0.212	0.0214	mg/kg	09.24.14 12:58	U	1
bis(2-chloroethyl) ether	111-44-4	<0.0193	0.212	0.0193	mg/kg	09.24.14 12:58	U	1
bis(2-chloroisopropyl) ether	39638-32-9	<0.0226	0.212	0.0226	mg/kg	09.24.14 12:58	U	1
bis(2-ethylhexyl) phthalate	117-81-7	**0.0775**	0.212	0.0188	mg/kg	09.24.14 12:58	J	1
4-Bromophenyl-phenylether	101-55-3	<0.0169	0.212	0.0169	mg/kg	09.24.14 12:58	U	1
di-n-Butyl Phthalate	84-74-2	<0.0204	0.212	0.0204	mg/kg	09.24.14 12:58	U	1
4-chloro-3-methylphenol	59-50-7	<0.0234	0.212	0.0234	mg/kg	09.24.14 12:58	U	1
4-Chloroaniline	106-47-8	<0.0161	0.424	0.0161	mg/kg	09.24.14 12:58	U	1
2-Chloronaphthalene	91-58-7	<0.0369	0.212	0.0369	mg/kg	09.24.14 12:58	U	1
2-Chlorophenol	95-57-8	<0.0201	0.212	0.0201	mg/kg	09.24.14 12:58	U	1
4-Chlorophenyl Phenyl Ether	7005-72-3	<0.0206	0.212	0.0206	mg/kg	09.24.14 12:58	U	1
Chrysene	218-01-9	<0.0210	0.212	0.0210	mg/kg	09.24.14 12:58	U	1
Dibenz(a,h)Anthracene	53-70-3	<0.0161	0.212	0.0161	mg/kg	09.24.14 12:58	U	1
Dibenzofuran	132-64-9	<0.0196	0.212	0.0196	mg/kg	09.24.14 12:58	U	1
1,2-Dichlorobenzene	95-50-1	<0.0195	0.212	0.0195	mg/kg	09.24.14 12:58	U	1
1,3-Dichlorobenzene	541-73-1	<0.0176	0.212	0.0176	mg/kg	09.24.14 12:58	U	1
1,4-Dichlorobenzene	106-46-7	<0.0190	0.212	0.0190	mg/kg	09.24.14 12:58	U	1
3,3-Dichlorobenzidine	91-94-1	<0.0196	0.424	0.0196	mg/kg	09.24.14 12:58	U	1
2,4-Dichlorophenol	120-83-2	<0.0222	0.212	0.0222	mg/kg	09.24.14 12:58	U	1
Diethyl Phthalate	84-66-2	<0.0194	0.212	0.0194	mg/kg	09.24.14 12:58	U	1
Dimethyl Phthalate	131-11-3	<0.0202	0.212	0.0202	mg/kg	09.24.14 12:58	U	1
2,4-Dimethylphenol	105-67-9	<0.0209	0.212	0.0209	mg/kg	09.24.14 12:58	U	1
4,6-dinitro-2-methyl phenol	534-52-1	<0.0162	0.424	0.0162	mg/kg	09.24.14 12:58	U	1
2,4-Dinitrophenol	51-28-5	<0.0308	0.424	0.0308	mg/kg	09.24.14 12:58	U	1
2,4-Dinitrotoluene	121-14-2	<0.0162	0.212	0.0162	mg/kg	09.24.14 12:58	U	1
2,6-Dinitrotoluene	606-20-2	<0.0296	0.212	0.0296	mg/kg	09.24.14 12:58	U	1
Fluoranthene	206-44-0	<0.0187	0.212	0.0187	mg/kg	09.24.14 12:58	U	1
Fluorene	86-73-7	<0.0176	0.212	0.0176	mg/kg	09.24.14 12:58	U	1
Hexachlorobenzene	118-74-1	<0.0206	0.212	0.0206	mg/kg	09.24.14 12:58	U	1
Hexachlorobutadiene	87-68-3	<0.0176	0.212	0.0176	mg/kg	09.24.14 12:58	U	1
Hexachlorocyclopentadiene	77-47-4	<0.0193	0.212	0.0193	mg/kg	09.24.14 12:58	U	1
Hexachloroethane	67-72-1	<0.0220	0.212	0.0220	mg/kg	09.24.14 12:58	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB2** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: 493661-002 Date Collected: 09.16.14 16.30 Date Received: 09.19.14 14.05

Analytical Method: SVOCs by EPA 8270C Prep Method: 3550B

Analyst: PKH % Moist: 21.39 Tech: PKH

Seq Number: 951234 Date Prep: 09.20.14 09.03

Prep seq: 661716

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.0171	0.212	0.0171	mg/kg	09.24.14 12:58	U	1
Isophorone	78-59-1	<0.0184	0.212	0.0184	mg/kg	09.24.14 12:58	U	1
2-Methylnaphthalene	91-57-6	<0.0574	0.212	0.0574	mg/kg	09.24.14 12:58	U	1
2-methylphenol	95-48-7	<0.0236	0.212	0.0236	mg/kg	09.24.14 12:58	U	1
3&4-Methylphenol	15831-10-4	<0.0196	0.212	0.0196	mg/kg	09.24.14 12:58	U	1
Naphthalene	91-20-3	<0.0199	0.212	0.0199	mg/kg	09.24.14 12:58	U	1
4-Nitroaniline	100-01-6	<0.0176	0.424	0.0176	mg/kg	09.24.14 12:58	U	1
3-Nitroaniline	99-09-2	<0.0177	0.424	0.0177	mg/kg	09.24.14 12:58	U	1
2-Nitroaniline	88-74-4	<0.0198	0.424	0.0198	mg/kg	09.24.14 12:58	U	1
Nitrobenzene	98-95-3	<0.0235	0.212	0.0235	mg/kg	09.24.14 12:58	U	1
2-Nitrophenol	88-75-5	<0.0186	0.212	0.0186	mg/kg	09.24.14 12:58	U	1
4-Nitrophenol	100-02-7	<0.0329	0.424	0.0329	mg/kg	09.24.14 12:58	U	1
N-Nitrosodi-n-Propylamine	621-64-7	<0.0221	0.212	0.0221	mg/kg	09.24.14 12:58	U	1
N-Nitrosodiphenylamine	86-30-6	<0.0237	0.212	0.0237	mg/kg	09.24.14 12:58	U	1
di-n-Octyl Phthalate	117-84-0	<0.0169	0.212	0.0169	mg/kg	09.24.14 12:58	U	1
Pentachlorophenol	87-86-5	<0.0154	0.424	0.0154	mg/kg	09.24.14 12:58	U	1
Phenanthrene	85-01-8	<0.0211	0.212	0.0211	mg/kg	09.24.14 12:58	U	1
Phenol	108-95-2	<0.0190	0.424	0.0190	mg/kg	09.24.14 12:58	U	1
Pyrene	129-00-0	<0.0186	0.212	0.0186	mg/kg	09.24.14 12:58	U	1
Pyridine	110-86-1	<0.0213	0.424	0.0213	mg/kg	09.24.14 12:58	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.0185	0.212	0.0185	mg/kg	09.24.14 12:58	U	1
2,4,6-Trichlorophenol	88-06-2	<0.0200	0.212	0.0200	mg/kg	09.24.14 12:58	U	1
2,4,5-Trichlorophenol	95-95-4	<0.0242	0.212	0.0242	mg/kg	09.24.14 12:58	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB2** | Matrix: Soil | Sample Depth: 4 - 6 ft

Lab Sample Id: 493661-002 | Date Collected: 09.16.14 16.30 | Date Received: 09.19.14 14.05

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

Analyst: MCH | % Moist: 21.39 | Tech: MCH

Seq Number: 951236 | Date Prep: 09.22.14 13.01

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000200	0.00639	0.000200	mg/kg	09.22.14 14:54	U	1
Bromobenzene	108-86-1	<0.000560	0.00639	0.000560	mg/kg	09.22.14 14:54	U	1
Bromochloromethane	74-97-5	<0.000607	0.00639	0.000607	mg/kg	09.22.14 14:54	U	1
Bromodichloromethane	75-27-4	<0.000339	0.00639	0.000339	mg/kg	09.22.14 14:54	U	1
Bromoform	75-25-2	<0.000892	0.00639	0.000892	mg/kg	09.22.14 14:54	U	1
Bromomethane	74-83-9	<0.00135	0.00639	0.00135	mg/kg	09.22.14 14:54	U	1
MTBE	1634-04-4	<0.000434	0.00639	0.000434	mg/kg	09.22.14 14:54	U	1
tert-Butylbenzene	98-06-6	<0.000264	0.00639	0.000264	mg/kg	09.22.14 14:54	U	1
Sec-Butylbenzene	135-98-8	<0.000626	0.00639	0.000626	mg/kg	09.22.14 14:54	U	1
n-Butylbenzene	104-51-8	<0.000600	0.00639	0.000600	mg/kg	09.22.14 14:54	U	1
Carbon Tetrachloride	56-23-5	<0.000298	0.00639	0.000298	mg/kg	09.22.14 14:54	U	1
Chlorobenzene	108-90-7	<0.000305	0.00639	0.000305	mg/kg	09.22.14 14:54	U	1
Chloroethane	75-00-3	<0.000701	0.0128	0.000701	mg/kg	09.22.14 14:54	U	1
Chloroform	67-66-3	<0.000373	0.00639	0.000373	mg/kg	09.22.14 14:54	U	1
Chloromethane	74-87-3	<0.000381	0.0128	0.000381	mg/kg	09.22.14 14:54	U	1
2-Chlorotoluene	95-49-8	<0.000501	0.00639	0.000501	mg/kg	09.22.14 14:54	U	1
4-Chlorotoluene	106-43-4	<0.000561	0.00639	0.000561	mg/kg	09.22.14 14:54	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000537	0.00639	0.000537	mg/kg	09.22.14 14:54	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00198	0.00639	0.00198	mg/kg	09.22.14 14:54	U	1
Dibromochloromethane	124-48-1	<0.000604	0.00639	0.000604	mg/kg	09.22.14 14:54	U	1
Dibromomethane	74-95-3	<0.000450	0.00639	0.000450	mg/kg	09.22.14 14:54	U	1
1,2-Dichlorobenzene	95-50-1	<0.000550	0.00639	0.000550	mg/kg	09.22.14 14:54	U	1
1,3-Dichlorobenzene	541-73-1	<0.000474	0.00639	0.000474	mg/kg	09.22.14 14:54	U	1
1,4-Dichlorobenzene	106-46-7	<0.000303	0.00639	0.000303	mg/kg	09.22.14 14:54	U	1
Dichlorodifluoromethane	75-71-8	<0.000544	0.00639	0.000544	mg/kg	09.22.14 14:54	U	1
1,2-Dichloroethane	107-06-2	<0.000448	0.00639	0.000448	mg/kg	09.22.14 14:54	U	1
1,1-Dichloroethane	75-34-3	<0.000257	0.00639	0.000257	mg/kg	09.22.14 14:54	U	1
1,2-Dibromoethane	106-93-4	<0.000541	0.00639	0.000541	mg/kg	09.22.14 14:54	U	1
trans-1,2-dichloroethene	156-60-5	<0.000373	0.00639	0.000373	mg/kg	09.22.14 14:54	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000434	0.00639	0.000434	mg/kg	09.22.14 14:54	U	1
1,1-Dichloroethene	75-35-4	<0.000303	0.00639	0.000303	mg/kg	09.22.14 14:54	U	1
2,2-Dichloropropane	594-20-7	<0.00151	0.00639	0.00151	mg/kg	09.22.14 14:54	U	1
1,3-Dichloropropane	142-28-9	<0.000319	0.00639	0.000319	mg/kg	09.22.14 14:54	U	1
1,2-Dichloropropane	78-87-5	<0.000603	0.00639	0.000603	mg/kg	09.22.14 14:54	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000388	0.00639	0.000388	mg/kg	09.22.14 14:54	U	1
1,1-Dichloropropene	563-58-6	<0.000540	0.00639	0.000540	mg/kg	09.22.14 14:54	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000546	0.00639	0.000546	mg/kg	09.22.14 14:54	U	1
Ethylbenzene	100-41-4	<0.000549	0.00639	0.000549	mg/kg	09.22.14 14:54	U	1
Hexachlorobutadiene	87-68-3	<0.00110	0.00639	0.00110	mg/kg	09.22.14 14:54	U	1
isopropylbenzene	98-82-8	<0.000214	0.00639	0.000214	mg/kg	09.22.14 14:54	U	1
Methylene Chloride	75-09-2	**0.00124**	0.0255	0.000752	mg/kg	09.22.14 14:54	BJ	1
Naphthalene	91-20-3	<0.000346	0.0128	0.000346	mg/kg	09.22.14 14:54	U	1
n-Propylbenzene	103-65-1	<0.000229	0.00639	0.000229	mg/kg	09.22.14 14:54	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB2** | Matrix: Soil | Sample Depth: 4 - 6 ft

Lab Sample Id: 493661-002 | Date Collected: 09.16.14 16.30 | Date Received: 09.19.14 14.05

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

Analyst: MCH | % Moist: 21.39 | Tech: MCH

Seq Number: 951236 | Date Prep: 09.22.14 13.01

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000192	0.00639	0.000192	mg/kg	09.22.14 14:54	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000520	0.00639	0.000520	mg/kg	09.22.14 14:54	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000586	0.00639	0.000586	mg/kg	09.22.14 14:54	U	1
Tetrachloroethylene	127-18-4	<0.000327	0.00639	0.000327	mg/kg	09.22.14 14:54	U	1
Toluene	108-88-3	<0.000590	0.00639	0.000590	mg/kg	09.22.14 14:54	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000554	0.00639	0.000554	mg/kg	09.22.14 14:54	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000310	0.00639	0.000310	mg/kg	09.22.14 14:54	U	1
1,1,2-Trichloroethane	79-00-5	<0.000416	0.00639	0.000416	mg/kg	09.22.14 14:54	U	1
1,1,1-Trichloroethane	71-55-6	<0.000433	0.00639	0.000433	mg/kg	09.22.14 14:54	U	1
Trichloroethene	79-01-6	<0.000418	0.00639	0.000418	mg/kg	09.22.14 14:54	U	1
Trichlorofluoromethane	75-69-4	<0.000620	0.00639	0.000620	mg/kg	09.22.14 14:54	U	1
1,2,3-Trichloropropane	96-18-4	<0.000896	0.00639	0.000896	mg/kg	09.22.14 14:54	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000144	0.00639	0.000144	mg/kg	09.22.14 14:54	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000508	0.00639	0.000508	mg/kg	09.22.14 14:54	U	1
Vinyl Chloride	75-01-4	<0.00106	0.00255	0.00106	mg/kg	09.22.14 14:54	U	1
o-Xylene	95-47-6	<0.000356	0.00639	0.000356	mg/kg	09.22.14 14:54	U	1
m,p-Xylenes	179601-23-1	<0.000493	0.0128	0.000493	mg/kg	09.22.14 14:54	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB3** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493661-003 Date Collected: 09.16.14 15.00 Date Received: 09.19.14 14.05

Analytical Method: SVOCs by EPA 8270C Prep Method: 3550B

Analyst: PKH % Moist: 15.83 Tech: PKH

Seq Number: 951234 Date Prep: 09.20.14 09.06

Prep seq: 661716

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.0184	0.198	0.0184	mg/kg	09.24.14 13:22	U	1
Acenaphthylene	208-96-8	<0.0175	0.198	0.0175	mg/kg	09.24.14 13:22	U	1
Aniline (Phenylamine, Aminobenzene)	62-53-3	<0.0162	0.395	0.0162	mg/kg	09.24.14 13:22	U	1
Anthracene	120-12-7	<0.0164	0.198	0.0164	mg/kg	09.24.14 13:22	U	1
Benzo(a)anthracene	56-55-3	<0.0167	0.198	0.0167	mg/kg	09.24.14 13:22	U	1
Benzo(a)pyrene	50-32-8	<0.0204	0.198	0.0204	mg/kg	09.24.14 13:22	U	1
Benzo(b)fluoranthene	205-99-2	<0.0149	0.198	0.0149	mg/kg	09.24.14 13:22	U	1
Benzo(g,h,i)perylene	191-24-2	<0.0182	0.198	0.0182	mg/kg	09.24.14 13:22	U	1
Benzo(k)fluoranthene	207-08-9	<0.0230	0.198	0.0230	mg/kg	09.24.14 13:22	U	1
Benzoic Acid	65-85-0	<0.0255	1.19	0.0255	mg/kg	09.24.14 13:22	U	1
Benzyl Butyl Phthalate	85-68-7	<0.0215	0.198	0.0215	mg/kg	09.24.14 13:22	U	1
bis(2-chloroethoxy) methane	111-91-1	<0.0199	0.198	0.0199	mg/kg	09.24.14 13:22	U	1
bis(2-chloroethyl) ether	111-44-4	<0.0180	0.198	0.0180	mg/kg	09.24.14 13:22	U	1
bis(2-chloroisopropyl) ether	39638-32-9	<0.0211	0.198	0.0211	mg/kg	09.24.14 13:22	U	1
bis(2-ethylhexyl) phthalate	117-81-7	**0.0506**	0.198	0.0175	mg/kg	09.24.14 13:22	J	1
4-Bromophenyl-phenylether	101-55-3	<0.0157	0.198	0.0157	mg/kg	09.24.14 13:22	U	1
di-n-Butyl Phthalate	84-74-2	<0.0190	0.198	0.0190	mg/kg	09.24.14 13:22	U	1
4-chloro-3-methylphenol	59-50-7	<0.0218	0.198	0.0218	mg/kg	09.24.14 13:22	U	1
4-Chloroaniline	106-47-8	<0.0150	0.395	0.0150	mg/kg	09.24.14 13:22	U	1
2-Chloronaphthalene	91-58-7	<0.0344	0.198	0.0344	mg/kg	09.24.14 13:22	U	1
2-Chlorophenol	95-57-8	<0.0187	0.198	0.0187	mg/kg	09.24.14 13:22	U	1
4-Chlorophenyl Phenyl Ether	7005-72-3	<0.0192	0.198	0.0192	mg/kg	09.24.14 13:22	U	1
Chrysene	218-01-9	<0.0196	0.198	0.0196	mg/kg	09.24.14 13:22	U	1
Dibenz(a,h)Anthracene	53-70-3	<0.0150	0.198	0.0150	mg/kg	09.24.14 13:22	U	1
Dibenzofuran	132-64-9	<0.0183	0.198	0.0183	mg/kg	09.24.14 13:22	U	1
1,2-Dichlorobenzene	95-50-1	<0.0182	0.198	0.0182	mg/kg	09.24.14 13:22	U	1
1,3-Dichlorobenzene	541-73-1	<0.0165	0.198	0.0165	mg/kg	09.24.14 13:22	U	1
1,4-Dichlorobenzene	106-46-7	<0.0178	0.198	0.0178	mg/kg	09.24.14 13:22	U	1
3,3-Dichlorobenzidine	91-94-1	<0.0182	0.395	0.0182	mg/kg	09.24.14 13:22	U	1
2,4-Dichlorophenol	120-83-2	<0.0207	0.198	0.0207	mg/kg	09.24.14 13:22	U	1
Diethyl Phthalate	84-66-2	<0.0181	0.198	0.0181	mg/kg	09.24.14 13:22	U	1
Dimethyl Phthalate	131-11-3	<0.0188	0.198	0.0188	mg/kg	09.24.14 13:22	U	1
2,4-Dimethylphenol	105-67-9	<0.0195	0.198	0.0195	mg/kg	09.24.14 13:22	U	1
4,6-dinitro-2-methyl phenol	534-52-1	<0.0151	0.395	0.0151	mg/kg	09.24.14 13:22	U	1
2,4-Dinitrophenol	51-28-5	<0.0287	0.395	0.0287	mg/kg	09.24.14 13:22	U	1
2,4-Dinitrotoluene	121-14-2	<0.0151	0.198	0.0151	mg/kg	09.24.14 13:22	U	1
2,6-Dinitrotoluene	606-20-2	<0.0276	0.198	0.0276	mg/kg	09.24.14 13:22	U	1
Fluoranthene	206-44-0	<0.0174	0.198	0.0174	mg/kg	09.24.14 13:22	U	1
Fluorene	86-73-7	<0.0164	0.198	0.0164	mg/kg	09.24.14 13:22	U	1
Hexachlorobenzene	118-74-1	<0.0192	0.198	0.0192	mg/kg	09.24.14 13:22	U	1
Hexachlorobutadiene	87-68-3	<0.0164	0.198	0.0164	mg/kg	09.24.14 13:22	U	1
Hexachlorocyclopentadiene	77-47-4	<0.0180	0.198	0.0180	mg/kg	09.24.14 13:22	U	1
Hexachloroethane	67-72-1	<0.0205	0.198	0.0205	mg/kg	09.24.14 13:22	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB3** | Matrix: Soil | Sample Depth: 12 - 14 ft

Lab Sample Id: 493661-003 | Date Collected: 09.16.14 15.00 | Date Received: 09.19.14 14.05

Analytical Method: SVOCs by EPA 8270C | Prep Method: 3550B

Analyst: PKH | % Moist: 15.83 | Tech: PKH

Seq Number: 951234 | Date Prep: 09.20.14 09.06

Prep seq: 661716

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.0159	0.198	0.0159	mg/kg	09.24.14 13:22	U	1
Isophorone	78-59-1	<0.0172	0.198	0.0172	mg/kg	09.24.14 13:22	U	1
2-Methylnaphthalene	91-57-6	<0.0536	0.198	0.0536	mg/kg	09.24.14 13:22	U	1
2-methylphenol	95-48-7	<0.0220	0.198	0.0220	mg/kg	09.24.14 13:22	U	1
3&4-Methylphenol	15831-10-4	<0.0183	0.198	0.0183	mg/kg	09.24.14 13:22	U	1
Naphthalene	91-20-3	<0.0185	0.198	0.0185	mg/kg	09.24.14 13:22	U	1
4-Nitroaniline	100-01-6	<0.0164	0.395	0.0164	mg/kg	09.24.14 13:22	U	1
3-Nitroaniline	99-09-2	<0.0165	0.395	0.0165	mg/kg	09.24.14 13:22	U	1
2-Nitroaniline	88-74-4	<0.0185	0.395	0.0185	mg/kg	09.24.14 13:22	U	1
Nitrobenzene	98-95-3	<0.0219	0.198	0.0219	mg/kg	09.24.14 13:22	U	1
2-Nitrophenol	88-75-5	<0.0174	0.198	0.0174	mg/kg	09.24.14 13:22	U	1
4-Nitrophenol	100-02-7	<0.0306	0.395	0.0306	mg/kg	09.24.14 13:22	U	1
N-Nitrosodi-n-Propylamine	621-64-7	<0.0206	0.198	0.0206	mg/kg	09.24.14 13:22	U	1
N-Nitrosodiphenylamine	86-30-6	<0.0221	0.198	0.0221	mg/kg	09.24.14 13:22	U	1
di-n-Octyl Phthalate	117-84-0	<0.0157	0.198	0.0157	mg/kg	09.24.14 13:22	U	1
Pentachlorophenol	87-86-5	<0.0144	0.395	0.0144	mg/kg	09.24.14 13:22	U	1
Phenanthrene	85-01-8	<0.0197	0.198	0.0197	mg/kg	09.24.14 13:22	U	1
Phenol	108-95-2	<0.0177	0.395	0.0177	mg/kg	09.24.14 13:22	U	1
Pyrene	129-00-0	<0.0173	0.198	0.0173	mg/kg	09.24.14 13:22	U	1
Pyridine	110-86-1	<0.0198	0.395	0.0198	mg/kg	09.24.14 13:22	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.0172	0.198	0.0172	mg/kg	09.24.14 13:22	U	1
2,4,6-Trichlorophenol	88-06-2	<0.0187	0.198	0.0187	mg/kg	09.24.14 13:22	U	1
2,4,5-Trichlorophenol	95-95-4	<0.0226	0.198	0.0226	mg/kg	09.24.14 13:22	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB3** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493661-003 Date Collected: 09.16.14 15.00 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 15.83 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 13.02

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000185	0.00590	0.000185	mg/kg	09.22.14 15:21	U	1
Bromobenzene	108-86-1	<0.000517	0.00590	0.000517	mg/kg	09.22.14 15:21	U	1
Bromochloromethane	74-97-5	<0.000561	0.00590	0.000561	mg/kg	09.22.14 15:21	U	1
Bromodichloromethane	75-27-4	<0.000314	0.00590	0.000314	mg/kg	09.22.14 15:21	U	1
Bromoform	75-25-2	<0.000825	0.00590	0.000825	mg/kg	09.22.14 15:21	U	1
Bromomethane	74-83-9	<0.00125	0.00590	0.00125	mg/kg	09.22.14 15:21	U	1
MTBE	1634-04-4	<0.000402	0.00590	0.000402	mg/kg	09.22.14 15:21	U	1
tert-Butylbenzene	98-06-6	<0.000244	0.00590	0.000244	mg/kg	09.22.14 15:21	U	1
Sec-Butylbenzene	135-98-8	<0.000579	0.00590	0.000579	mg/kg	09.22.14 15:21	U	1
n-Butylbenzene	104-51-8	<0.000555	0.00590	0.000555	mg/kg	09.22.14 15:21	U	1
Carbon Tetrachloride	56-23-5	<0.000276	0.00590	0.000276	mg/kg	09.22.14 15:21	U	1
Chlorobenzene	108-90-7	<0.000282	0.00590	0.000282	mg/kg	09.22.14 15:21	U	1
Chloroethane	75-00-3	<0.000648	0.0118	0.000648	mg/kg	09.22.14 15:21	U	1
Chloroform	67-66-3	<0.000345	0.00590	0.000345	mg/kg	09.22.14 15:21	U	1
Chloromethane	74-87-3	<0.000353	0.0118	0.000353	mg/kg	09.22.14 15:21	U	1
2-Chlorotoluene	95-49-8	<0.000463	0.00590	0.000463	mg/kg	09.22.14 15:21	U	1
4-Chlorotoluene	106-43-4	<0.000519	0.00590	0.000519	mg/kg	09.22.14 15:21	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000497	0.00590	0.000497	mg/kg	09.22.14 15:21	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00183	0.00590	0.00183	mg/kg	09.22.14 15:21	U	1
Dibromochloromethane	124-48-1	<0.000558	0.00590	0.000558	mg/kg	09.22.14 15:21	U	1
Dibromomethane	74-95-3	<0.000416	0.00590	0.000416	mg/kg	09.22.14 15:21	U	1
1,2-Dichlorobenzene	95-50-1	<0.000509	0.00590	0.000509	mg/kg	09.22.14 15:21	U	1
1,3-Dichlorobenzene	541-73-1	<0.000439	0.00590	0.000439	mg/kg	09.22.14 15:21	U	1
1,4-Dichlorobenzene	106-46-7	<0.000281	0.00590	0.000281	mg/kg	09.22.14 15:21	U	1
Dichlorodifluoromethane	75-71-8	<0.000503	0.00590	0.000503	mg/kg	09.22.14 15:21	U	1
1,2-Dichloroethane	107-06-2	<0.000414	0.00590	0.000414	mg/kg	09.22.14 15:21	U	1
1,1-Dichloroethane	75-34-3	<0.000238	0.00590	0.000238	mg/kg	09.22.14 15:21	U	1
1,2-Dibromoethane	106-93-4	<0.000500	0.00590	0.000500	mg/kg	09.22.14 15:21	U	1
trans-1,2-dichloroethene	156-60-5	<0.000345	0.00590	0.000345	mg/kg	09.22.14 15:21	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000402	0.00590	0.000402	mg/kg	09.22.14 15:21	U	1
1,1-Dichloroethene	75-35-4	<0.000280	0.00590	0.000280	mg/kg	09.22.14 15:21	U	1
2,2-Dichloropropane	594-20-7	<0.00140	0.00590	0.00140	mg/kg	09.22.14 15:21	U	1
1,3-Dichloropropane	142-28-9	<0.000295	0.00590	0.000295	mg/kg	09.22.14 15:21	U	1
1,2-Dichloropropane	78-87-5	<0.000558	0.00590	0.000558	mg/kg	09.22.14 15:21	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000358	0.00590	0.000358	mg/kg	09.22.14 15:21	U	1
1,1-Dichloropropene	563-58-6	<0.000500	0.00590	0.000500	mg/kg	09.22.14 15:21	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000505	0.00590	0.000505	mg/kg	09.22.14 15:21	U	1
Ethylbenzene	100-41-4	<0.000507	0.00590	0.000507	mg/kg	09.22.14 15:21	U	1
Hexachlorobutadiene	87-68-3	<0.00102	0.00590	0.00102	mg/kg	09.22.14 15:21	U	1
isopropylbenzene	98-82-8	<0.000198	0.00590	0.000198	mg/kg	09.22.14 15:21	U	1
Methylene Chloride	75-09-2	**0.00125**	0.0236	0.000695	mg/kg	09.22.14 15:21	BJ	1
Naphthalene	91-20-3	<0.000320	0.0118	0.000320	mg/kg	09.22.14 15:21	U	1
n-Propylbenzene	103-65-1	<0.000212	0.00590	0.000212	mg/kg	09.22.14 15:21	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB3** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493661-003 Date Collected: 09.16.14 15.00 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 15.83 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 13.02

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000177	0.00590	0.000177	mg/kg	09.22.14 15:21	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000481	0.00590	0.000481	mg/kg	09.22.14 15:21	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000542	0.00590	0.000542	mg/kg	09.22.14 15:21	U	1
Tetrachloroethylene	127-18-4	<0.000302	0.00590	0.000302	mg/kg	09.22.14 15:21	U	1
Toluene	108-88-3	<0.000545	0.00590	0.000545	mg/kg	09.22.14 15:21	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000513	0.00590	0.000513	mg/kg	09.22.14 15:21	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000287	0.00590	0.000287	mg/kg	09.22.14 15:21	U	1
1,1,2-Trichloroethane	79-00-5	<0.000385	0.00590	0.000385	mg/kg	09.22.14 15:21	U	1
1,1,1-Trichloroethane	71-55-6	<0.000400	0.00590	0.000400	mg/kg	09.22.14 15:21	U	1
Trichloroethene	79-01-6	<0.000386	0.00590	0.000386	mg/kg	09.22.14 15:21	U	1
Trichlorofluoromethane	75-69-4	<0.000573	0.00590	0.000573	mg/kg	09.22.14 15:21	U	1
1,2,3-Trichloropropane	96-18-4	<0.000828	0.00590	0.000828	mg/kg	09.22.14 15:21	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000133	0.00590	0.000133	mg/kg	09.22.14 15:21	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000469	0.00590	0.000469	mg/kg	09.22.14 15:21	U	1
Vinyl Chloride	75-01-4	<0.000977	0.00236	0.000977	mg/kg	09.22.14 15:21	U	1
o-Xylene	95-47-6	<0.000329	0.00590	0.000329	mg/kg	09.22.14 15:21	U	1
m,p-Xylenes	179601-23-1	<0.000456	0.0118	0.000456	mg/kg	09.22.14 15:21	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB10A** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: 493661-004 Date Collected: 09.16.14 10.00 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 21.52 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 14.39

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<11.5	63.6	11.5	mg/kg	09.23.14 22:45	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<11.5	63.6	11.5	mg/kg	09.23.14 22:45	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<11.5	63.6	11.5	mg/kg	09.23.14 22:45	U	1
Total TPH 1005	PHC635	<11.5		11.5	mg/kg	09.23.14 22:45	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 21.52 Tech: SAD

Seq Number: 951474 Date Prep: 09.24.14 15.20

Prep seq: 662023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000758	0.00644	0.000758	mg/kg	09.24.14 20:22	U	1
Benzene	71-43-2	<0.000248	0.00129	0.000248	mg/kg	09.24.14 20:22	U	1
Toluene	108-88-3	<0.000167	0.00129	0.000167	mg/kg	09.24.14 20:22	U	1
Ethylbenzene	100-41-4	<0.000123	0.00129	0.000123	mg/kg	09.24.14 20:22	U	1
m,p-Xylenes	179601-23-1	<0.000466	0.00257	0.000466	mg/kg	09.24.14 20:22	U	1
o-Xylene	95-47-6	<0.000295	0.00129	0.000295	mg/kg	09.24.14 20:22	U	1
Total Xylenes	1330-20-7	<0.000295		0.000295	mg/kg	09.24.14 20:22	U	
Total BTEX		<0.000123		0.000123	mg/kg	09.24.14 20:22	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB11A** Matrix: Soil Sample Depth: 8 - 10 ft

Lab Sample Id: 493661-005 Date Collected: 09.16.14 13.00 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 26.9 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 14.48

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<12.3	68.1	12.3	mg/kg	09.24.14 00:20	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<12.3	68.1	12.3	mg/kg	09.24.14 00:20	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<12.3	68.1	12.3	mg/kg	09.24.14 00:20	U	1
Total TPH 1005	PHC635	<12.3		12.3	mg/kg	09.24.14 00:20	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 26.9 Tech: SAD

Seq Number: 951474 Date Prep: 09.24.14 15.21

Prep seq: 662023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000798	0.00677	0.000798	mg/kg	09.24.14 20:48	U	1
Benzene	71-43-2	<0.000261	0.00135	0.000261	mg/kg	09.24.14 20:48	U	1
Toluene	108-88-3	<0.000175	0.00135	0.000175	mg/kg	09.24.14 20:48	U	1
Ethylbenzene	100-41-4	<0.000129	0.00135	0.000129	mg/kg	09.24.14 20:48	U	1
m,p-Xylenes	179601-23-1	<0.000490	0.00271	0.000490	mg/kg	09.24.14 20:48	U	1
o-Xylene	95-47-6	<0.000310	0.00135	0.000310	mg/kg	09.24.14 20:48	U	1
Total Xylenes	1330-20-7	<0.000310		0.000310	mg/kg	09.24.14 20:48	U	
Total BTEX		<0.000129		0.000129	mg/kg	09.24.14 20:48	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB12** Matrix: Soil Sample Depth: 4 - 6 ft

Lab Sample Id: 493661-006 Date Collected: 09.16.14 14.00 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 25.21 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 14.51

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<12.0	66.5	12.0	mg/kg	09.24.14 00:39	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<12.0	66.5	12.0	mg/kg	09.24.14 00:39	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<12.0	66.5	12.0	mg/kg	09.24.14 00:39	U	1
Total TPH 1005	PHC635	<12.0		12.0	mg/kg	09.24.14 00:39	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 25.21 Tech: SAD

Seq Number: 951474 Date Prep: 09.24.14 15.22

Prep seq: 662023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000780	0.00662	0.000780	mg/kg	09.24.14 21:15	U	1
Benzene	71-43-2	<0.000255	0.00132	0.000255	mg/kg	09.24.14 21:15	U	1
Toluene	108-88-3	<0.000171	0.00132	0.000171	mg/kg	09.24.14 21:15	U	1
Ethylbenzene	100-41-4	<0.000126	0.00132	0.000126	mg/kg	09.24.14 21:15	U	1
m,p-Xylenes	179601-23-1	<0.000479	0.00265	0.000479	mg/kg	09.24.14 21:15	U	1
o-Xylene	95-47-6	<0.000303	0.00132	0.000303	mg/kg	09.24.14 21:15	U	1
Total Xylenes	1330-20-7	<0.000303		0.000303	mg/kg	09.24.14 21:15	U	
Total BTEX		<0.000126		0.000126	mg/kg	09.24.14 21:15	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB13** Matrix: Soil Sample Depth: 8 - 10 ft

Lab Sample Id: 493661-007 Date Collected: 09.16.14 13.45 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 30.19 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 14.54

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<12.8	71.3	12.8	mg/kg	09.24.14 01:17	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<12.8	71.3	12.8	mg/kg	09.24.14 01:17	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<12.8	71.3	12.8	mg/kg	09.24.14 01:17	U	1
Total TPH 1005	PHC635	<12.8		12.8	mg/kg	09.24.14 01:17	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 30.19 Tech: SAD

Seq Number: 951474 Date Prep: 09.24.14 15.23

Prep seq: 662023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000851	0.00722	0.000851	mg/kg	09.24.14 21:41	U	1
Benzene	71-43-2	<0.000278	0.00144	0.000278	mg/kg	09.24.14 21:41	U	1
Toluene	108-88-3	<0.000187	0.00144	0.000187	mg/kg	09.24.14 21:41	U	1
Ethylbenzene	100-41-4	<0.000138	0.00144	0.000138	mg/kg	09.24.14 21:41	U	1
m,p-Xylenes	179601-23-1	<0.000522	0.00289	0.000522	mg/kg	09.24.14 21:41	U	1
o-Xylene	95-47-6	<0.000331	0.00144	0.000331	mg/kg	09.24.14 21:41	U	1
Total Xylenes	1330-20-7	<0.000331		0.000331	mg/kg	09.24.14 21:41	U	
Total BTEX		<0.000138		0.000138	mg/kg	09.24.14 21:41	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB14** Matrix: Soil Sample Depth: 12 - 14 ft

Lab Sample Id: 493661-008 Date Collected: 09.16.14 13.15 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 16.57 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 14.57

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<10.8	59.8	10.8	mg/kg	09.24.14 01:37	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<10.8	59.8	10.8	mg/kg	09.24.14 01:37	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<10.8	59.8	10.8	mg/kg	09.24.14 01:37	U	1
Total TPH 1005	PHC635	<10.8		10.8	mg/kg	09.24.14 01:37	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 16.57 Tech: SAD

Seq Number: 951536 Date Prep: 09.25.14 13.42

Prep seq: 662067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000713	0.00605	0.000713	mg/kg	09.25.14 14:01	U	1
Benzene	71-43-2	<0.000233	0.00121	0.000233	mg/kg	09.25.14 14:01	U	1
Toluene	108-88-3	<0.000157	0.00121	0.000157	mg/kg	09.25.14 14:01	U	1
Ethylbenzene	100-41-4	**0.000303**	0.00121	0.000116	mg/kg	09.25.14 14:01	J	1
m,p-Xylenes	179601-23-1	<0.000438	0.00242	0.000438	mg/kg	09.25.14 14:01	U	1
o-Xylene	95-47-6	<0.000277	0.00121	0.000277	mg/kg	09.25.14 14:01	UX	1
Total Xylenes	1330-20-7	<0.000277		0.000277	mg/kg	09.25.14 14:01	U	
Total BTEX		**0.000303**		0.000116	mg/kg	09.25.14 14:01	J	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB15** Matrix: Soil Sample Depth: 6 - 8 ft

Lab Sample Id: 493661-009 Date Collected: 09.16.14 12.45 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 20.64 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 15.00

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<11.3	62.8	11.3	mg/kg	09.24.14 01:56	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<11.3	62.8	11.3	mg/kg	09.24.14 01:56	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<11.3	62.8	11.3	mg/kg	09.24.14 01:56	U	1
Total TPH 1005	PHC635	<11.3		11.3	mg/kg	09.24.14 01:56	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 20.64 Tech: SAD

Seq Number: 951536 Date Prep: 09.25.14 13.43

Prep seq: 662067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000742	0.00630	0.000742	mg/kg	09.25.14 14:27	U	1
Benzene	71-43-2	<0.000242	0.00126	0.000242	mg/kg	09.25.14 14:27	U	1
Toluene	108-88-3	<0.000163	0.00126	0.000163	mg/kg	09.25.14 14:27	U	1
Ethylbenzene	100-41-4	<0.000120	0.00126	0.000120	mg/kg	09.25.14 14:27	U	1
m,p-Xylenes	179601-23-1	<0.000456	0.00252	0.000456	mg/kg	09.25.14 14:27	U	1
o-Xylene	95-47-6	<0.000289	0.00126	0.000289	mg/kg	09.25.14 14:27	U	1
Total Xylenes	1330-20-7	<0.000289		0.000289	mg/kg	09.25.14 14:27	U	
Total BTEX		<0.000120		0.000120	mg/kg	09.25.14 14:27	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB16** Matrix: Soil Sample Depth: 14 - 15 ft

Lab Sample Id: 493661-010 Date Collected: 09.16.14 15.30 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 19.96 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 15.03

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<11.2	62.2	11.2	mg/kg	09.24.14 02:15	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<11.2	62.2	11.2	mg/kg	09.24.14 02:15	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<11.2	62.2	11.2	mg/kg	09.24.14 02:15	U	1
Total TPH 1005	PHC635	<11.2		11.2	mg/kg	09.24.14 02:15	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 19.96 Tech: SAD

Seq Number: 951536 Date Prep: 09.25.14 16.28

Prep seq: 662067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000735	0.00623	0.000735	mg/kg	09.25.14 18:02	U	1
Benzene	71-43-2	<0.000240	0.00125	0.000240	mg/kg	09.25.14 18:02	U	1
Toluene	108-88-3	<0.000161	0.00125	0.000161	mg/kg	09.25.14 18:02	U	1
Ethylbenzene	100-41-4	**0.000312**	0.00125	0.000119	mg/kg	09.25.14 18:02	J	1
m,p-Xylenes	179601-23-1	**0.000736**	0.00249	0.000451	mg/kg	09.25.14 18:02	J	1
o-Xylene	95-47-6	<0.000286	0.00125	0.000286	mg/kg	09.25.14 18:02	U	1
Total Xylenes	1330-20-7	**0.000736**		0.000286	mg/kg	09.25.14 18:02	J	
Total BTEX		**0.00105**		0.000119	mg/kg	09.25.14 18:02	J	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB17** Matrix: Soil Sample Depth: 4 - 6

Lab Sample Id: 493661-011 Date Collected: 09.16.14 16.00 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 39.81 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 15.06

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<14.9	82.7	14.9	mg/kg	09.24.14 02:34	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<14.9	82.7	14.9	mg/kg	09.24.14 02:34	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<14.9	82.7	14.9	mg/kg	09.24.14 02:34	U	1
Total TPH 1005	PHC635	<14.9		14.9	mg/kg	09.24.14 02:34	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 39.81 Tech: SAD

Seq Number: 951536 Date Prep: 09.25.14 16.29

Prep seq: 662067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000969	0.00822	0.000969	mg/kg	09.25.14 18:29	U	1
Benzene	71-43-2	<0.000317	0.00164	0.000317	mg/kg	09.25.14 18:29	U	1
Toluene	108-88-3	<0.000213	0.00164	0.000213	mg/kg	09.25.14 18:29	U	1
Ethylbenzene	100-41-4	<0.000157	0.00164	0.000157	mg/kg	09.25.14 18:29	U	1
m,p-Xylenes	179601-23-1	<0.000595	0.00329	0.000595	mg/kg	09.25.14 18:29	U	1
o-Xylene	95-47-6	<0.000377	0.00164	0.000377	mg/kg	09.25.14 18:29	U	1
Total Xylenes	1330-20-7	<0.000377		0.000377	mg/kg	09.25.14 18:29	U	
Total BTEX		<0.000157		0.000157	mg/kg	09.25.14 18:29	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB23** Matrix: Soil Sample Depth: 8 - 10

Lab Sample Id: 493661-012 Date Collected: 09.16.14 11.30 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 34.4 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 15.09

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<13.7	76.1	13.7	mg/kg	09.24.14 02:53	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<13.7	76.1	13.7	mg/kg	09.24.14 02:53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<13.7	76.1	13.7	mg/kg	09.24.14 02:53	U	1
Total TPH 1005	PHC635	<13.7		13.7	mg/kg	09.24.14 02:53	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: 34.4 Tech: SAD

Seq Number: 951536 Date Prep: 09.25.14 16.30

Prep seq: 662067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000907	0.00770	0.000907	mg/kg	09.25.14 18:56	U	1
Benzene	71-43-2	<0.000296	0.00154	0.000296	mg/kg	09.25.14 18:56	U	1
Toluene	108-88-3	<0.000199	0.00154	0.000199	mg/kg	09.25.14 18:56	U	1
Ethylbenzene	100-41-4	**0.000216**	0.00154	0.000147	mg/kg	09.25.14 18:56	J	1
m,p-Xylenes	179601-23-1	<0.000557	0.00308	0.000557	mg/kg	09.25.14 18:56	U	1
o-Xylene	95-47-6	<0.000353	0.00154	0.000353	mg/kg	09.25.14 18:56	U	1
Total Xylenes	1330-20-7	<0.000353		0.000353	mg/kg	09.25.14 18:56	U	
Total BTEX		**0.000216**		0.000147	mg/kg	09.25.14 18:56	J	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB25** Matrix: Soil Sample Depth: 8 - 10

Lab Sample Id: 493661-013 Date Collected: 09.16.14 12.00 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 25.07 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 15.12

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<12.0	66.7	12.0	mg/kg	09.24.14 03:13	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<12.0	66.7	12.0	mg/kg	09.24.14 03:13	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<12.0	66.7	12.0	mg/kg	09.24.14 03:13	U	1
Total TPH 1005	PHC635	<12.0		12.0	mg/kg	09.24.14 03:13	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB25** Matrix: Soil Sample Depth: 8 - 10

Lab Sample Id: 493661-013 Date Collected: 09.16.14 12.00 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 25.07 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 13.13

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000211	0.00674	0.000211	mg/kg	09.22.14 21:24	U	1
Bromobenzene	108-86-1	<0.000591	0.00674	0.000591	mg/kg	09.22.14 21:24	U	1
Bromochloromethane	74-97-5	<0.000640	0.00674	0.000640	mg/kg	09.22.14 21:24	U	1
Bromodichloromethane	75-27-4	<0.000358	0.00674	0.000358	mg/kg	09.22.14 21:24	U	1
Bromoform	75-25-2	<0.000942	0.00674	0.000942	mg/kg	09.22.14 21:24	U	1
Bromomethane	74-83-9	<0.00142	0.00674	0.00142	mg/kg	09.22.14 21:24	U	1
MTBE	1634-04-4	<0.000459	0.00674	0.000459	mg/kg	09.22.14 21:24	U	1
tert-Butylbenzene	98-06-6	<0.000278	0.00674	0.000278	mg/kg	09.22.14 21:24	U	1
Sec-Butylbenzene	135-98-8	<0.000661	0.00674	0.000661	mg/kg	09.22.14 21:24	U	1
n-Butylbenzene	104-51-8	<0.000633	0.00674	0.000633	mg/kg	09.22.14 21:24	U	1
Carbon Tetrachloride	56-23-5	<0.000315	0.00674	0.000315	mg/kg	09.22.14 21:24	U	1
Chlorobenzene	108-90-7	<0.000322	0.00674	0.000322	mg/kg	09.22.14 21:24	U	1
Chloroethane	75-00-3	<0.000740	0.0135	0.000740	mg/kg	09.22.14 21:24	U	1
Chloroform	67-66-3	<0.000394	0.00674	0.000394	mg/kg	09.22.14 21:24	U	1
Chloromethane	74-87-3	<0.000402	0.0135	0.000402	mg/kg	09.22.14 21:24	U	1
2-Chlorotoluene	95-49-8	<0.000529	0.00674	0.000529	mg/kg	09.22.14 21:24	U	1
4-Chlorotoluene	106-43-4	<0.000592	0.00674	0.000592	mg/kg	09.22.14 21:24	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000567	0.00674	0.000567	mg/kg	09.22.14 21:24	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00209	0.00674	0.00209	mg/kg	09.22.14 21:24	U	1
Dibromochloromethane	124-48-1	<0.000637	0.00674	0.000637	mg/kg	09.22.14 21:24	U	1
Dibromomethane	74-95-3	<0.000475	0.00674	0.000475	mg/kg	09.22.14 21:24	U	1
1,2-Dichlorobenzene	95-50-1	<0.000581	0.00674	0.000581	mg/kg	09.22.14 21:24	U	1
1,3-Dichlorobenzene	541-73-1	<0.000501	0.00674	0.000501	mg/kg	09.22.14 21:24	U	1
1,4-Dichlorobenzene	106-46-7	<0.000320	0.00674	0.000320	mg/kg	09.22.14 21:24	U	1
Dichlorodifluoromethane	75-71-8	<0.000574	0.00674	0.000574	mg/kg	09.22.14 21:24	U	1
1,2-Dichloroethane	107-06-2	<0.000473	0.00674	0.000473	mg/kg	09.22.14 21:24	U	1
1,1-Dichloroethane	75-34-3	<0.000271	0.00674	0.000271	mg/kg	09.22.14 21:24	U	1
1,2-Dibromoethane	106-93-4	<0.000571	0.00674	0.000571	mg/kg	09.22.14 21:24	U	1
trans-1,2-dichloroethene	156-60-5	<0.000394	0.00674	0.000394	mg/kg	09.22.14 21:24	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000459	0.00674	0.000459	mg/kg	09.22.14 21:24	U	1
1,1-Dichloroethene	75-35-4	<0.000320	0.00674	0.000320	mg/kg	09.22.14 21:24	U	1
2,2-Dichloropropane	594-20-7	<0.00160	0.00674	0.00160	mg/kg	09.22.14 21:24	U	1
1,3-Dichloropropane	142-28-9	<0.000337	0.00674	0.000337	mg/kg	09.22.14 21:24	U	1
1,2-Dichloropropane	78-87-5	<0.000637	0.00674	0.000637	mg/kg	09.22.14 21:24	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000409	0.00674	0.000409	mg/kg	09.22.14 21:24	U	1
1,1-Dichloropropene	563-58-6	<0.000570	0.00674	0.000570	mg/kg	09.22.14 21:24	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000577	0.00674	0.000577	mg/kg	09.22.14 21:24	U	1
Ethylbenzene	100-41-4	<0.000579	0.00674	0.000579	mg/kg	09.22.14 21:24	U	1
Hexachlorobutadiene	87-68-3	<0.00116	0.00674	0.00116	mg/kg	09.22.14 21:24	U	1
isopropylbenzene	98-82-8	<0.000226	0.00674	0.000226	mg/kg	09.22.14 21:24	U	1
Methylene Chloride	75-09-2	**0.00155**	0.0270	0.000793	mg/kg	09.22.14 21:24	BJ	1
Naphthalene	91-20-3	<0.000366	0.0135	0.000366	mg/kg	09.22.14 21:24	U	1
n-Propylbenzene	103-65-1	<0.000241	0.00674	0.000241	mg/kg	09.22.14 21:24	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB25** Matrix: Soil Sample Depth: 8 - 10

Lab Sample Id: 493661-013 Date Collected: 09.16.14 12.00 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 25.07 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 13.13

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000202	0.00674	0.000202	mg/kg	09.22.14 21:24	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000549	0.00674	0.000549	mg/kg	09.22.14 21:24	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000618	0.00674	0.000618	mg/kg	09.22.14 21:24	U	1
Tetrachloroethylene	127-18-4	<0.000345	0.00674	0.000345	mg/kg	09.22.14 21:24	U	1
Toluene	108-88-3	<0.000623	0.00674	0.000623	mg/kg	09.22.14 21:24	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000585	0.00674	0.000585	mg/kg	09.22.14 21:24	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000327	0.00674	0.000327	mg/kg	09.22.14 21:24	U	1
1,1,2-Trichloroethane	79-00-5	<0.000439	0.00674	0.000439	mg/kg	09.22.14 21:24	U	1
1,1,1-Trichloroethane	71-55-6	<0.000457	0.00674	0.000457	mg/kg	09.22.14 21:24	U	1
Trichloroethene	79-01-6	<0.000441	0.00674	0.000441	mg/kg	09.22.14 21:24	U	1
Trichlorofluoromethane	75-69-4	<0.000654	0.00674	0.000654	mg/kg	09.22.14 21:24	U	1
1,2,3-Trichloropropane	96-18-4	<0.000946	0.00674	0.000946	mg/kg	09.22.14 21:24	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000152	0.00674	0.000152	mg/kg	09.22.14 21:24	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000536	0.00674	0.000536	mg/kg	09.22.14 21:24	U	1
Vinyl Chloride	75-01-4	<0.00111	0.00270	0.00111	mg/kg	09.22.14 21:24	U	1
o-Xylene	95-47-6	<0.000376	0.00674	0.000376	mg/kg	09.22.14 21:24	U	1
m,p-Xylenes	179601-23-1	<0.000521	0.0135	0.000521	mg/kg	09.22.14 21:24	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB2** Matrix: Ground Water Sample Depth:

Lab Sample Id: 493661-014 Date Collected: 09.16.14 16.30 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951138 Date Prep: 09.20.14 14.07

Prep seq: 661843

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000204	0.00500	0.000204	mg/L	09.20.14 22:55	U	1
Bromobenzene	108-86-1	<0.000324	0.00500	0.000324	mg/L	09.20.14 22:55	U	1
Bromochloromethane	74-97-5	<0.000562	0.00500	0.000562	mg/L	09.20.14 22:55	U	1
Bromodichloromethane	75-27-4	<0.000242	0.00500	0.000242	mg/L	09.20.14 22:55	U	1
Bromoform	75-25-2	<0.000848	0.00500	0.000848	mg/L	09.20.14 22:55	U	1
Bromomethane	74-83-9	<0.000450	0.00500	0.000450	mg/L	09.20.14 22:55	U	1
MTBE	1634-04-4	<0.00122	0.00500	0.00122	mg/L	09.20.14 22:55	U	1
tert-Butylbenzene	98-06-6	<0.000178	0.00500	0.000178	mg/L	09.20.14 22:55	U	1
Sec-Butylbenzene	135-98-8	<0.000101	0.00500	0.000101	mg/L	09.20.14 22:55	U	1
n-Butylbenzene	104-51-8	<0.0000832	0.00500	0.0000832	mg/L	09.20.14 22:55	U	1
Carbon Tetrachloride	56-23-5	<0.000279	0.00500	0.000279	mg/L	09.20.14 22:55	U	1
Chlorobenzene	108-90-7	<0.000223	0.00500	0.000223	mg/L	09.20.14 22:55	U	1
Chloroethane	75-00-3	<0.000253	0.0100	0.000253	mg/L	09.20.14 22:55	U	1
Chloroform	67-66-3	<0.000241	0.00500	0.000241	mg/L	09.20.14 22:55	U	1
Chloromethane	74-87-3	<0.000465	0.0100	0.000465	mg/L	09.20.14 22:55	U	1
2-Chlorotoluene	95-49-8	<0.000143	0.00500	0.000143	mg/L	09.20.14 22:55	U	1
4-Chlorotoluene	106-43-4	<0.000174	0.00500	0.000174	mg/L	09.20.14 22:55	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000577	0.00500	0.000577	mg/L	09.20.14 22:55	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00160	0.00500	0.00160	mg/L	09.20.14 22:55	U	1
Dibromochloromethane	124-48-1	<0.000452	0.00500	0.000452	mg/L	09.20.14 22:55	U	1
Dibromomethane	74-95-3	<0.000411	0.00500	0.000411	mg/L	09.20.14 22:55	U	1
1,2-Dichlorobenzene	95-50-1	<0.000286	0.00500	0.000286	mg/L	09.20.14 22:55	U	1
1,3-Dichlorobenzene	541-73-1	<0.000417	0.00500	0.000417	mg/L	09.20.14 22:55	U	1
1,4-Dichlorobenzene	106-46-7	<0.000198	0.00500	0.000198	mg/L	09.20.14 22:55	U	1
Dichlorodifluoromethane	75-71-8	<0.000311	0.00500	0.000311	mg/L	09.20.14 22:55	U	1
1,2-Dichloroethane	107-06-2	<0.000158	0.00500	0.000158	mg/L	09.20.14 22:55	U	1
1,1-Dichloroethane	75-34-3	<0.000158	0.00500	0.000158	mg/L	09.20.14 22:55	U	1
1,2-Dibromoethane	106-93-4	<0.000494	0.00500	0.000494	mg/L	09.20.14 22:55	U	1
trans-1,2-dichloroethene	156-60-5	<0.000269	0.00500	0.000269	mg/L	09.20.14 22:55	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000447	0.00500	0.000447	mg/L	09.20.14 22:55	U	1
1,1-Dichloroethene	75-35-4	<0.000272	0.00500	0.000272	mg/L	09.20.14 22:55	U	1
2,2-Dichloropropane	594-20-7	<0.000453	0.00500	0.000453	mg/L	09.20.14 22:55	U	1
1,3-Dichloropropane	142-28-9	<0.000475	0.00500	0.000475	mg/L	09.20.14 22:55	U	1
1,2-Dichloropropane	78-87-5	<0.000474	0.00500	0.000474	mg/L	09.20.14 22:55	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000291	0.00500	0.000291	mg/L	09.20.14 22:55	U	1
1,1-Dichloropropene	563-58-6	<0.000227	0.00500	0.000227	mg/L	09.20.14 22:55	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000380	0.00500	0.000380	mg/L	09.20.14 22:55	U	1
Ethylbenzene	100-41-4	<0.000221	0.00500	0.000221	mg/L	09.20.14 22:55	U	1
Hexachlorobutadiene	87-68-3	<0.000456	0.00500	0.000456	mg/L	09.20.14 22:55	U	1
isopropylbenzene	98-82-8	<0.0000915	0.00500	0.0000915	mg/L	09.20.14 22:55	U	1
Naphthalene	91-20-3	<0.000182	0.0100	0.000182	mg/L	09.20.14 22:55	U	1
n-Propylbenzene	103-65-1	<0.000167	0.00500	0.000167	mg/L	09.20.14 22:55	U	1
Styrene	100-42-5	<0.000153	0.00500	0.000153	mg/L	09.20.14 22:55	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB2** Matrix: Ground Water Sample Depth:

Lab Sample Id: 493661-014 Date Collected: 09.16.14 16.30 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951138 Date Prep: 09.20.14 14.07

Prep seq: 661843

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
1,1,1,2-Tetrachloroethane	630-20-6	<0.000276	0.00500	0.000276	mg/L	09.20.14 22:55	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000321	0.00500	0.000321	mg/L	09.20.14 22:55	U	1
Toluene	108-88-3	**0.000620**	0.00500	0.000268	mg/L	09.20.14 22:55	J	1
1,2,4-Trichlorobenzene	120-82-1	<0.000207	0.00500	0.000207	mg/L	09.20.14 22:55	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000272	0.00500	0.000272	mg/L	09.20.14 22:55	U	1
1,1,2-Trichloroethane	79-00-5	<0.000461	0.00500	0.000461	mg/L	09.20.14 22:55	U	1
1,1,1-Trichloroethane	71-55-6	<0.000213	0.00500	0.000213	mg/L	09.20.14 22:55	U	1
Trichloroethene	79-01-6	<0.000383	0.00500	0.000383	mg/L	09.20.14 22:55	U	1
Trichlorofluoromethane	75-69-4	<0.000419	0.00500	0.000419	mg/L	09.20.14 22:55	U	1
1,2,3-Trichloropropane	96-18-4	<0.000214	0.00500	0.000214	mg/L	09.20.14 22:55	U	1
1,2,4-Trimethylbenzene	95-63-6	**0.0000800**	0.00500	0.0000719	mg/L	09.20.14 22:55	J	1
1,3,5-trimethylbenzene	108-67-8	<0.000134	0.00500	0.000134	mg/L	09.20.14 22:55	U	1
o-Xylene	95-47-6	<0.000149	0.00500	0.000149	mg/L	09.20.14 22:55	U	1
m,p-Xylenes	179601-23-1	<0.000847	0.0100	0.000847	mg/L	09.20.14 22:55	U	1
Methylene Chloride	75-09-2	<0.000927	0.00500	0.000927	mg/L	09.20.14 22:55	U	1
Tetrachloroethylene	127-18-4	<0.000229	0.00500	0.000229	mg/L	09.20.14 22:55	U	1
Vinyl Chloride	75-01-4	<0.000292	0.00200	0.000292	mg/L	09.20.14 22:55	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB10A** Matrix: Ground Water Sample Depth:

Lab Sample Id: 493661-015 Date Collected: 09.16.14 10.00 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 951348 Date Prep: 09.23.14 11.27

Prep seq: 661917

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<0.844	4.69	0.844	mg/L	09.23.14 19:55	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<0.844	4.69	0.844	mg/L	09.23.14 19:55	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<0.844	4.69	0.844	mg/L	09.23.14 19:55	U	1
Total TPH 1005	PHC635	<0.844		0.844	mg/L	09.23.14 19:55	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: Tech: SAD

Seq Number: 951378 Date Prep: 09.24.14 17.10

Prep seq: 661976

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000508	0.00500	0.000508	mg/L	09.24.14 17:45	U	1
Benzene	71-43-2	<0.000147	0.00100	0.000147	mg/L	09.24.14 17:45	U	1
Toluene	108-88-3	**0.000750**	0.00100	0.000153	mg/L	09.24.14 17:45	J	1
Ethylbenzene	100-41-4	**0.000260**	0.00100	0.0000806	mg/L	09.24.14 17:45	J	1
m,p-Xylenes	179601-23-1	**0.000830**	0.00200	0.000366	mg/L	09.24.14 17:45	J	1
o-Xylene	95-47-6	**0.000300**	0.00100	0.0000975	mg/L	09.24.14 17:45	J	1
Total Xylenes	1330-20-7	**0.00113**		0.0000975	mg/L	09.24.14 17:45		
Total BTEX		**0.00214**		0.0000806	mg/L	09.24.14 17:45		

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB13** Matrix: Ground Water Sample Depth:

Lab Sample Id: 493661-016 Date Collected: 09.16.14 13.45 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 951348 Date Prep: 09.23.14 11.30

Prep seq: 661917

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<0.852	4.73	0.852	mg/L	09.23.14 20:14	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<0.852	4.73	0.852	mg/L	09.23.14 20:14	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<0.852	4.73	0.852	mg/L	09.23.14 20:14	U	1
Total TPH 1005	PHC635	<0.852		0.852	mg/L	09.23.14 20:14	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: Tech: SAD

Seq Number: 951378 Date Prep: 09.24.14 17.11

Prep seq: 661976

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000508	0.00500	0.000508	mg/L	09.24.14 18:10	U	1
Benzene	71-43-2	<0.000147	0.00100	0.000147	mg/L	09.24.14 18:10	U	1
Toluene	108-88-3	**0.000750**	0.00100	0.000153	mg/L	09.24.14 18:10	J	1
Ethylbenzene	100-41-4	**0.000210**	0.00100	0.0000806	mg/L	09.24.14 18:10	J	1
m,p-Xylenes	179601-23-1	**0.000450**	0.00200	0.000366	mg/L	09.24.14 18:10	J	1
o-Xylene	95-47-6	**0.000170**	0.00100	0.0000975	mg/L	09.24.14 18:10	J	1
Total Xylenes	1330-20-7	**0.000620**		0.0000975	mg/L	09.24.14 18:10	J	
Total BTEX		**0.00158**		0.0000806	mg/L	09.24.14 18:10		

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB16** Matrix: Ground Water Sample Depth:

Lab Sample Id: 493661-017 Date Collected: 09.16.14 15.30 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 951348 Date Prep: 09.23.14 11.33

Prep seq: 661917

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<0.763	4.24	0.763	mg/L	09.23.14 20:33	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<0.763	4.24	0.763	mg/L	09.23.14 20:33	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<0.763	4.24	0.763	mg/L	09.23.14 20:33	U	1
Total TPH 1005	PHC635	<0.763		0.763	mg/L	09.23.14 20:33	U	

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: Tech: SAD

Seq Number: 951378 Date Prep: 09.24.14 17.12

Prep seq: 661976

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000508	0.00500	0.000508	mg/L	09.24.14 18:36	U	1
Benzene	71-43-2	<0.000147	0.00100	0.000147	mg/L	09.24.14 18:36	U	1
Toluene	108-88-3	**0.000780**	0.00100	0.000153	mg/L	09.24.14 18:36	J	1
Ethylbenzene	100-41-4	**0.000170**	0.00100	0.0000806	mg/L	09.24.14 18:36	J	1
m,p-Xylenes	179601-23-1	**0.000450**	0.00200	0.000366	mg/L	09.24.14 18:36	J	1
o-Xylene	95-47-6	**0.000220**	0.00100	0.0000975	mg/L	09.24.14 18:36	J	1
Total Xylenes	1330-20-7	**0.000670**		0.0000975	mg/L	09.24.14 18:36	J	
Total BTEX		**0.00162**		0.0000806	mg/L	09.24.14 18:36		

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **COMPOSITE** Matrix: Soil Sample Depth:

Lab Sample Id: 493661-018 Date Collected: 09.16.14 00.00 Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: 25.59 Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 15.15

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<12.1	67.2	12.1	mg/kg	09.24.14 03:32	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<12.1	67.2	12.1	mg/kg	09.24.14 03:32	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<12.1	67.2	12.1	mg/kg	09.24.14 03:32	U	1
Total TPH 1005	PHC635	<12.1		12.1	mg/kg	09.24.14 03:32	U	

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **COMPOSITE** Matrix: Soil Sample Depth:

Lab Sample Id: 493661-018 Date Collected: 09.16.14 00.00 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 25.59 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 13.12

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000209	0.00667	0.000209	mg/kg	09.22.14 20:59	U	1
Bromobenzene	108-86-1	<0.000584	0.00667	0.000584	mg/kg	09.22.14 20:59	U	1
Bromochloromethane	74-97-5	<0.000633	0.00667	0.000633	mg/kg	09.22.14 20:59	U	1
Bromodichloromethane	75-27-4	<0.000354	0.00667	0.000354	mg/kg	09.22.14 20:59	U	1
Bromoform	75-25-2	<0.000931	0.00667	0.000931	mg/kg	09.22.14 20:59	U	1
Bromomethane	74-83-9	<0.00141	0.00667	0.00141	mg/kg	09.22.14 20:59	U	1
MTBE	1634-04-4	<0.000454	0.00667	0.000454	mg/kg	09.22.14 20:59	U	1
tert-Butylbenzene	98-06-6	<0.000275	0.00667	0.000275	mg/kg	09.22.14 20:59	U	1
Sec-Butylbenzene	135-98-8	<0.000654	0.00667	0.000654	mg/kg	09.22.14 20:59	U	1
n-Butylbenzene	104-51-8	<0.000626	0.00667	0.000626	mg/kg	09.22.14 20:59	U	1
Carbon Tetrachloride	56-23-5	<0.000311	0.00667	0.000311	mg/kg	09.22.14 20:59	U	1
Chlorobenzene	108-90-7	<0.000319	0.00667	0.000319	mg/kg	09.22.14 20:59	U	1
Chloroethane	75-00-3	<0.000731	0.0133	0.000731	mg/kg	09.22.14 20:59	U	1
Chloroform	67-66-3	<0.000390	0.00667	0.000390	mg/kg	09.22.14 20:59	U	1
Chloromethane	74-87-3	<0.000398	0.0133	0.000398	mg/kg	09.22.14 20:59	U	1
2-Chlorotoluene	95-49-8	<0.000523	0.00667	0.000523	mg/kg	09.22.14 20:59	U	1
4-Chlorotoluene	106-43-4	<0.000586	0.00667	0.000586	mg/kg	09.22.14 20:59	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000561	0.00667	0.000561	mg/kg	09.22.14 20:59	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00207	0.00667	0.00207	mg/kg	09.22.14 20:59	U	1
Dibromochloromethane	124-48-1	<0.000630	0.00667	0.000630	mg/kg	09.22.14 20:59	U	1
Dibromomethane	74-95-3	<0.000470	0.00667	0.000470	mg/kg	09.22.14 20:59	U	1
1,2-Dichlorobenzene	95-50-1	<0.000575	0.00667	0.000575	mg/kg	09.22.14 20:59	U	1
1,3-Dichlorobenzene	541-73-1	<0.000495	0.00667	0.000495	mg/kg	09.22.14 20:59	U	1
1,4-Dichlorobenzene	106-46-7	<0.000317	0.00667	0.000317	mg/kg	09.22.14 20:59	U	1
Dichlorodifluoromethane	75-71-8	<0.000567	0.00667	0.000567	mg/kg	09.22.14 20:59	U	1
1,2-Dichloroethane	107-06-2	<0.000468	0.00667	0.000468	mg/kg	09.22.14 20:59	U	1
1,1-Dichloroethane	75-34-3	<0.000268	0.00667	0.000268	mg/kg	09.22.14 20:59	U	1
1,2-Dibromoethane	106-93-4	<0.000564	0.00667	0.000564	mg/kg	09.22.14 20:59	U	1
trans-1,2-dichloroethene	156-60-5	<0.000390	0.00667	0.000390	mg/kg	09.22.14 20:59	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000454	0.00667	0.000454	mg/kg	09.22.14 20:59	U	1
1,1-Dichloroethene	75-35-4	<0.000316	0.00667	0.000316	mg/kg	09.22.14 20:59	U	1
2,2-Dichloropropane	594-20-7	<0.00158	0.00667	0.00158	mg/kg	09.22.14 20:59	U	1
1,3-Dichloropropane	142-28-9	<0.000333	0.00667	0.000333	mg/kg	09.22.14 20:59	U	1
1,2-Dichloropropane	78-87-5	<0.000630	0.00667	0.000630	mg/kg	09.22.14 20:59	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000405	0.00667	0.000405	mg/kg	09.22.14 20:59	U	1
1,1-Dichloropropene	563-58-6	<0.000564	0.00667	0.000564	mg/kg	09.22.14 20:59	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000570	0.00667	0.000570	mg/kg	09.22.14 20:59	U	1
Ethylbenzene	100-41-4	<0.000573	0.00667	0.000573	mg/kg	09.22.14 20:59	U	1
Hexachlorobutadiene	87-68-3	<0.00115	0.00667	0.00115	mg/kg	09.22.14 20:59	U	1
isopropylbenzene	98-82-8	<0.000223	0.00667	0.000223	mg/kg	09.22.14 20:59	U	1
Methylene Chloride	75-09-2	**0.00164**	0.0267	0.000785	mg/kg	09.22.14 20:59	BJ	1
Naphthalene	91-20-3	<0.000362	0.0133	0.000362	mg/kg	09.22.14 20:59	U	1
n-Propylbenzene	103-65-1	<0.000239	0.00667	0.000239	mg/kg	09.22.14 20:59	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **COMPOSITE** Matrix: Soil Sample Depth:

Lab Sample Id: 493661-018 Date Collected: 09.16.14 00.00 Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: 25.59 Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 13.12

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000200	0.00667	0.000200	mg/kg	09.22.14 20:59	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000543	0.00667	0.000543	mg/kg	09.22.14 20:59	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000612	0.00667	0.000612	mg/kg	09.22.14 20:59	U	1
Tetrachloroethylene	127-18-4	<0.000341	0.00667	0.000341	mg/kg	09.22.14 20:59	U	1
Toluene	108-88-3	<0.000616	0.00667	0.000616	mg/kg	09.22.14 20:59	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000579	0.00667	0.000579	mg/kg	09.22.14 20:59	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000324	0.00667	0.000324	mg/kg	09.22.14 20:59	U	1
1,1,2-Trichloroethane	79-00-5	<0.000434	0.00667	0.000434	mg/kg	09.22.14 20:59	U	1
1,1,1-Trichloroethane	71-55-6	<0.000452	0.00667	0.000452	mg/kg	09.22.14 20:59	U	1
Trichloroethene	79-01-6	<0.000436	0.00667	0.000436	mg/kg	09.22.14 20:59	U	1
Trichlorofluoromethane	75-69-4	<0.000647	0.00667	0.000647	mg/kg	09.22.14 20:59	U	1
1,2,3-Trichloropropane	96-18-4	<0.000935	0.00667	0.000935	mg/kg	09.22.14 20:59	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000151	0.00667	0.000151	mg/kg	09.22.14 20:59	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000530	0.00667	0.000530	mg/kg	09.22.14 20:59	U	1
Vinyl Chloride	75-01-4	<0.00110	0.00267	0.00110	mg/kg	09.22.14 20:59	U	1
o-Xylene	95-47-6	<0.000371	0.00667	0.000371	mg/kg	09.22.14 20:59	U	1
m,p-Xylenes	179601-23-1	<0.000515	0.0133	0.000515	mg/kg	09.22.14 20:59	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB2** Matrix: Water Sample Depth:

Lab Sample Id: 493688-001 Date Collected: 09.16.14 16.30 Date Received: 09.19.14 17.30

Analytical Method: SVOCs by EPA 8270C Prep Method: 3510C

Analyst: PKH % Moist: Tech: PKH

Seq Number: 951448 Date Prep: 09.22.14 15.57

Prep seq: 661866

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.00391	0.0200	0.00391	mg/L	09.25.14 10:21	U	1
Acenaphthylene	208-96-8	<0.00395	0.0200	0.00395	mg/L	09.25.14 10:21	U	1
Aniline (Phenylamine, Aminobenzene)	62-53-3	<0.00331	0.0400	0.00331	mg/L	09.25.14 10:21	U	1
Anthracene	120-12-7	<0.00297	0.0200	0.00297	mg/L	09.25.14 10:21	U	1
Benzo(a)anthracene	56-55-3	<0.00150	0.0200	0.00150	mg/L	09.25.14 10:21	U	1
Benzo(a)pyrene	50-32-8	<0.00159	0.0200	0.00159	mg/L	09.25.14 10:21	U	1
Benzo(b)fluoranthene	205-99-2	<0.00187	0.0200	0.00187	mg/L	09.25.14 10:21	U	1
Benzo(g,h,i)perylene	191-24-2	<0.00143	0.0200	0.00143	mg/L	09.25.14 10:21	U	1
Benzo(k)fluoranthene	207-08-9	<0.00234	0.0200	0.00234	mg/L	09.25.14 10:21	U	1
Benzoic Acid	65-85-0	<0.00515	0.120	0.00515	mg/L	09.25.14 10:21	U	1
Benzyl Butyl Phthalate	85-68-7	<0.00162	0.0200	0.00162	mg/L	09.25.14 10:21	U	1
bis(2-chloroethoxy) methane	111-91-1	<0.00429	0.0200	0.00429	mg/L	09.25.14 10:21	U	1
bis(2-chloroethyl) ether	111-44-4	<0.00409	0.0200	0.00409	mg/L	09.25.14 10:21	U	1
bis(2-chloroisopropyl) ether	39638-32-9	<0.00435	0.0200	0.00435	mg/L	09.25.14 10:21	U	1
bis(2-ethylhexyl) phthalate	117-81-7	<0.00176	0.0200	0.00176	mg/L	09.25.14 10:21	U	1
4-Bromophenyl-phenylether	101-55-3	<0.00392	0.0200	0.00392	mg/L	09.25.14 10:21	U	1
di-n-Butyl Phthalate	84-74-2	<0.00204	0.0200	0.00204	mg/L	09.25.14 10:21	U	1
4-chloro-3-methylphenol	59-50-7	<0.00380	0.0200	0.00380	mg/L	09.25.14 10:21	U	1
4-Chloroaniline	106-47-8	<0.00403	0.0400	0.00403	mg/L	09.25.14 10:21	U	1
2-Chloronaphthalene	91-58-7	<0.00403	0.0200	0.00403	mg/L	09.25.14 10:21	U	1
2-Chlorophenol	95-57-8	<0.00417	0.0200	0.00417	mg/L	09.25.14 10:21	U	1
4-Chlorophenyl Phenyl Ether	7005-72-3	<0.00414	0.0200	0.00414	mg/L	09.25.14 10:21	U	1
Chrysene	218-01-9	<0.00156	0.0200	0.00156	mg/L	09.25.14 10:21	U	1
Dibenz(a,h)Anthracene	53-70-3	<0.00165	0.0200	0.00165	mg/L	09.25.14 10:21	U	1
Dibenzofuran	132-64-9	<0.00401	0.0200	0.00401	mg/L	09.25.14 10:21	U	1
1,2-Dichlorobenzene	95-50-1	<0.00402	0.0200	0.00402	mg/L	09.25.14 10:21	U	1
1,3-Dichlorobenzene	541-73-1	<0.00371	0.0200	0.00371	mg/L	09.25.14 10:21	U	1
1,4-Dichlorobenzene	106-46-7	<0.00379	0.0200	0.00379	mg/L	09.25.14 10:21	U	1
3,3-Dichlorobenzidine	91-94-1	<0.00219	0.0400	0.00219	mg/L	09.25.14 10:21	U	1
2,4-Dichlorophenol	120-83-2	<0.00402	0.0200	0.00402	mg/L	09.25.14 10:21	U	1
Diethyl Phthalate	84-66-2	<0.00365	0.0200	0.00365	mg/L	09.25.14 10:21	U	1
Dimethyl Phthalate	131-11-3	<0.00387	0.0200	0.00387	mg/L	09.25.14 10:21	U	1
2,4-Dimethylphenol	105-67-9	<0.00344	0.0200	0.00344	mg/L	09.25.14 10:21	U	1
4,6-dinitro-2-methyl phenol	534-52-1	<0.00278	0.0400	0.00278	mg/L	09.25.14 10:21	U	1
2,4-Dinitrophenol	51-28-5	<0.00348	0.0400	0.00348	mg/L	09.25.14 10:21	U	1
2,4-Dinitrotoluene	121-14-2	<0.00307	0.0200	0.00307	mg/L	09.25.14 10:21	U	1
2,6-Dinitrotoluene	606-20-2	<0.00390	0.0200	0.00390	mg/L	09.25.14 10:21	U	1
Fluoranthene	206-44-0	<0.00204	0.0200	0.00204	mg/L	09.25.14 10:21	U	1
Fluorene	86-73-7	<0.00403	0.0200	0.00403	mg/L	09.25.14 10:21	U	1
Hexachlorobenzene	118-74-1	<0.00361	0.0200	0.00361	mg/L	09.25.14 10:21	U	1
Hexachlorobutadiene	87-68-3	<0.00396	0.0200	0.00396	mg/L	09.25.14 10:21	U	1
Hexachlorocyclopentadiene	77-47-4	<0.00198	0.0200	0.00198	mg/L	09.25.14 10:21	U	1
Hexachloroethane	67-72-1	<0.00411	0.0200	0.00411	mg/L	09.25.14 10:21	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **EB2** Matrix: Water Sample Depth:

Lab Sample Id: 493688-001 Date Collected: 09.16.14 16.30 Date Received: 09.19.14 17.30

Analytical Method: SVOCs by EPA 8270C Prep Method: 3510C

Analyst: PKH % Moist: Tech: PKH

Seq Number: 951448 Date Prep: 09.22.14 15.57

Prep seq: 661866

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.00150	0.0200	0.00150	mg/L	09.25.14 10:21	U	1
Isophorone	78-59-1	<0.00409	0.0200	0.00409	mg/L	09.25.14 10:21	U	1
2-Methylnaphthalene	91-57-6	<0.00395	0.0200	0.00395	mg/L	09.25.14 10:21	U	1
2-methylphenol	95-48-7	<0.00341	0.0200	0.00341	mg/L	09.25.14 10:21	U	1
3&4-Methylphenol	15831-10-4	<0.00336	0.0200	0.00336	mg/L	09.25.14 10:21	U	1
Naphthalene	91-20-3	<0.00391	0.0200	0.00391	mg/L	09.25.14 10:21	U	1
4-Nitroaniline	100-01-6	<0.00326	0.0400	0.00326	mg/L	09.25.14 10:21	U	1
3-Nitroaniline	99-09-2	<0.00429	0.0400	0.00429	mg/L	09.25.14 10:21	U	1
2-Nitroaniline	88-74-4	<0.00359	0.0280	0.00359	mg/L	09.25.14 10:21	U	1
Nitrobenzene	98-95-3	<0.00407	0.0200	0.00407	mg/L	09.25.14 10:21	U	1
2-Nitrophenol	88-75-5	<0.00413	0.0200	0.00413	mg/L	09.25.14 10:21	U	1
4-Nitrophenol	100-02-7	<0.00155	0.0400	0.00155	mg/L	09.25.14 10:21	U	1
N-Nitrosodi-n-Propylamine	621-64-7	<0.00416	0.0200	0.00416	mg/L	09.25.14 10:21	U	1
N-Nitrosodiphenylamine	86-30-6	<0.00393	0.0200	0.00393	mg/L	09.25.14 10:21	U	1
di-n-Octyl Phthalate	117-84-0	<0.00163	0.0200	0.00163	mg/L	09.25.14 10:21	U	1
Pentachlorophenol	87-86-5	<0.00209	0.0400	0.00209	mg/L	09.25.14 10:21	U	1
Phenanthrene	85-01-8	<0.00325	0.0200	0.00325	mg/L	09.25.14 10:21	U	1
Phenol	108-95-2	<0.00210	0.0400	0.00210	mg/L	09.25.14 10:21	U	1
Pyrene	129-00-0	<0.00187	0.0200	0.00187	mg/L	09.25.14 10:21	U	1
Pyridine	110-86-1	<0.00296	0.0400	0.00296	mg/L	09.25.14 10:21	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.00372	0.0200	0.00372	mg/L	09.25.14 10:21	U	1
2,4,6-Trichlorophenol	88-06-2	<0.00434	0.0200	0.00434	mg/L	09.25.14 10:21	U	1
2,4,5-Trichlorophenol	95-95-4	<0.00357	0.0200	0.00357	mg/L	09.25.14 10:21	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661610-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 661610-1-BLK Date Collected: Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 950868 Date Prep: 09.17.14 09.40

Prep seq: 661610

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<0.900	5.00	0.900	mg/L	09.17.14 13:55	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<0.900	5.00	0.900	mg/L	09.17.14 13:55	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<0.900	5.00	0.900	mg/L	09.17.14 13:55	U	1

Sample Id: **661702-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661702-1-BLK Date Collected: Date Received: 09.16.14 12.25

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 950959 Date Prep: 09.18.14 11.27

Prep seq: 661702

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<9.00	50.0	9.00	mg/kg	09.18.14 21:46	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<9.00	50.0	9.00	mg/kg	09.18.14 21:46	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<9.00	50.0	9.00	mg/kg	09.18.14 21:46	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661716-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661716-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: SVOCs by EPA 8270C Prep Method: 3550B

Analyst: PKH % Moist: Tech: PKH

Seq Number: 951234 Date Prep: 09.19.14 14.30

Prep seq: 661716

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.0155	0.167	0.0155	mg/kg	09.19.14 16:35	U	1
Acenaphthylene	208-96-8	<0.0148	0.167	0.0148	mg/kg	09.19.14 16:35	U	1
Aniline (Phenylamine, Aminobenzene)	62-53-3	<0.0136	0.333	0.0136	mg/kg	09.19.14 16:35	U	1
Anthracene	120-12-7	<0.0138	0.167	0.0138	mg/kg	09.19.14 16:35	U	1
Benzo(a)anthracene	56-55-3	<0.0141	0.167	0.0141	mg/kg	09.19.14 16:35	U	1
Benzo(a)pyrene	50-32-8	<0.0172	0.167	0.0172	mg/kg	09.19.14 16:35	U	1
Benzo(b)fluoranthene	205-99-2	<0.0126	0.167	0.0126	mg/kg	09.19.14 16:35	U	1
Benzo(g,h,i)perylene	191-24-2	<0.0153	0.167	0.0153	mg/kg	09.19.14 16:35	U	1
Benzo(k)fluoranthene	207-08-9	<0.0194	0.167	0.0194	mg/kg	09.19.14 16:35	U	1
Benzoic Acid	65-85-0	<0.0215	1.00	0.0215	mg/kg	09.19.14 16:35	U	1
Benzyl Butyl Phthalate	85-68-7	<0.0181	0.167	0.0181	mg/kg	09.19.14 16:35	U	1
bis(2-chloroethoxy) methane	111-91-1	<0.0168	0.167	0.0168	mg/kg	09.19.14 16:35	U	1
bis(2-chloroethyl) ether	111-44-4	<0.0152	0.167	0.0152	mg/kg	09.19.14 16:35	U	1
bis(2-chloroisopropyl) ether	39638-32-9	<0.0178	0.167	0.0178	mg/kg	09.19.14 16:35	U	1
bis(2-ethylhexyl) phthalate	117-81-7	<0.0148	0.167	0.0148	mg/kg	09.19.14 16:35	U	1
4-Bromophenyl-phenylether	101-55-3	<0.0133	0.167	0.0133	mg/kg	09.19.14 16:35	U	1
di-n-Butyl Phthalate	84-74-2	<0.0160	0.167	0.0160	mg/kg	09.19.14 16:35	U	1
4-chloro-3-methylphenol	59-50-7	<0.0184	0.167	0.0184	mg/kg	09.19.14 16:35	U	1
4-Chloroaniline	106-47-8	<0.0126	0.333	0.0126	mg/kg	09.19.14 16:35	U	1
2-Chloronaphthalene	91-58-7	<0.0290	0.167	0.0290	mg/kg	09.19.14 16:35	U	1
2-Chlorophenol	95-57-8	<0.0158	0.167	0.0158	mg/kg	09.19.14 16:35	U	1
4-Chlorophenyl Phenyl Ether	7005-72-3	<0.0162	0.167	0.0162	mg/kg	09.19.14 16:35	U	1
Chrysene	218-01-9	<0.0165	0.167	0.0165	mg/kg	09.19.14 16:35	U	1
Dibenz(a,h)Anthracene	53-70-3	<0.0127	0.167	0.0127	mg/kg	09.19.14 16:35	U	1
Dibenzofuran	132-64-9	<0.0154	0.167	0.0154	mg/kg	09.19.14 16:35	U	1
1,2-Dichlorobenzene	95-50-1	<0.0154	0.167	0.0154	mg/kg	09.19.14 16:35	U	1
1,3-Dichlorobenzene	541-73-1	<0.0139	0.167	0.0139	mg/kg	09.19.14 16:35	U	1
1,4-Dichlorobenzene	106-46-7	<0.0150	0.167	0.0150	mg/kg	09.19.14 16:35	U	1
3,3-Dichlorobenzidine	91-94-1	<0.0154	0.333	0.0154	mg/kg	09.19.14 16:35	U	1
2,4-Dichlorophenol	120-83-2	<0.0174	0.167	0.0174	mg/kg	09.19.14 16:35	U	1
Diethyl Phthalate	84-66-2	<0.0153	0.167	0.0153	mg/kg	09.19.14 16:35	U	1
Dimethyl Phthalate	131-11-3	<0.0159	0.167	0.0159	mg/kg	09.19.14 16:35	U	1
2,4-Dimethylphenol	105-67-9	<0.0165	0.167	0.0165	mg/kg	09.19.14 16:35	U	1
4,6-dinitro-2-methyl phenol	534-52-1	<0.0127	0.333	0.0127	mg/kg	09.19.14 16:35	U	1
2,4-Dinitrophenol	51-28-5	<0.0242	0.333	0.0242	mg/kg	09.19.14 16:35	U	1
2,4-Dinitrotoluene	121-14-2	<0.0127	0.167	0.0127	mg/kg	09.19.14 16:35	U	1
2,6-Dinitrotoluene	606-20-2	<0.0233	0.167	0.0233	mg/kg	09.19.14 16:35	U	1
Fluoranthene	206-44-0	<0.0147	0.167	0.0147	mg/kg	09.19.14 16:35	U	1
Fluorene	86-73-7	<0.0138	0.167	0.0138	mg/kg	09.19.14 16:35	U	1
Hexachlorobenzene	118-74-1	<0.0162	0.167	0.0162	mg/kg	09.19.14 16:35	U	1
Hexachlorobutadiene	87-68-3	<0.0138	0.167	0.0138	mg/kg	09.19.14 16:35	U	1
Hexachlorocyclopentadiene	77-47-4	<0.0152	0.167	0.0152	mg/kg	09.19.14 16:35	U	1
Hexachloroethane	67-72-1	<0.0173	0.167	0.0173	mg/kg	09.19.14 16:35	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661716-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661716-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: SVOCs by EPA 8270C Prep Method: 3550B

Analyst: PKH % Moist: Tech: PKH

Seq Number: 951234 Date Prep: 09.19.14 14.30

Prep seq: 661716

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.0134	0.167	0.0134	mg/kg	09.19.14 16:35	U	1
Isophorone	78-59-1	<0.0145	0.167	0.0145	mg/kg	09.19.14 16:35	U	1
2-Methylnaphthalene	91-57-6	<0.0452	0.167	0.0452	mg/kg	09.19.14 16:35	U	1
2-methylphenol	95-48-7	<0.0185	0.167	0.0185	mg/kg	09.19.14 16:35	U	1
3&4-Methylphenol	15831-10-4	<0.0154	0.167	0.0154	mg/kg	09.19.14 16:35	U	1
Naphthalene	91-20-3	<0.0156	0.167	0.0156	mg/kg	09.19.14 16:35	U	1
4-Nitroaniline	100-01-6	<0.0138	0.333	0.0138	mg/kg	09.19.14 16:35	U	1
3-Nitroaniline	99-09-2	<0.0139	0.333	0.0139	mg/kg	09.19.14 16:35	U	1
2-Nitroaniline	88-74-4	<0.0156	0.333	0.0156	mg/kg	09.19.14 16:35	U	1
Nitrobenzene	98-95-3	<0.0185	0.167	0.0185	mg/kg	09.19.14 16:35	U	1
2-Nitrophenol	88-75-5	<0.0146	0.167	0.0146	mg/kg	09.19.14 16:35	U	1
4-Nitrophenol	100-02-7	<0.0258	0.333	0.0258	mg/kg	09.19.14 16:35	U	1
N-Nitrosodi-n-Propylamine	621-64-7	<0.0174	0.167	0.0174	mg/kg	09.19.14 16:35	U	1
N-Nitrosodiphenylamine	86-30-6	<0.0186	0.167	0.0186	mg/kg	09.19.14 16:35	U	1
di-n-Octyl Phthalate	117-84-0	<0.0133	0.167	0.0133	mg/kg	09.19.14 16:35	U	1
Pentachlorophenol	87-86-5	<0.0121	0.333	0.0121	mg/kg	09.19.14 16:35	U	1
Phenanthrene	85-01-8	<0.0166	0.167	0.0166	mg/kg	09.19.14 16:35	U	1
Phenol	108-95-2	<0.0150	0.333	0.0150	mg/kg	09.19.14 16:35	U	1
Pyrene	129-00-0	<0.0146	0.167	0.0146	mg/kg	09.19.14 16:35	U	1
Pyridine	110-86-1	<0.0167	0.333	0.0167	mg/kg	09.19.14 16:35	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.0145	0.167	0.0145	mg/kg	09.19.14 16:35	U	1
2,4,6-Trichlorophenol	88-06-2	<0.0158	0.167	0.0158	mg/kg	09.19.14 16:35	U	1
2,4,5-Trichlorophenol	95-95-4	<0.0191	0.167	0.0191	mg/kg	09.19.14 16:35	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661766-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661766-1-BLK Date Collected: Date Received: 09.16.14 12.25

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951027 Date Prep: 09.18.14 15.10

Prep seq: 661766

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000157	0.00500	0.000157	mg/kg	09.18.14 15:23	U	1
Bromobenzene	108-86-1	<0.000438	0.00500	0.000438	mg/kg	09.18.14 15:23	U	1
Bromochloromethane	74-97-5	<0.000475	0.00500	0.000475	mg/kg	09.18.14 15:23	U	1
Bromodichloromethane	75-27-4	<0.000265	0.00500	0.000265	mg/kg	09.18.14 15:23	U	1
Bromoform	75-25-2	<0.000698	0.00500	0.000698	mg/kg	09.18.14 15:23	U	1
Bromomethane	74-83-9	<0.00106	0.00500	0.00106	mg/kg	09.18.14 15:23	U	1
MTBE	1634-04-4	<0.000340	0.00500	0.000340	mg/kg	09.18.14 15:23	U	1
tert-Butylbenzene	98-06-6	<0.000206	0.00500	0.000206	mg/kg	09.18.14 15:23	U	1
Sec-Butylbenzene	135-98-8	<0.000490	0.00500	0.000490	mg/kg	09.18.14 15:23	U	1
n-Butylbenzene	104-51-8	<0.000470	0.00500	0.000470	mg/kg	09.18.14 15:23	U	1
Carbon Tetrachloride	56-23-5	<0.000234	0.00500	0.000234	mg/kg	09.18.14 15:23	U	1
Chlorobenzene	108-90-7	<0.000239	0.00500	0.000239	mg/kg	09.18.14 15:23	U	1
Chloroethane	75-00-3	<0.000549	0.0100	0.000549	mg/kg	09.18.14 15:23	U	1
Chloroform	67-66-3	<0.000292	0.00500	0.000292	mg/kg	09.18.14 15:23	U	1
Chloromethane	74-87-3	<0.000299	0.0100	0.000299	mg/kg	09.18.14 15:23	U	1
2-Chlorotoluene	95-49-8	<0.000392	0.00500	0.000392	mg/kg	09.18.14 15:23	U	1
4-Chlorotoluene	106-43-4	<0.000439	0.00500	0.000439	mg/kg	09.18.14 15:23	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000420	0.00500	0.000420	mg/kg	09.18.14 15:23	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00155	0.00500	0.00155	mg/kg	09.18.14 15:23	U	1
Dibromochloromethane	124-48-1	<0.000473	0.00500	0.000473	mg/kg	09.18.14 15:23	U	1
Dibromomethane	74-95-3	<0.000352	0.00500	0.000352	mg/kg	09.18.14 15:23	U	1
1,2-Dichlorobenzene	95-50-1	<0.000431	0.00500	0.000431	mg/kg	09.18.14 15:23	U	1
1,3-Dichlorobenzene	541-73-1	<0.000371	0.00500	0.000371	mg/kg	09.18.14 15:23	U	1
1,4-Dichlorobenzene	106-46-7	<0.000238	0.00500	0.000238	mg/kg	09.18.14 15:23	U	1
Dichlorodifluoromethane	75-71-8	<0.000426	0.00500	0.000426	mg/kg	09.18.14 15:23	U	1
1,2-Dichloroethane	107-06-2	<0.000351	0.00500	0.000351	mg/kg	09.18.14 15:23	U	1
1,1-Dichloroethane	75-34-3	<0.000201	0.00500	0.000201	mg/kg	09.18.14 15:23	U	1
1,2-Dibromoethane	106-93-4	<0.000423	0.00500	0.000423	mg/kg	09.18.14 15:23	U	1
trans-1,2-dichloroethene	156-60-5	<0.000292	0.00500	0.000292	mg/kg	09.18.14 15:23	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000340	0.00500	0.000340	mg/kg	09.18.14 15:23	U	1
1,1-Dichloroethene	75-35-4	<0.000237	0.00500	0.000237	mg/kg	09.18.14 15:23	U	1
2,2-Dichloropropane	594-20-7	<0.00118	0.00500	0.00118	mg/kg	09.18.14 15:23	U	1
1,3-Dichloropropane	142-28-9	<0.000250	0.00500	0.000250	mg/kg	09.18.14 15:23	U	1
1,2-Dichloropropane	78-87-5	<0.000472	0.00500	0.000472	mg/kg	09.18.14 15:23	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000303	0.00500	0.000303	mg/kg	09.18.14 15:23	U	1
1,1-Dichloropropene	563-58-6	<0.000423	0.00500	0.000423	mg/kg	09.18.14 15:23	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000428	0.00500	0.000428	mg/kg	09.18.14 15:23	U	1
Ethylbenzene	100-41-4	<0.000430	0.00500	0.000430	mg/kg	09.18.14 15:23	U	1
Hexachlorobutadiene	87-68-3	<0.000863	0.00500	0.000863	mg/kg	09.18.14 15:23	U	1
isopropylbenzene	98-82-8	<0.000167	0.00500	0.000167	mg/kg	09.18.14 15:23	U	1
Methylene Chloride	75-09-2	**0.00167**	0.0200	0.000588	mg/kg	09.18.14 15:23	J	1
Naphthalene	91-20-3	<0.000271	0.0100	0.000271	mg/kg	09.18.14 15:23	U	1
n-Propylbenzene	103-65-1	<0.000179	0.00500	0.000179	mg/kg	09.18.14 15:23	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661766-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661766-1-BLK Date Collected: Date Received: 09.16.14 12.25

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951027 Date Prep: 09.18.14 15.10

Prep seq: 661766

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000150	0.00500	0.000150	mg/kg	09.18.14 15:23	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000407	0.00500	0.000407	mg/kg	09.18.14 15:23	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000459	0.00500	0.000459	mg/kg	09.18.14 15:23	U	1
Tetrachloroethylene	127-18-4	<0.000256	0.00500	0.000256	mg/kg	09.18.14 15:23	U	1
Toluene	108-88-3	<0.000462	0.00500	0.000462	mg/kg	09.18.14 15:23	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000434	0.00500	0.000434	mg/kg	09.18.14 15:23	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000243	0.00500	0.000243	mg/kg	09.18.14 15:23	U	1
1,1,2-Trichloroethane	79-00-5	<0.000326	0.00500	0.000326	mg/kg	09.18.14 15:23	U	1
1,1,1-Trichloroethane	71-55-6	<0.000339	0.00500	0.000339	mg/kg	09.18.14 15:23	U	1
Trichloroethene	79-01-6	<0.000327	0.00500	0.000327	mg/kg	09.18.14 15:23	U	1
Trichlorofluoromethane	75-69-4	<0.000485	0.00500	0.000485	mg/kg	09.18.14 15:23	U	1
1,2,3-Trichloropropane	96-18-4	<0.000701	0.00500	0.000701	mg/kg	09.18.14 15:23	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000113	0.00500	0.000113	mg/kg	09.18.14 15:23	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000397	0.00500	0.000397	mg/kg	09.18.14 15:23	U	1
Vinyl Chloride	75-01-4	<0.000827	0.00200	0.000827	mg/kg	09.18.14 15:23	U	1
o-Xylene	95-47-6	<0.000279	0.00500	0.000279	mg/kg	09.18.14 15:23	U	1
m,p-Xylenes	179601-23-1	<0.000386	0.0100	0.000386	mg/kg	09.18.14 15:23	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661843-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 661843-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951138 Date Prep: 09.20.14 13.46

Prep seq: 661843

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000204	0.00500	0.000204	mg/L	09.20.14 14:32	U	1
Bromobenzene	108-86-1	<0.000324	0.00500	0.000324	mg/L	09.20.14 14:32	U	1
Bromochloromethane	74-97-5	<0.000562	0.00500	0.000562	mg/L	09.20.14 14:32	U	1
Bromodichloromethane	75-27-4	<0.000242	0.00500	0.000242	mg/L	09.20.14 14:32	U	1
Bromoform	75-25-2	<0.000848	0.00500	0.000848	mg/L	09.20.14 14:32	U	1
Bromomethane	74-83-9	<0.000450	0.00500	0.000450	mg/L	09.20.14 14:32	U	1
MTBE	1634-04-4	<0.00122	0.00500	0.00122	mg/L	09.20.14 14:32	U	1
tert-Butylbenzene	98-06-6	<0.000178	0.00500	0.000178	mg/L	09.20.14 14:32	U	1
Sec-Butylbenzene	135-98-8	<0.000101	0.00500	0.000101	mg/L	09.20.14 14:32	U	1
n-Butylbenzene	104-51-8	<0.0000832	0.00500	0.0000832	mg/L	09.20.14 14:32	U	1
Carbon Tetrachloride	56-23-5	<0.000279	0.00500	0.000279	mg/L	09.20.14 14:32	U	1
Chlorobenzene	108-90-7	<0.000223	0.00500	0.000223	mg/L	09.20.14 14:32	U	1
Chloroethane	75-00-3	<0.000253	0.0100	0.000253	mg/L	09.20.14 14:32	U	1
Chloroform	67-66-3	<0.000241	0.00500	0.000241	mg/L	09.20.14 14:32	U	1
Chloromethane	74-87-3	<0.000465	0.0100	0.000465	mg/L	09.20.14 14:32	U	1
2-Chlorotoluene	95-49-8	<0.000143	0.00500	0.000143	mg/L	09.20.14 14:32	U	1
4-Chlorotoluene	106-43-4	<0.000174	0.00500	0.000174	mg/L	09.20.14 14:32	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000577	0.00500	0.000577	mg/L	09.20.14 14:32	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00160	0.00500	0.00160	mg/L	09.20.14 14:32	U	1
Dibromochloromethane	124-48-1	<0.000452	0.00500	0.000452	mg/L	09.20.14 14:32	U	1
Dibromomethane	74-95-3	<0.000411	0.00500	0.000411	mg/L	09.20.14 14:32	U	1
1,2-Dichlorobenzene	95-50-1	<0.000286	0.00500	0.000286	mg/L	09.20.14 14:32	U	1
1,3-Dichlorobenzene	541-73-1	<0.000417	0.00500	0.000417	mg/L	09.20.14 14:32	U	1
1,4-Dichlorobenzene	106-46-7	<0.000198	0.00500	0.000198	mg/L	09.20.14 14:32	U	1
Dichlorodifluoromethane	75-71-8	<0.000311	0.00500	0.000311	mg/L	09.20.14 14:32	U	1
1,2-Dichloroethane	107-06-2	<0.000158	0.00500	0.000158	mg/L	09.20.14 14:32	U	1
1,1-Dichloroethane	75-34-3	<0.000158	0.00500	0.000158	mg/L	09.20.14 14:32	U	1
1,2-Dibromoethane	106-93-4	<0.000494	0.00500	0.000494	mg/L	09.20.14 14:32	U	1
trans-1,2-dichloroethene	156-60-5	<0.000269	0.00500	0.000269	mg/L	09.20.14 14:32	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000447	0.00500	0.000447	mg/L	09.20.14 14:32	U	1
1,1-Dichloroethene	75-35-4	<0.000272	0.00500	0.000272	mg/L	09.20.14 14:32	U	1
2,2-Dichloropropane	594-20-7	<0.000453	0.00500	0.000453	mg/L	09.20.14 14:32	U	1
1,3-Dichloropropane	142-28-9	<0.000475	0.00500	0.000475	mg/L	09.20.14 14:32	U	1
1,2-Dichloropropane	78-87-5	<0.000474	0.00500	0.000474	mg/L	09.20.14 14:32	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000291	0.00500	0.000291	mg/L	09.20.14 14:32	U	1
1,1-Dichloropropene	563-58-6	<0.000227	0.00500	0.000227	mg/L	09.20.14 14:32	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000380	0.00500	0.000380	mg/L	09.20.14 14:32	U	1
Ethylbenzene	100-41-4	<0.000221	0.00500	0.000221	mg/L	09.20.14 14:32	U	1
Hexachlorobutadiene	87-68-3	<0.000456	0.00500	0.000456	mg/L	09.20.14 14:32	U	1
isopropylbenzene	98-82-8	<0.0000915	0.00500	0.0000915	mg/L	09.20.14 14:32	U	1
Naphthalene	91-20-3	<0.000182	0.0100	0.000182	mg/L	09.20.14 14:32	U	1
n-Propylbenzene	103-65-1	<0.000167	0.00500	0.000167	mg/L	09.20.14 14:32	U	1
Styrene	100-42-5	<0.000153	0.00500	0.000153	mg/L	09.20.14 14:32	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661843-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 661843-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951138 Date Prep: 09.20.14 13.46

Prep seq: 661843

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
1,1,1,2-Tetrachloroethane	630-20-6	<0.000276	0.00500	0.000276	mg/L	09.20.14 14:32	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000321	0.00500	0.000321	mg/L	09.20.14 14:32	U	1
Toluene	108-88-3	<0.000268	0.00500	0.000268	mg/L	09.20.14 14:32	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000207	0.00500	0.000207	mg/L	09.20.14 14:32	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000272	0.00500	0.000272	mg/L	09.20.14 14:32	U	1
1,1,2-Trichloroethane	79-00-5	<0.000461	0.00500	0.000461	mg/L	09.20.14 14:32	U	1
1,1,1-Trichloroethane	71-55-6	<0.000213	0.00500	0.000213	mg/L	09.20.14 14:32	U	1
Trichloroethene	79-01-6	<0.000383	0.00500	0.000383	mg/L	09.20.14 14:32	U	1
Trichlorofluoromethane	75-69-4	<0.000419	0.00500	0.000419	mg/L	09.20.14 14:32	U	1
1,2,3-Trichloropropane	96-18-4	<0.000214	0.00500	0.000214	mg/L	09.20.14 14:32	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.0000719	0.00500	0.0000719	mg/L	09.20.14 14:32	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000134	0.00500	0.000134	mg/L	09.20.14 14:32	U	1
o-Xylene	95-47-6	<0.000149	0.00500	0.000149	mg/L	09.20.14 14:32	U	1
m,p-Xylenes	179601-23-1	<0.000847	0.0100	0.000847	mg/L	09.20.14 14:32	U	1
Methylene Chloride	75-09-2	<0.000927	0.00500	0.000927	mg/L	09.20.14 14:32	U	1
Tetrachloroethylene	127-18-4	<0.000229	0.00500	0.000229	mg/L	09.20.14 14:32	U	1
Vinyl Chloride	75-01-4	<0.000292	0.00200	0.000292	mg/L	09.20.14 14:32	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661866-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 661866-1-BLK Date Collected: Date Received: 09.19.14 17.30

Analytical Method: SVOCs by EPA 8270C Prep Method: 3510C

Analyst: PKH % Moist: Tech: PKH

Seq Number: 951448 Date Prep: 09.22.14 15.33

Prep seq: 661866

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Acenaphthene	83-32-9	<0.000977	0.00500	0.000977	mg/L	09.24.14 13:47	U	1
Acenaphthylene	208-96-8	<0.000986	0.00500	0.000986	mg/L	09.24.14 13:47	U	1
Aniline (Phenylamine, Aminobenzene)	62-53-3	<0.000827	0.0100	0.000827	mg/L	09.24.14 13:47	U	1
Anthracene	120-12-7	<0.000744	0.00500	0.000744	mg/L	09.24.14 13:47	U	1
Benzo(a)anthracene	56-55-3	<0.000375	0.00500	0.000375	mg/L	09.24.14 13:47	U	1
Benzo(a)pyrene	50-32-8	<0.000399	0.00500	0.000399	mg/L	09.24.14 13:47	U	1
Benzo(b)fluoranthene	205-99-2	<0.000468	0.00500	0.000468	mg/L	09.24.14 13:47	U	1
Benzo(g,h,i)perylene	191-24-2	<0.000357	0.00500	0.000357	mg/L	09.24.14 13:47	U	1
Benzo(k)fluoranthene	207-08-9	<0.000585	0.00500	0.000585	mg/L	09.24.14 13:47	U	1
Benzoic Acid	65-85-0	<0.00129	0.0300	0.00129	mg/L	09.24.14 13:47	U	1
Benzyl Butyl Phthalate	85-68-7	<0.000405	0.00500	0.000405	mg/L	09.24.14 13:47	U	1
bis(2-chloroethoxy) methane	111-91-1	<0.00107	0.00500	0.00107	mg/L	09.24.14 13:47	U	1
bis(2-chloroethyl) ether	111-44-4	<0.00102	0.00500	0.00102	mg/L	09.24.14 13:47	U	1
bis(2-chloroisopropyl) ether	39638-32-9	<0.00109	0.00500	0.00109	mg/L	09.24.14 13:47	U	1
bis(2-ethylhexyl) phthalate	117-81-7	<0.000441	0.00500	0.000441	mg/L	09.24.14 13:47	U	1
4-Bromophenyl-phenylether	101-55-3	<0.000980	0.00500	0.000980	mg/L	09.24.14 13:47	U	1
di-n-Butyl Phthalate	84-74-2	<0.000510	0.00500	0.000510	mg/L	09.24.14 13:47	U	1
4-chloro-3-methylphenol	59-50-7	<0.000950	0.00500	0.000950	mg/L	09.24.14 13:47	U	1
4-Chloroaniline	106-47-8	<0.00101	0.0100	0.00101	mg/L	09.24.14 13:47	U	1
2-Chloronaphthalene	91-58-7	<0.00101	0.00500	0.00101	mg/L	09.24.14 13:47	U	1
2-Chlorophenol	95-57-8	<0.00104	0.00500	0.00104	mg/L	09.24.14 13:47	U	1
4-Chlorophenyl Phenyl Ether	7005-72-3	<0.00103	0.00500	0.00103	mg/L	09.24.14 13:47	U	1
Chrysene	218-01-9	<0.000390	0.00500	0.000390	mg/L	09.24.14 13:47	U	1
Dibenz(a,h)Anthracene	53-70-3	<0.000414	0.00500	0.000414	mg/L	09.24.14 13:47	U	1
Dibenzofuran	132-64-9	<0.00100	0.00500	0.00100	mg/L	09.24.14 13:47	U	1
1,2-Dichlorobenzene	95-50-1	<0.00100	0.00500	0.00100	mg/L	09.24.14 13:47	U	1
1,3-Dichlorobenzene	541-73-1	<0.000926	0.00500	0.000926	mg/L	09.24.14 13:47	U	1
1,4-Dichlorobenzene	106-46-7	<0.000947	0.00500	0.000947	mg/L	09.24.14 13:47	U	1
3,3-Dichlorobenzidine	91-94-1	<0.000549	0.0100	0.000549	mg/L	09.24.14 13:47	U	1
2,4-Dichlorophenol	120-83-2	<0.00100	0.00500	0.00100	mg/L	09.24.14 13:47	U	1
Diethyl Phthalate	84-66-2	<0.000911	0.00500	0.000911	mg/L	09.24.14 13:47	U	1
Dimethyl Phthalate	131-11-3	<0.000968	0.00500	0.000968	mg/L	09.24.14 13:47	U	1
2,4-Dimethylphenol	105-67-9	<0.000860	0.00500	0.000860	mg/L	09.24.14 13:47	U	1
4,6-dinitro-2-methyl phenol	534-52-1	<0.000696	0.0100	0.000696	mg/L	09.24.14 13:47	U	1
2,4-Dinitrophenol	51-28-5	<0.000869	0.0100	0.000869	mg/L	09.24.14 13:47	U	1
2,4-Dinitrotoluene	121-14-2	<0.000767	0.00500	0.000767	mg/L	09.24.14 13:47	U	1
2,6-Dinitrotoluene	606-20-2	<0.000974	0.00500	0.000974	mg/L	09.24.14 13:47	U	1
Fluoranthene	206-44-0	<0.000510	0.00500	0.000510	mg/L	09.24.14 13:47	U	1
Fluorene	86-73-7	<0.00101	0.00500	0.00101	mg/L	09.24.14 13:47	U	1
Hexachlorobenzene	118-74-1	<0.000902	0.00500	0.000902	mg/L	09.24.14 13:47	U	1
Hexachlorobutadiene	87-68-3	<0.000989	0.00500	0.000989	mg/L	09.24.14 13:47	U	1
Hexachlorocyclopentadiene	77-47-4	<0.000495	0.00500	0.000495	mg/L	09.24.14 13:47	U	1
Hexachloroethane	67-72-1	<0.00103	0.00500	0.00103	mg/L	09.24.14 13:47	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661866-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 661866-1-BLK Date Collected: Date Received: 09.19.14 17.30

Analytical Method: SVOCs by EPA 8270C Prep Method: 3510C

Analyst: PKH % Moist: Tech: PKH

Seq Number: 951448 Date Prep: 09.22.14 15.33

Prep seq: 661866

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Indeno(1,2,3-c,d)Pyrene	193-39-5	<0.000375	0.00500	0.000375	mg/L	09.24.14 13:47	U	1
Isophorone	78-59-1	<0.00102	0.00500	0.00102	mg/L	09.24.14 13:47	U	1
2-Methylnaphthalene	91-57-6	<0.000986	0.00500	0.000986	mg/L	09.24.14 13:47	U	1
2-methylphenol	95-48-7	<0.000851	0.00500	0.000851	mg/L	09.24.14 13:47	U	1
3&4-Methylphenol	15831-10-4	<0.000839	0.00500	0.000839	mg/L	09.24.14 13:47	U	1
Naphthalene	91-20-3	<0.000977	0.00500	0.000977	mg/L	09.24.14 13:47	U	1
4-Nitroaniline	100-01-6	<0.000815	0.0100	0.000815	mg/L	09.24.14 13:47	U	1
3-Nitroaniline	99-09-2	<0.00107	0.0100	0.00107	mg/L	09.24.14 13:47	U	1
2-Nitroaniline	88-74-4	<0.000896	0.00700	0.000896	mg/L	09.24.14 13:47	U	1
Nitrobenzene	98-95-3	<0.00102	0.00500	0.00102	mg/L	09.24.14 13:47	U	1
2-Nitrophenol	88-75-5	<0.00103	0.00500	0.00103	mg/L	09.24.14 13:47	U	1
4-Nitrophenol	100-02-7	<0.000387	0.0100	0.000387	mg/L	09.24.14 13:47	U	1
N-Nitrosodi-n-Propylamine	621-64-7	<0.00104	0.00500	0.00104	mg/L	09.24.14 13:47	U	1
N-Nitrosodiphenylamine	86-30-6	<0.000983	0.00500	0.000983	mg/L	09.24.14 13:47	U	1
di-n-Octyl Phthalate	117-84-0	<0.000408	0.00500	0.000408	mg/L	09.24.14 13:47	U	1
Pentachlorophenol	87-86-5	<0.000522	0.0100	0.000522	mg/L	09.24.14 13:47	U	1
Phenanthrene	85-01-8	<0.000812	0.00500	0.000812	mg/L	09.24.14 13:47	U	1
Phenol	108-95-2	<0.000525	0.0100	0.000525	mg/L	09.24.14 13:47	U	1
Pyrene	129-00-0	<0.000468	0.00500	0.000468	mg/L	09.24.14 13:47	U	1
Pyridine	110-86-1	<0.000741	0.0100	0.000741	mg/L	09.24.14 13:47	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000929	0.00500	0.000929	mg/L	09.24.14 13:47	U	1
2,4,6-Trichlorophenol	88-06-2	<0.00109	0.00500	0.00109	mg/L	09.24.14 13:47	U	1
2,4,5-Trichlorophenol	95-95-4	<0.000893	0.00500	0.000893	mg/L	09.24.14 13:47	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661907-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661907-1-BLK Date Collected: Date Received: 09.16.14 12.25

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 12.50

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000157	0.00500	0.000157	mg/kg	09.22.14 13:29	U	1
Bromobenzene	108-86-1	<0.000438	0.00500	0.000438	mg/kg	09.22.14 13:29	U	1
Bromochloromethane	74-97-5	<0.000475	0.00500	0.000475	mg/kg	09.22.14 13:29	U	1
Bromodichloromethane	75-27-4	<0.000265	0.00500	0.000265	mg/kg	09.22.14 13:29	U	1
Bromoform	75-25-2	<0.000698	0.00500	0.000698	mg/kg	09.22.14 13:29	U	1
Bromomethane	74-83-9	<0.00106	0.00500	0.00106	mg/kg	09.22.14 13:29	U	1
MTBE	1634-04-4	<0.000340	0.00500	0.000340	mg/kg	09.22.14 13:29	U	1
tert-Butylbenzene	98-06-6	<0.000206	0.00500	0.000206	mg/kg	09.22.14 13:29	U	1
Sec-Butylbenzene	135-98-8	<0.000490	0.00500	0.000490	mg/kg	09.22.14 13:29	U	1
n-Butylbenzene	104-51-8	<0.000470	0.00500	0.000470	mg/kg	09.22.14 13:29	U	1
Carbon Tetrachloride	56-23-5	<0.000234	0.00500	0.000234	mg/kg	09.22.14 13:29	U	1
Chlorobenzene	108-90-7	<0.000239	0.00500	0.000239	mg/kg	09.22.14 13:29	U	1
Chloroethane	75-00-3	<0.000549	0.0100	0.000549	mg/kg	09.22.14 13:29	U	1
Chloroform	67-66-3	<0.000292	0.00500	0.000292	mg/kg	09.22.14 13:29	U	1
Chloromethane	74-87-3	<0.000299	0.0100	0.000299	mg/kg	09.22.14 13:29	U	1
2-Chlorotoluene	95-49-8	<0.000392	0.00500	0.000392	mg/kg	09.22.14 13:29	U	1
4-Chlorotoluene	106-43-4	<0.000439	0.00500	0.000439	mg/kg	09.22.14 13:29	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000420	0.00500	0.000420	mg/kg	09.22.14 13:29	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00155	0.00500	0.00155	mg/kg	09.22.14 13:29	U	1
Dibromochloromethane	124-48-1	<0.000473	0.00500	0.000473	mg/kg	09.22.14 13:29	U	1
Dibromomethane	74-95-3	<0.000352	0.00500	0.000352	mg/kg	09.22.14 13:29	U	1
1,2-Dichlorobenzene	95-50-1	<0.000431	0.00500	0.000431	mg/kg	09.22.14 13:29	U	1
1,3-Dichlorobenzene	541-73-1	<0.000371	0.00500	0.000371	mg/kg	09.22.14 13:29	U	1
1,4-Dichlorobenzene	106-46-7	<0.000238	0.00500	0.000238	mg/kg	09.22.14 13:29	U	1
Dichlorodifluoromethane	75-71-8	<0.000426	0.00500	0.000426	mg/kg	09.22.14 13:29	U	1
1,2-Dichloroethane	107-06-2	<0.000351	0.00500	0.000351	mg/kg	09.22.14 13:29	U	1
1,1-Dichloroethane	75-34-3	<0.000201	0.00500	0.000201	mg/kg	09.22.14 13:29	U	1
1,2-Dibromoethane	106-93-4	<0.000423	0.00500	0.000423	mg/kg	09.22.14 13:29	U	1
trans-1,2-dichloroethene	156-60-5	<0.000292	0.00500	0.000292	mg/kg	09.22.14 13:29	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000340	0.00500	0.000340	mg/kg	09.22.14 13:29	U	1
1,1-Dichloroethene	75-35-4	<0.000237	0.00500	0.000237	mg/kg	09.22.14 13:29	U	1
2,2-Dichloropropane	594-20-7	<0.00118	0.00500	0.00118	mg/kg	09.22.14 13:29	U	1
1,3-Dichloropropane	142-28-9	<0.000250	0.00500	0.000250	mg/kg	09.22.14 13:29	U	1
1,2-Dichloropropane	78-87-5	<0.000472	0.00500	0.000472	mg/kg	09.22.14 13:29	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000303	0.00500	0.000303	mg/kg	09.22.14 13:29	U	1
1,1-Dichloropropene	563-58-6	<0.000423	0.00500	0.000423	mg/kg	09.22.14 13:29	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000428	0.00500	0.000428	mg/kg	09.22.14 13:29	U	1
Ethylbenzene	100-41-4	<0.000430	0.00500	0.000430	mg/kg	09.22.14 13:29	U	1
Hexachlorobutadiene	87-68-3	<0.000863	0.00500	0.000863	mg/kg	09.22.14 13:29	U	1
isopropylbenzene	98-82-8	<0.000167	0.00500	0.000167	mg/kg	09.22.14 13:29	U	1
Methylene Chloride	75-09-2	**0.00110**	0.0200	0.000588	mg/kg	09.22.14 13:29	J	1
Naphthalene	91-20-3	<0.000271	0.0100	0.000271	mg/kg	09.22.14 13:29	U	1
n-Propylbenzene	103-65-1	<0.000179	0.00500	0.000179	mg/kg	09.22.14 13:29	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661907-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661907-1-BLK Date Collected: Date Received: 09.16.14 12.25

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 12.50

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000150	0.00500	0.000150	mg/kg	09.22.14 13:29	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000407	0.00500	0.000407	mg/kg	09.22.14 13:29	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000459	0.00500	0.000459	mg/kg	09.22.14 13:29	U	1
Tetrachloroethylene	127-18-4	<0.000256	0.00500	0.000256	mg/kg	09.22.14 13:29	U	1
Toluene	108-88-3	<0.000462	0.00500	0.000462	mg/kg	09.22.14 13:29	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000434	0.00500	0.000434	mg/kg	09.22.14 13:29	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000243	0.00500	0.000243	mg/kg	09.22.14 13:29	U	1
1,1,2-Trichloroethane	79-00-5	<0.000326	0.00500	0.000326	mg/kg	09.22.14 13:29	U	1
1,1,1-Trichloroethane	71-55-6	<0.000339	0.00500	0.000339	mg/kg	09.22.14 13:29	U	1
Trichloroethene	79-01-6	<0.000327	0.00500	0.000327	mg/kg	09.22.14 13:29	U	1
Trichlorofluoromethane	75-69-4	<0.000485	0.00500	0.000485	mg/kg	09.22.14 13:29	U	1
1,2,3-Trichloropropane	96-18-4	<0.000701	0.00500	0.000701	mg/kg	09.22.14 13:29	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000113	0.00500	0.000113	mg/kg	09.22.14 13:29	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000397	0.00500	0.000397	mg/kg	09.22.14 13:29	U	1
Vinyl Chloride	75-01-4	<0.000827	0.00200	0.000827	mg/kg	09.22.14 13:29	U	1
o-Xylene	95-47-6	<0.000279	0.00500	0.000279	mg/kg	09.22.14 13:29	U	1
m,p-Xylenes	179601-23-1	<0.000386	0.0100	0.000386	mg/kg	09.22.14 13:29	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661907-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661907-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 12.50

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	<0.000157	0.00500	0.000157	mg/kg	09.22.14 13:29	U	1
Bromobenzene	108-86-1	<0.000438	0.00500	0.000438	mg/kg	09.22.14 13:29	U	1
Bromochloromethane	74-97-5	<0.000475	0.00500	0.000475	mg/kg	09.22.14 13:29	U	1
Bromodichloromethane	75-27-4	<0.000265	0.00500	0.000265	mg/kg	09.22.14 13:29	U	1
Bromoform	75-25-2	<0.000698	0.00500	0.000698	mg/kg	09.22.14 13:29	U	1
Bromomethane	74-83-9	<0.00106	0.00500	0.00106	mg/kg	09.22.14 13:29	U	1
MTBE	1634-04-4	<0.000340	0.00500	0.000340	mg/kg	09.22.14 13:29	U	1
tert-Butylbenzene	98-06-6	<0.000206	0.00500	0.000206	mg/kg	09.22.14 13:29	U	1
Sec-Butylbenzene	135-98-8	<0.000490	0.00500	0.000490	mg/kg	09.22.14 13:29	U	1
n-Butylbenzene	104-51-8	<0.000470	0.00500	0.000470	mg/kg	09.22.14 13:29	U	1
Carbon Tetrachloride	56-23-5	<0.000234	0.00500	0.000234	mg/kg	09.22.14 13:29	U	1
Chlorobenzene	108-90-7	<0.000239	0.00500	0.000239	mg/kg	09.22.14 13:29	U	1
Chloroethane	75-00-3	<0.000549	0.0100	0.000549	mg/kg	09.22.14 13:29	U	1
Chloroform	67-66-3	<0.000292	0.00500	0.000292	mg/kg	09.22.14 13:29	U	1
Chloromethane	74-87-3	<0.000299	0.0100	0.000299	mg/kg	09.22.14 13:29	U	1
2-Chlorotoluene	95-49-8	<0.000392	0.00500	0.000392	mg/kg	09.22.14 13:29	U	1
4-Chlorotoluene	106-43-4	<0.000439	0.00500	0.000439	mg/kg	09.22.14 13:29	U	1
p-Cymene (p-Isopropyltoluene)	99-87-6	<0.000420	0.00500	0.000420	mg/kg	09.22.14 13:29	U	1
1,2-Dibromo-3-Chloropropane	96-12-8	<0.00155	0.00500	0.00155	mg/kg	09.22.14 13:29	U	1
Dibromochloromethane	124-48-1	<0.000473	0.00500	0.000473	mg/kg	09.22.14 13:29	U	1
Dibromomethane	74-95-3	<0.000352	0.00500	0.000352	mg/kg	09.22.14 13:29	U	1
1,2-Dichlorobenzene	95-50-1	<0.000431	0.00500	0.000431	mg/kg	09.22.14 13:29	U	1
1,3-Dichlorobenzene	541-73-1	<0.000371	0.00500	0.000371	mg/kg	09.22.14 13:29	U	1
1,4-Dichlorobenzene	106-46-7	<0.000238	0.00500	0.000238	mg/kg	09.22.14 13:29	U	1
Dichlorodifluoromethane	75-71-8	<0.000426	0.00500	0.000426	mg/kg	09.22.14 13:29	U	1
1,2-Dichloroethane	107-06-2	<0.000351	0.00500	0.000351	mg/kg	09.22.14 13:29	U	1
1,1-Dichloroethane	75-34-3	<0.000201	0.00500	0.000201	mg/kg	09.22.14 13:29	U	1
1,2-Dibromoethane	106-93-4	<0.000423	0.00500	0.000423	mg/kg	09.22.14 13:29	U	1
trans-1,2-dichloroethene	156-60-5	<0.000292	0.00500	0.000292	mg/kg	09.22.14 13:29	U	1
cis-1,2-Dichloroethene	156-59-2	<0.000340	0.00500	0.000340	mg/kg	09.22.14 13:29	U	1
1,1-Dichloroethene	75-35-4	<0.000237	0.00500	0.000237	mg/kg	09.22.14 13:29	U	1
2,2-Dichloropropane	594-20-7	<0.00118	0.00500	0.00118	mg/kg	09.22.14 13:29	U	1
1,3-Dichloropropane	142-28-9	<0.000250	0.00500	0.000250	mg/kg	09.22.14 13:29	U	1
1,2-Dichloropropane	78-87-5	<0.000472	0.00500	0.000472	mg/kg	09.22.14 13:29	U	1
trans-1,3-dichloropropene	10061-02-6	<0.000303	0.00500	0.000303	mg/kg	09.22.14 13:29	U	1
1,1-Dichloropropene	563-58-6	<0.000423	0.00500	0.000423	mg/kg	09.22.14 13:29	U	1
cis-1,3-Dichloropropene	10061-01-5	<0.000428	0.00500	0.000428	mg/kg	09.22.14 13:29	U	1
Ethylbenzene	100-41-4	<0.000430	0.00500	0.000430	mg/kg	09.22.14 13:29	U	1
Hexachlorobutadiene	87-68-3	<0.000863	0.00500	0.000863	mg/kg	09.22.14 13:29	U	1
isopropylbenzene	98-82-8	<0.000167	0.00500	0.000167	mg/kg	09.22.14 13:29	U	1
Methylene Chloride	75-09-2	**0.00110**	0.0200	0.000588	mg/kg	09.22.14 13:29	J	1
Naphthalene	91-20-3	<0.000271	0.0100	0.000271	mg/kg	09.22.14 13:29	U	1
n-Propylbenzene	103-65-1	<0.000179	0.00500	0.000179	mg/kg	09.22.14 13:29	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661907-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661907-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: VOAs by SW-846 8260 Prep Method: 5030B

Analyst: MCH % Moist: Tech: MCH

Seq Number: 951236 Date Prep: 09.22.14 12.50

Prep seq: 661907

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Styrene	100-42-5	<0.000150	0.00500	0.000150	mg/kg	09.22.14 13:29	U	1
1,1,1,2-Tetrachloroethane	630-20-6	<0.000407	0.00500	0.000407	mg/kg	09.22.14 13:29	U	1
1,1,2,2-Tetrachloroethane	79-34-5	<0.000459	0.00500	0.000459	mg/kg	09.22.14 13:29	U	1
Tetrachloroethylene	127-18-4	<0.000256	0.00500	0.000256	mg/kg	09.22.14 13:29	U	1
Toluene	108-88-3	<0.000462	0.00500	0.000462	mg/kg	09.22.14 13:29	U	1
1,2,4-Trichlorobenzene	120-82-1	<0.000434	0.00500	0.000434	mg/kg	09.22.14 13:29	U	1
1,2,3-Trichlorobenzene	87-61-6	<0.000243	0.00500	0.000243	mg/kg	09.22.14 13:29	U	1
1,1,2-Trichloroethane	79-00-5	<0.000326	0.00500	0.000326	mg/kg	09.22.14 13:29	U	1
1,1,1-Trichloroethane	71-55-6	<0.000339	0.00500	0.000339	mg/kg	09.22.14 13:29	U	1
Trichloroethene	79-01-6	<0.000327	0.00500	0.000327	mg/kg	09.22.14 13:29	U	1
Trichlorofluoromethane	75-69-4	<0.000485	0.00500	0.000485	mg/kg	09.22.14 13:29	U	1
1,2,3-Trichloropropane	96-18-4	<0.000701	0.00500	0.000701	mg/kg	09.22.14 13:29	U	1
1,2,4-Trimethylbenzene	95-63-6	<0.000113	0.00500	0.000113	mg/kg	09.22.14 13:29	U	1
1,3,5-trimethylbenzene	108-67-8	<0.000397	0.00500	0.000397	mg/kg	09.22.14 13:29	U	1
Vinyl Chloride	75-01-4	<0.000827	0.00200	0.000827	mg/kg	09.22.14 13:29	U	1
o-Xylene	95-47-6	<0.000279	0.00500	0.000279	mg/kg	09.22.14 13:29	U	1
m,p-Xylenes	179601-23-1	<0.000386	0.0100	0.000386	mg/kg	09.22.14 13:29	U	1

Sample Id: **661912-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661912-1-BLK Date Collected: Date Received: 09.16.14 12.25

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: Tech: SAD

Seq Number: 951260 Date Prep: 09.22.14 20.50

Prep seq: 661912

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000589	0.00500	0.000589	mg/kg	09.22.14 21:51	U	1
Benzene	71-43-2	<0.000192	0.00100	0.000192	mg/kg	09.22.14 21:51	U	1
Toluene	108-88-3	<0.000129	0.00100	0.000129	mg/kg	09.22.14 21:51	U	1
Ethylbenzene	100-41-4	<0.0000955	0.00100	0.0000955	mg/kg	09.22.14 21:51	U	1
m,p-Xylenes	179601-23-1	<0.000362	0.00200	0.000362	mg/kg	09.22.14 21:51	U	1
o-Xylene	95-47-6	<0.000229	0.00100	0.000229	mg/kg	09.22.14 21:51	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661917-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 661917-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 951348 Date Prep: 09.23.14 11.00

Prep seq: 661917

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<0.900	5.00	0.900	mg/L	09.23.14 14:59	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<0.900	5.00	0.900	mg/L	09.23.14 14:59	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<0.900	5.00	0.900	mg/L	09.23.14 14:59	U	1

Sample Id: **661921-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661921-1-BLK Date Collected: Date Received: 09.16.14 12.25

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: Tech: SAD

Seq Number: 951282 Date Prep: 09.23.14 10.50

Prep seq: 661921

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000589	0.00500	0.000589	mg/kg	09.23.14 11:29	U	1
Benzene	71-43-2	<0.000192	0.00100	0.000192	mg/kg	09.23.14 11:29	U	1
Toluene	108-88-3	<0.000129	0.00100	0.000129	mg/kg	09.23.14 11:29	U	1
Ethylbenzene	100-41-4	<0.0000955	0.00100	0.0000955	mg/kg	09.23.14 11:29	U	1
m,p-Xylenes	179601-23-1	<0.000362	0.00200	0.000362	mg/kg	09.23.14 11:29	U	1
o-Xylene	95-47-6	<0.000229	0.00100	0.000229	mg/kg	09.23.14 11:29	U	1

Sample Id: **661923-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 661923-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: Total Petroleum Hydrocarbons by Texas 1005 Prep Method: 1005

Analyst: FOV % Moist: Tech: FOV

Seq Number: 951349 Date Prep: 09.23.14 14.30

Prep seq: 661923

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHC612	<9.00	50.0	9.00	mg/kg	09.23.14 21:49	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	<9.00	50.0	9.00	mg/kg	09.23.14 21:49	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<9.00	50.0	9.00	mg/kg	09.23.14 21:49	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **661976-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 661976-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: Tech: SAD

Seq Number: 951378 Date Prep: 09.24.14 10.41

Prep seq: 661976

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000508	0.00500	0.000508	mg/L	09.24.14 11:00	U	1
Benzene	71-43-2	<0.000147	0.00100	0.000147	mg/L	09.24.14 11:00	U	1
Toluene	108-88-3	<0.000153	0.00100	0.000153	mg/L	09.24.14 11:00	U	1
Ethylbenzene	100-41-4	<0.0000806	0.00100	0.0000806	mg/L	09.24.14 11:00	U	1
m,p-Xylenes	179601-23-1	<0.000366	0.00200	0.000366	mg/L	09.24.14 11:00	U	1
o-Xylene	95-47-6	<0.0000975	0.00100	0.0000975	mg/L	09.24.14 11:00	U	1

Sample Id: **662023-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 662023-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: Tech: SAD

Seq Number: 951474 Date Prep: 09.24.14 12.30

Prep seq: 662023

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000589	0.00500	0.000589	mg/kg	09.24.14 12:51	U	1
Benzene	71-43-2	<0.000192	0.00100	0.000192	mg/kg	09.24.14 12:51	U	1
Toluene	108-88-3	<0.000129	0.00100	0.000129	mg/kg	09.24.14 12:51	U	1
Ethylbenzene	100-41-4	<0.0000955	0.00100	0.0000955	mg/kg	09.24.14 12:51	U	1
m,p-Xylenes	179601-23-1	<0.000362	0.00200	0.000362	mg/kg	09.24.14 12:51	U	1
o-Xylene	95-47-6	<0.000229	0.00100	0.000229	mg/kg	09.24.14 12:51	U	1

Certificate of Analytical Results

Work Orders: 493688,493661,493344

Geotest Engineering, Inc., Houston, TX

Phase II ESA Waterline Replacement

Sample Id: **662067-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 662067-1-BLK Date Collected: Date Received: 09.19.14 14.05

Analytical Method: BTEX-MTBE by SW 8260B Prep Method: 5030B

Analyst: SAD % Moist: Tech: SAD

Seq Number: 951536 Date Prep: 09.25.14 13.15

Prep seq: 662067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
MTBE	1634-04-4	<0.000589	0.00500	0.000589	mg/kg	09.25.14 13:34	U	1
Benzene	71-43-2	<0.000192	0.00100	0.000192	mg/kg	09.25.14 13:34	U	1
Toluene	108-88-3	<0.000129	0.00100	0.000129	mg/kg	09.25.14 13:34	U	1
Ethylbenzene	100-41-4	<0.0000955	0.00100	0.0000955	mg/kg	09.25.14 13:34	U	1
m,p-Xylenes	179601-23-1	<0.000362	0.00200	0.000362	mg/kg	09.25.14 13:34	U	1
o-Xylene	95-47-6	<0.000229	0.00100	0.000229	mg/kg	09.25.14 13:34	U	1

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 quantitation 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

Form 2 - Surrogate Recoveries

Project Name: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951260 **Sample:** 661912-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/22/14 17:43

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	0.0540	0.0500	108	80-120	
Toluene-D8	0.0489	0.0500	98	73-132	
4-Bromofluorobenzene	0.0512	0.0500	102	58-152	

Lab Batch #: 951260 **Sample:** 661912-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/22/14 21:51

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0538	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0558	0.0500	112	80-120	
Toluene-D8	0.0484	0.0500	97	73-132	
4-Bromofluorobenzene	0.0472	0.0500	94	58-152	

Lab Batch #: 951260 **Sample:** 493303-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/22/14 22:42

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0511	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0523	0.0500	105	80-120	
Toluene-D8	0.0504	0.0500	101	73-132	
4-Bromofluorobenzene	0.0486	0.0500	97	58-152	

Lab Batch #: 951260 **Sample:** 493303-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/22/14 23:33

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0521	0.0500	104	74-126	
1,2-Dichloroethane-D4	0.0498	0.0500	100	80-120	
Toluene-D8	0.0497	0.0500	99	73-132	
4-Bromofluorobenzene	0.0525	0.0500	105	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951282 **Sample:** 661921-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/23/14 10:10

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0547	0.0500	109	74-126	
1,2-Dichloroethane-D4	0.0573	0.0500	115	80-120	
Toluene-D8	0.0443	0.0500	89	73-132	
4-Bromofluorobenzene	0.0484	0.0500	97	58-152	

Lab Batch #: 951282 **Sample:** 661921-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/23/14 11:29

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0498	0.0500	100	80-120	
Toluene-D8	0.0448	0.0500	90	73-132	
4-Bromofluorobenzene	0.0489	0.0500	98	58-152	

Lab Batch #: 951282 **Sample:** 493344-011 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/23/14 15:06

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0580	0.0500	116	74-126	
1,2-Dichloroethane-D4	0.0643	0.0500	129	80-120	**
Toluene-D8	0.0451	0.0500	90	73-132	
4-Bromofluorobenzene	0.0510	0.0500	102	58-152	

Lab Batch #: 951282 **Sample:** 493344-011 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/23/14 15:32

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0510	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0559	0.0500	112	80-120	
Toluene-D8	0.0476	0.0500	95	73-132	
4-Bromofluorobenzene	0.0525	0.0500	105	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951378 **Sample:** 661976-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/24/14 09:43

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0509	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0510	0.0500	102	63-144	
Toluene-D8	0.0529	0.0500	106	80-117	
4-Bromofluorobenzene	0.0513	0.0500	103	74-124	

Lab Batch #: 951378 **Sample:** 661976-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/24/14 11:00

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0521	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0541	0.0500	108	63-144	
Toluene-D8	0.0548	0.0500	110	80-117	
4-Bromofluorobenzene	0.0478	0.0500	96	74-124	

Lab Batch #: 951378 **Sample:** 493640-001 S / MS **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 09/24/14 15:07

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0505	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0481	0.0500	96	63-144	
Toluene-D8	0.0531	0.0500	106	80-117	
4-Bromofluorobenzene	0.0478	0.0500	96	74-124	

Lab Batch #: 951378 **Sample:** 493640-001 SD / MSD **Batch:** 1 **Matrix:** Ground Water

Units: mg/L **Date Analyzed:** 09/24/14 15:33

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0507	0.0500	101	75-131	
1,2-Dichloroethane-D4	0.0518	0.0500	104	63-144	
Toluene-D8	0.0524	0.0500	105	80-117	
4-Bromofluorobenzene	0.0467	0.0500	93	74-124	

* 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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951474 **Sample:** 662023-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/24/14 11:04

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0558	0.0500	112	74-126	
1,2-Dichloroethane-D4	0.0563	0.0500	113	80-120	
Toluene-D8	0.0473	0.0500	95	73-132	
4-Bromofluorobenzene	0.0474	0.0500	95	58-152	

Lab Batch #: 951474 **Sample:** 662023-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/24/14 12:51

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0548	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0546	0.0500	109	80-120	
Toluene-D8	0.0444	0.0500	89	73-132	
4-Bromofluorobenzene	0.0544	0.0500	109	58-152	

Lab Batch #: 951474 **Sample:** 493554-002 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/24/14 15:07

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0539	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0461	0.0500	92	80-120	
Toluene-D8	0.0414	0.0500	83	73-132	
4-Bromofluorobenzene	0.0439	0.0500	88	58-152	

Lab Batch #: 951474 **Sample:** 493554-002 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/24/14 15:33

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0569	0.0500	114	74-126	
1,2-Dichloroethane-D4	0.0535	0.0500	107	80-120	
Toluene-D8	0.0450	0.0500	90	73-132	
4-Bromofluorobenzene	0.0468	0.0500	94	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951536 **Sample:** 662067-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/25/14 11:20

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0538	0.0500	108	74-126	
1,2-Dichloroethane-D4	0.0540	0.0500	108	80-120	
Toluene-D8	0.0451	0.0500	90	73-132	
4-Bromofluorobenzene	0.0525	0.0500	105	58-152	

Lab Batch #: 951536 **Sample:** 662067-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/25/14 13:34

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0511	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0499	0.0500	100	80-120	
Toluene-D8	0.0454	0.0500	91	73-132	
4-Bromofluorobenzene	0.0563	0.0500	113	58-152	

Lab Batch #: 951536 **Sample:** 493661-008 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/25/14 15:49

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0628	0.0500	126	74-126	
1,2-Dichloroethane-D4	0.0557	0.0500	111	80-120	
Toluene-D8	0.0449	0.0500	90	73-132	
4-Bromofluorobenzene	0.0514	0.0500	103	58-152	

Lab Batch #: 951536 **Sample:** 493661-008 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/25/14 16:43

SURROGATE RECOVERY STUDY

BTEX-MTBE by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0588	0.0500	118	74-126	
1,2-Dichloroethane-D4	0.0521	0.0500	104	80-120	
Toluene-D8	0.0466	0.0500	93	73-132	
4-Bromofluorobenzene	0.0524	0.0500	105	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951234 **Sample:** 661716-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/19/14 16:35

SURROGATE RECOVERY STUDY

SVOCs by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	49.8	50.0	100	25-121	
Phenol-d6	50.7	50.0	101	24-113	
Nitrobenzene-d5	43.3	50.0	87	23-120	
2-Fluorobiphenyl	45.0	50.0	90	30-115	
2,4,6-Tribromophenol	48.2	50.0	96	19-122	
Terphenyl-D14	48.0	50.0	96	18-137	

Lab Batch #: 951234 **Sample:** 661716-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/19/14 16:59

SURROGATE RECOVERY STUDY

SVOCs by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	47.9	50.0	96	25-121	
Phenol-d6	47.9	50.0	96	24-113	
Nitrobenzene-d5	41.3	50.0	83	23-120	
2-Fluorobiphenyl	42.8	50.0	86	30-115	
2,4,6-Tribromophenol	43.4	50.0	87	19-122	
Terphenyl-D14	45.2	50.0	90	18-137	

Lab Batch #: 951234 **Sample:** 661716-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/19/14 17:24

SURROGATE RECOVERY STUDY

SVOCs by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	45.5	50.0	91	25-121	
Phenol-d6	45.8	50.0	92	24-113	
Nitrobenzene-d5	39.2	50.0	78	23-120	
2-Fluorobiphenyl	41.0	50.0	82	30-115	
2,4,6-Tribromophenol	41.9	50.0	84	19-122	
Terphenyl-D14	43.9	50.0	88	18-137	

* 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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951448 **Sample:** 661866-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/24/14 13:47

SURROGATE RECOVERY STUDY

SVOCs by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	24.2	50.0	48	30-100	
Phenol-d6	17.2	50.0	34	15-94	
Nitrobenzene-d5	34.4	50.0	69	46-111	
2-Fluorobiphenyl	36.0	50.0	72	44-117	
2,4,6-Tribromophenol	30.1	50.0	60	48-117	
Terphenyl-D14	40.6	50.0	81	46-126	

Lab Batch #: 951448 **Sample:** 661866-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/24/14 14:12

SURROGATE RECOVERY STUDY

SVOCs by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	23.7	50.0	47	30-100	
Phenol-d6	17.3	50.0	35	15-94	
Nitrobenzene-d5	34.2	50.0	68	46-111	
2-Fluorobiphenyl	33.6	50.0	67	44-117	
2,4,6-Tribromophenol	35.6	50.0	71	48-117	
Terphenyl-D14	39.5	50.0	79	46-126	

Lab Batch #: 951448 **Sample:** 661866-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/24/14 14:36

SURROGATE RECOVERY STUDY

SVOCs by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	23.5	50.0	47	30-100	
Phenol-d6	17.3	50.0	35	15-94	
Nitrobenzene-d5	33.4	50.0	67	46-111	
2-Fluorobiphenyl	33.2	50.0	66	44-117	
2,4,6-Tribromophenol	35.0	50.0	70	48-117	
Terphenyl-D14	38.7	50.0	77	46-126	

* 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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 950868 **Sample:** 661610-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/17/14 13:55

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	4.11	5.00	82	70-130	
1-Chlorooctane	8.51	10.0	85	70-130	

Lab Batch #: 950868 **Sample:** 661610-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/17/14 14:14

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	4.93	5.00	99	70-130	
1-Chlorooctane	9.86	10.0	99	70-130	

Lab Batch #: 950868 **Sample:** 661610-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/17/14 14:33

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	5.05	5.00	101	70-130	
1-Chlorooctane	9.97	10.0	100	70-130	

Lab Batch #: 950868 **Sample:** 493223-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/17/14 15:11

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	4.59	4.57	100	70-130	
1-Chlorooctane	9.31	9.15	102	70-130	

Lab Batch #: 950959 **Sample:** 661702-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/18/14 21:46

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	47.1	50.0	94	70-130	
1-Chlorooctane	97.4	100	97	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 950959 **Sample:** 661702-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/18/14 22:05

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	52.7	50.0	105	70-130	
1-Chlorooctane	106	100	106	70-130	

Lab Batch #: 950959 **Sample:** 661702-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/18/14 22:25

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	52.9	50.0	106	70-130	
1-Chlorooctane	106	100	106	70-130	

Lab Batch #: 950959 **Sample:** 493344-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/18/14 23:03

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	52.1	49.9	104	70-130	
1-Chlorooctane	107	99.7	107	70-130	

Lab Batch #: 950959 **Sample:** 493344-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/18/14 23:23

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	52.4	49.9	105	70-130	
1-Chlorooctane	106	99.7	106	70-130	

Lab Batch #: 951348 **Sample:** 661917-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/23/14 14:59

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	4.81	5.00	96	70-130	
1-Chlorooctane	10.3	10.0	103	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951348 **Sample:** 661917-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/23/14 15:18

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	6.03	5.00	121	70-130	
1-Chlorooctane	12.0	10.0	120	70-130	

Lab Batch #: 951348 **Sample:** 661917-1-BSD / BSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/23/14 17:01

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	5.89	5.00	118	70-130	
1-Chlorooctane	11.8	10.0	118	70-130	

Lab Batch #: 951348 **Sample:** 493665-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/23/14 18:22

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	5.55	4.62	120	70-130	
1-Chlorooctane	11.5	9.24	124	70-130	

Lab Batch #: 951348 **Sample:** 493665-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/23/14 18:41

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	5.79	4.57	127	70-130	
1-Chlorooctane	11.5	9.14	126	70-130	

Lab Batch #: 951349 **Sample:** 661923-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/23/14 21:49

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	54.1	50.0	108	70-130	
1-Chlorooctane	111	100	111	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951349 **Sample:** 661923-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/23/14 22:08

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	62.1	50.0	124	70-130	
1-Chlorooctane	123	100	123	70-130	

Lab Batch #: 951349 **Sample:** 661923-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/23/14 22:27

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	59.8	50.0	120	70-130	
1-Chlorooctane	118	100	118	70-130	

Lab Batch #: 951349 **Sample:** 493661-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/23/14 23:05

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	60.9	50.0	122	70-130	
1-Chlorooctane	122	99.9	122	70-130	

Lab Batch #: 951349 **Sample:** 493661-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/23/14 23:23

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	60.0	50.0	120	70-130	
1-Chlorooctane	118	100	118	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951027 **Sample:** 661766-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/18/14 10:42

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	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	0.0491	0.0500	98	56-150	
Toluene-D8	0.0511	0.0500	102	70-130	
4-Bromofluorobenzene	0.0506	0.0500	101	68-152	

Lab Batch #: 951027 **Sample:** 661766-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/18/14 15:23

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0581	0.0500	116	53-142	
1,2-Dichloroethane-D4	0.0526	0.0500	105	56-150	
Toluene-D8	0.0508	0.0500	102	70-130	
4-Bromofluorobenzene	0.0535	0.0500	107	68-152	

Lab Batch #: 951027 **Sample:** 493344-008 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/18/14 17:16

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0551	0.0500	110	53-142	
1,2-Dichloroethane-D4	0.0514	0.0500	103	56-150	
Toluene-D8	0.0493	0.0500	99	70-130	
4-Bromofluorobenzene	0.0497	0.0500	99	68-152	

Lab Batch #: 951027 **Sample:** 493344-008 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/18/14 17:43

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0521	0.0500	104	53-142	
1,2-Dichloroethane-D4	0.0520	0.0500	104	56-150	
Toluene-D8	0.0503	0.0500	101	70-130	
4-Bromofluorobenzene	0.0496	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951138 **Sample:** 661843-1-BKS / BKS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/20/14 13:38

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0497	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0509	0.0500	102	63-144	
Toluene-D8	0.0494	0.0500	99	80-117	
4-Bromofluorobenzene	0.0497	0.0500	99	74-124	

Lab Batch #: 951138 **Sample:** 661843-1-BLK / BLK **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/20/14 14:32

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0546	0.0500	109	75-131	
1,2-Dichloroethane-D4	0.0533	0.0500	107	63-144	
Toluene-D8	0.0498	0.0500	100	80-117	
4-Bromofluorobenzene	0.0503	0.0500	101	74-124	

Lab Batch #: 951138 **Sample:** 493651-001 S / MS **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/20/14 15:48

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0516	0.0500	103	75-131	
1,2-Dichloroethane-D4	0.0511	0.0500	102	63-144	
Toluene-D8	0.0491	0.0500	98	80-117	
4-Bromofluorobenzene	0.0491	0.0500	98	74-124	

Lab Batch #: 951138 **Sample:** 493651-001 SD / MSD **Batch:** 1 **Matrix:** Water

Units: mg/L **Date Analyzed:** 09/20/14 16:14

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0494	0.0500	99	75-131	
1,2-Dichloroethane-D4	0.0511	0.0500	102	63-144	
Toluene-D8	0.0495	0.0500	99	80-117	
4-Bromofluorobenzene	0.0490	0.0500	98	74-124	

* 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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951236 **Sample:** 661907-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/22/14 10:45

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0514	0.0500	103	53-142	
1,2-Dichloroethane-D4	0.0493	0.0500	99	56-150	
Toluene-D8	0.0503	0.0500	101	70-130	
4-Bromofluorobenzene	0.0484	0.0500	97	68-152	

Lab Batch #: 951236 **Sample:** 661907-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/22/14 10:45

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0514	0.0500	103	53-142	
1,2-Dichloroethane-D4	0.0493	0.0500	99	56-150	
Toluene-D8	0.0503	0.0500	101	70-130	
4-Bromofluorobenzene	0.0484	0.0500	97	68-152	

Lab Batch #: 951236 **Sample:** 661907-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/22/14 13:29

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0525	0.0500	105	53-142	
1,2-Dichloroethane-D4	0.0506	0.0500	101	56-150	
Toluene-D8	0.0514	0.0500	103	70-130	
4-Bromofluorobenzene	0.0496	0.0500	99	68-152	

Lab Batch #: 951236 **Sample:** 661907-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 09/22/14 13:29

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0525	0.0500	105	53-142	
1,2-Dichloroethane-D4	0.0506	0.0500	101	56-150	
Toluene-D8	0.0514	0.0500	103	70-130	
4-Bromofluorobenzene	0.0496	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: Phase II ESA Waterline Replacement

Work Orders : 493661, 493688,493661,493344 **Project ID:** 1130020801

Lab Batch #: 951236 **Sample:** 493661-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/22/14 16:40

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0496	0.0500	99	53-142	
1,2-Dichloroethane-D4	0.0493	0.0500	99	56-150	
Toluene-D8	0.0504	0.0500	101	70-130	
4-Bromofluorobenzene	0.0488	0.0500	98	68-152	

Lab Batch #: 951236 **Sample:** 493661-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/22/14 16:40

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0496	0.0500	99	53-142	
1,2-Dichloroethane-D4	0.0493	0.0500	99	56-150	
Toluene-D8	0.0504	0.0500	101	70-130	
4-Bromofluorobenzene	0.0488	0.0500	98	68-152	

Lab Batch #: 951236 **Sample:** 493661-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/22/14 17:58

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	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	0.0538	0.0500	108	56-150	
Toluene-D8	0.0501	0.0500	100	70-130	
4-Bromofluorobenzene	0.0483	0.0500	97	68-152	

Lab Batch #: 951236 **Sample:** 493661-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 09/22/14 17:58

SURROGATE RECOVERY STUDY

VOAs by SW-846 8260 Analytes	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	0.0538	0.0500	108	56-150	
Toluene-D8	0.0501	0.0500	100	70-130	
4-Bromofluorobenzene	0.0483	0.0500	97	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.

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **Percent Moisture**
Seq Number: 950951 Matrix: Solid
MB Sample Id: 950951-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<1.00	%	09.18.14 20:47	

Analytical Method: **Percent Moisture**
Seq Number: 951289 Matrix: Solid
MB Sample Id: 951289-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<1.00	%	09.23.14 17:37	

Analytical Method: **Percent Moisture**
Seq Number: 950951 Matrix: Soil
Parent Sample Id: 493344-001 MD Sample Id: 493344-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	18.8	18.7	1	20	%	09.18.14 20:47	

Analytical Method: **Percent Moisture**
Seq Number: 950951 Matrix: Soil
Parent Sample Id: 493344-011 MD Sample Id: 493344-011 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	21.2	19.7	7	20	%	09.18.14 20:47	

Analytical Method: **Percent Moisture**
Seq Number: 951289 Matrix: Soil
Parent Sample Id: 493661-001 MD Sample Id: 493661-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	14.1	13.8	2	20	%	09.23.14 17:37	

Analytical Method: **Percent Moisture**
Seq Number: 951289 Matrix: Soil
Parent Sample Id: 493661-011 MD Sample Id: 493661-011 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	39.8	37.8	5	20	%	09.23.14 17:37	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **SVOCs by EPA 8270C** Prep Method: SW3550

Seq Number: 951234 Matrix: Solid Date Prep: 09.19.14

MB Sample Id: 661716-1-BLK LCS Sample Id: 661716-1-BKS LCSD Sample Id: 661716-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<0.0155	1.67	1.39	83	1.35	81	37-131	3	30	mg/kg	09.19.14 16:59	
Acenaphthylene	<0.0148	1.67	1.43	86	1.39	84	39-129	3	30	mg/kg	09.19.14 16:59	
Aniline (Phenylamine, Aminobenzene)	<0.0136	1.67	1.42	85	1.38	83	33-117	3	40	mg/kg	09.19.14 16:59	
Anthracene	<0.0138	1.67	1.42	85	1.38	83	39-139	3	30	mg/kg	09.19.14 16:59	
Benzo(a)anthracene	<0.0141	1.67	1.42	85	1.39	84	44-135	2	30	mg/kg	09.19.14 16:59	
Benzo(a)pyrene	<0.0172	1.67	1.49	89	1.46	88	43-153	2	30	mg/kg	09.19.14 16:59	
Benzo(b)fluoranthene	<0.0126	1.67	1.49	89	1.42	86	40-153	5	30	mg/kg	09.19.14 16:59	
Benzo(g,h,i)perylene	<0.0153	1.67	1.47	88	1.45	87	40-153	1	30	mg/kg	09.19.14 16:59	
Benzo(k)fluoranthene	<0.0193	1.67	1.39	83	1.41	85	33-156	1	30	mg/kg	09.19.14 16:59	
Benzoic Acid	<0.0215	5.00	5.57	111	5.82	117	31-135	4	50	mg/kg	09.19.14 16:59	
Benzyl Butyl Phthalate	<0.0181	1.67	1.49	89	1.45	87	43-145	3	30	mg/kg	09.19.14 16:59	
bis(2-chloroethoxy) methane	<0.0168	1.67	1.30	78	1.24	75	30-129	5	30	mg/kg	09.19.14 16:59	
bis(2-chloroethyl) ether	<0.0152	1.67	1.36	81	1.30	78	33-127	5	30	mg/kg	09.19.14 16:59	
bis(2-chloroisopropyl) ether	<0.0178	1.67	1.39	83	1.32	80	25-124	5	30	mg/kg	09.19.14 16:59	
bis(2-ethylhexyl) phthalate	<0.0148	1.67	1.50	90	1.47	89	46-145	2	30	mg/kg	09.19.14 16:59	
4-Bromophenyl-phenylether	<0.0132	1.67	1.39	83	1.35	81	37-140	3	30	mg/kg	09.19.14 16:59	
di-n-Butyl Phthalate	<0.0160	1.67	1.43	86	1.39	84	43-142	3	30	mg/kg	09.19.14 16:59	
4-chloro-3-methylphenol	<0.0184	1.67	1.51	90	1.46	88	40-134	3	30	mg/kg	09.19.14 16:59	
4-Chloroaniline	<0.0126	1.67	1.31	78	1.31	79	34-124	0	40	mg/kg	09.19.14 16:59	
2-Chloronaphthalene	<0.0290	1.67	1.40	84	1.36	82	32-138	3	30	mg/kg	09.19.14 16:59	
2-Chlorophenol	<0.0158	1.67	1.53	92	1.44	87	38-125	6	30	mg/kg	09.19.14 16:59	
4-Chlorophenyl Phenyl Ether	<0.0162	1.67	1.38	83	1.34	81	41-131	3	30	mg/kg	09.19.14 16:59	
Chrysene	<0.0165	1.67	1.38	83	1.37	83	42-135	1	30	mg/kg	09.19.14 16:59	
Dibenz(a,h)Anthracene	<0.0127	1.67	1.50	90	1.47	89	41-155	2	30	mg/kg	09.19.14 16:59	
Dibenzofuran	<0.0154	1.67	1.40	84	1.35	81	39-132	4	30	mg/kg	09.19.14 16:59	
1,2-Dichlorobenzene	<0.0154	1.67	1.39	83	1.31	79	38-122	6	30	mg/kg	09.19.14 16:59	
1,3-Dichlorobenzene	<0.0139	1.67	1.37	82	1.30	78	38-120	5	30	mg/kg	09.19.14 16:59	
1,4-Dichlorobenzene	<0.0150	1.67	1.37	82	1.30	78	37-121	5	30	mg/kg	09.19.14 16:59	
3,3-Dichlorobenzidine	<0.0154	1.67	1.52	91	1.48	89	35-134	3	40	mg/kg	09.19.14 16:59	
2,4-Dichlorophenol	<0.0174	1.67	1.47	88	1.43	86	36-135	3	30	mg/kg	09.19.14 16:59	
Diethyl Phthalate	<0.0153	1.67	1.34	80	1.31	79	45-131	2	30	mg/kg	09.19.14 16:59	
Dimethyl Phthalate	<0.0159	1.67	1.36	81	1.33	80	43-132	2	30	mg/kg	09.19.14 16:59	
2,4-Dimethylphenol	<0.0165	1.67	1.46	87	1.42	86	38-133	3	30	mg/kg	09.19.14 16:59	
4,6-dinitro-2-methyl phenol	<0.0127	1.67	1.42	85	1.38	83	30-146	3	40	mg/kg	09.19.14 16:59	
2,4-Dinitrophenol	<0.0242	1.67	1.57	94	1.53	92	19-131	3	40	mg/kg	09.19.14 16:59	
2,4-Dinitrotoluene	<0.0127	1.67	1.47	88	1.44	87	48-131	2	30	mg/kg	09.19.14 16:59	
2,6-Dinitrotoluene	<0.0233	1.67	1.41	84	1.37	83	42-136	3	30	mg/kg	09.19.14 16:59	
Fluoranthene	<0.0147	1.67	1.41	84	1.39	84	41-138	1	30	mg/kg	09.19.14 16:59	
Fluorene	<0.0138	1.67	1.41	84	1.37	83	41-131	3	30	mg/kg	09.19.14 16:59	
Hexachlorobenzene	<0.0162	1.67	1.38	83	1.35	81	36-142	2	30	mg/kg	09.19.14 16:59	
Hexachlorobutadiene	<0.0138	1.67	1.34	80	1.27	77	35-129	5	30	mg/kg	09.19.14 16:59	
Hexachlorocyclopentadiene	<0.0152	1.67	0.763	46	0.779	47	16-106	2	30	mg/kg	09.19.14 16:59	
Hexachloroethane	<0.0173	1.67	1.32	79	1.25	75	36-121	5	30	mg/kg	09.19.14 16:59	
Indeno(1,2,3-c,d)Pyrene	<0.0134	1.67	1.47	88	1.45	87	39-154	1	30	mg/kg	09.19.14 16:59	
Isophorone	<0.0145	1.67	1.34	80	1.29	78	36-128	4	30	mg/kg	09.19.14 16:59	
2-Methylnaphthalene	<0.0451	1.67	1.37	82	1.30	78	36-126	5	30	mg/kg	09.19.14 16:59	
2-methylphenol	<0.0185	1.67	1.51	90	1.45	87	37-128	4	30	mg/kg	09.19.14 16:59	
3&4-Methylphenol	<0.0154	1.67	1.53	92	1.46	88	38-126	5	30	mg/kg	09.19.14 16:59	
Naphthalene	<0.0156	1.67	1.39	83	1.33	80	35-128	4	30	mg/kg	09.19.14 16:59	
4-Nitroaniline	<0.0138	1.67	1.44	86	1.40	84	46-132	3	40	mg/kg	09.19.14 16:59	
3-Nitroaniline	<0.0139	1.67	1.46	87	1.46	88	41-135	0	40	mg/kg	09.19.14 16:59	
2-Nitroaniline	<0.0156	1.67	1.44	86	1.41	85	30-133	2	40	mg/kg	09.19.14 16:59	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **SVOCs by EPA 8270C** Prep Method: SW3550

Seq Number: 951234 Matrix: Solid Date Prep: 09.19.14

MB Sample Id: 661716-1-BLK LCS Sample Id: 661716-1-BKS LCSD Sample Id: 661716-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Nitrobenzene	<0.0185	1.67	1.32	79	1.30	78	32-129	2	30	mg/kg	09.19.14 16:59	
2-Nitrophenol	<0.0146	1.67	1.55	93	1.49	90	33-142	4	30	mg/kg	09.19.14 16:59	
4-Nitrophenol	<0.0258	1.67	1.21	72	1.21	73	21-152	0	40	mg/kg	09.19.14 16:59	
N-Nitrosodi-n-Propylamine	<0.0174	1.67	1.32	79	1.25	75	34-129	5	30	mg/kg	09.19.14 16:59	
N-Nitrosodiphenylamine	<0.0186	1.67	1.41	84	1.38	83	27-155	2	30	mg/kg	09.19.14 16:59	
di-n-Octyl Phthalate	<0.0133	1.67	1.42	85	1.38	83	34-166	3	30	mg/kg	09.19.14 16:59	
Pentachlorophenol	<0.0121	1.67	1.01	60	1.07	64	14-148	6	40	mg/kg	09.19.14 16:59	
Phenanthrene	<0.0166	1.67	1.40	84	1.36	82	37-139	3	30	mg/kg	09.19.14 16:59	
Phenol	<0.0149	1.67	1.51	90	1.44	87	34-127	5	40	mg/kg	09.19.14 16:59	
Pyrene	<0.0146	1.67	1.44	86	1.42	86	42-138	1	30	mg/kg	09.19.14 16:59	
Pyridine	<0.0167	1.67	1.18	71	1.13	68	30-113	4	40	mg/kg	09.19.14 16:59	
1,2,4-Trichlorobenzene	<0.0145	1.67	1.38	83	1.33	80	35-129	4	30	mg/kg	09.19.14 16:59	
2,4,6-Trichlorophenol	<0.0157	1.67	1.56	93	1.51	91	39-139	3	30	mg/kg	09.19.14 16:59	
2,4,5-Trichlorophenol	<0.0190	1.67	1.46	87	1.42	86	40-135	3	30	mg/kg	09.19.14 16:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
2-Fluorophenol	100		96		91		25-121	%	09.19.14 16:59
Phenol-d6	101		96		92		24-113	%	09.19.14 16:59
Nitrobenzene-d5	87		83		78		23-120	%	09.19.14 16:59
2-Fluorobiphenyl	90		86		82		30-115	%	09.19.14 16:59
2,4,6-Tribromophenol	96		87		84		19-122	%	09.19.14 16:59
Terphenyl-D14	96		90		88		18-137	%	09.19.14 16:59

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **SVOCs by EPA 8270C** Prep Method: SW3510C

Seq Number: 951448 Matrix: Water Date Prep: 09.22.14

MB Sample Id: 661866-1-BLK LCS Sample Id: 661866-1-BKS LCSD Sample Id: 661866-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<0.000977	0.0500	0.0339	68	0.0340	68	41-116	0	30	mg/L	09.24.14 14:12	
Acenaphthylene	<0.000986	0.0500	0.0343	69	0.0347	69	41-118	1	30	mg/L	09.24.14 14:12	
Aniline (Phenylamine, Aminobenzene)	<0.000827	0.0500	0.0226	45	0.0232	46	31-100	3	40	mg/L	09.24.14 14:12	
Anthracene	<0.000744	0.0500	0.0371	74	0.0370	74	39-127	0	30	mg/L	09.24.14 14:12	
Benzo(a)anthracene	<0.000375	0.0500	0.0376	75	0.0372	74	40-129	1	30	mg/L	09.24.14 14:12	
Benzo(a)pyrene	<0.000399	0.0500	0.0390	78	0.0387	77	36-141	1	30	mg/L	09.24.14 14:12	
Benzo(b)fluoranthene	<0.000468	0.0500	0.0392	78	0.0386	77	34-139	2	30	mg/L	09.24.14 14:12	
Benzo(g,h,i)perylene	<0.000357	0.0500	0.0383	77	0.0378	76	32-141	1	30	mg/L	09.24.14 14:12	
Benzo(k)fluoranthene	<0.000585	0.0500	0.0370	74	0.0371	74	31-139	0	30	mg/L	09.24.14 14:12	
Benzoic Acid	<0.00129	0.150	0.0820	55	0.0814	54	27-71	1	50	mg/L	09.24.14 14:12	
Benzyl Butyl Phthalate	<0.000405	0.0500	0.0398	80	0.0395	79	44-133	1	30	mg/L	09.24.14 14:12	
bis(2-chloroethoxy) methane	<0.00107	0.0500	0.0335	67	0.0334	67	36-113	0	30	mg/L	09.24.14 14:12	
bis(2-chloroethyl) ether	<0.00102	0.0500	0.0307	61	0.0310	62	38-111	1	30	mg/L	09.24.14 14:12	
bis(2-chloroisopropyl) ether	<0.00109	0.0500	0.0350	70	0.0366	73	32-110	4	30	mg/L	09.24.14 14:12	
bis(2-ethylhexyl) phthalate	<0.000441	0.0500	0.0408	82	0.0410	82	44-136	0	30	mg/L	09.24.14 14:12	
4-Bromophenyl-phenylether	<0.000980	0.0500	0.0341	68	0.0343	69	40-126	1	30	mg/L	09.24.14 14:12	
di-n-Butyl Phthalate	<0.000510	0.0500	0.0381	76	0.0384	77	41-133	1	30	mg/L	09.24.14 14:12	
4-chloro-3-methylphenol	<0.000950	0.0500	0.0379	76	0.0373	75	40-119	2	30	mg/L	09.24.14 14:12	
4-Chloroaniline	<0.00101	0.0500	0.0309	62	0.0310	62	39-111	0	40	mg/L	09.24.14 14:12	
2-Chloronaphthalene	<0.00101	0.0500	0.0313	63	0.0329	66	40-118	5	30	mg/L	09.24.14 14:12	
2-Chlorophenol	<0.00104	0.0500	0.0325	65	0.0325	65	41-108	0	30	mg/L	09.24.14 14:12	
4-Chlorophenyl Phenyl Ether	<0.00103	0.0500	0.0344	69	0.0347	69	40-122	1	30	mg/L	09.24.14 14:12	
Chrysene	<0.000390	0.0500	0.0364	73	0.0359	72	41-124	1	30	mg/L	09.24.14 14:12	
Dibenz(a,h)Anthracene	<0.000414	0.0500	0.0396	79	0.0397	79	35-143	0	30	mg/L	09.24.14 14:12	
Dibenzofuran	<0.00100	0.0500	0.0343	69	0.0344	69	41-119	0	30	mg/L	09.24.14 14:12	
1,2-Dichlorobenzene	<0.00100	0.0500	0.0318	64	0.0315	63	38-111	1	30	mg/L	09.24.14 14:12	
1,3-Dichlorobenzene	<0.000926	0.0500	0.0315	63	0.0306	61	37-111	3	30	mg/L	09.24.14 14:12	
1,4-Dichlorobenzene	<0.000947	0.0500	0.0310	62	0.0311	62	37-111	0	30	mg/L	09.24.14 14:12	
3,3-Dichlorobenzidine	<0.000549	0.0500	0.0402	80	0.0406	81	29-141	1	40	mg/L	09.24.14 14:12	
2,4-Dichlorophenol	<0.00100	0.0500	0.0340	68	0.0342	68	38-120	1	30	mg/L	09.24.14 14:12	
Diethyl Phthalate	<0.000911	0.0500	0.0359	72	0.0364	73	41-125	1	30	mg/L	09.24.14 14:12	
Dimethyl Phthalate	<0.000968	0.0500	0.0359	72	0.0362	72	42-123	1	30	mg/L	09.24.14 14:12	
2,4-Dimethylphenol	<0.000860	0.0500	0.0341	68	0.0340	68	39-117	0	30	mg/L	09.24.14 14:12	
4,6-dinitro-2-methyl phenol	<0.000696	0.0500	0.0357	71	0.0373	75	12-157	4	40	mg/L	09.24.14 14:12	
2,4-Dinitrophenol	<0.000869	0.0500	0.0368	74	0.0389	78	13-152	6	40	mg/L	09.24.14 14:12	
2,4-Dinitrotoluene	<0.000767	0.0500	0.0388	78	0.0391	78	41-128	1	30	mg/L	09.24.14 14:12	
2,6-Dinitrotoluene	<0.000974	0.0500	0.0362	72	0.0364	73	42-127	1	30	mg/L	09.24.14 14:12	
Fluoranthene	<0.000510	0.0500	0.0374	75	0.0372	74	38-132	1	30	mg/L	09.24.14 14:12	
Fluorene	<0.00101	0.0500	0.0356	71	0.0359	72	41-121	1	30	mg/L	09.24.14 14:12	
Hexachlorobenzene	<0.000902	0.0500	0.0347	69	0.0343	69	39-128	1	30	mg/L	09.24.14 14:12	
Hexachlorobutadiene	<0.000989	0.0500	0.0301	60	0.0290	58	31-120	4	30	mg/L	09.24.14 14:12	
Hexachlorocyclopentadiene	<0.000495	0.0500	0.0136	27	0.0149	30	15-117	9	30	mg/L	09.24.14 14:12	
Hexachloroethane	<0.00103	0.0500	0.0300	60	0.0299	60	37-109	0	30	mg/L	09.24.14 14:12	
Indeno(1,2,3-c,d)Pyrene	<0.000375	0.0500	0.0382	76	0.0382	76	35-141	0	30	mg/L	09.24.14 14:12	
Isophorone	<0.00102	0.0500	0.0349	70	0.0351	70	40-115	1	30	mg/L	09.24.14 14:12	
2-Methylnaphthalene	<0.000986	0.0500	0.0339	68	0.0333	67	37-112	2	30	mg/L	09.24.14 14:12	
2-methylphenol	<0.000851	0.0500	0.0311	62	0.0316	63	36-105	2	30	mg/L	09.24.14 14:12	
3&4-Methylphenol	<0.000839	0.0500	0.0290	58	0.0298	60	35-96	3	30	mg/L	09.24.14 14:12	
Naphthalene	<0.000977	0.0500	0.0331	66	0.0325	65	37-113	2	30	mg/L	09.24.14 14:12	
4-Nitroaniline	<0.000815	0.0500	0.0382	76	0.0384	77	42-125	1	40	mg/L	09.24.14 14:12	
3-Nitroaniline	<0.00107	0.0500	0.0375	75	0.0375	75	42-123	0	40	mg/L	09.24.14 14:12	
2-Nitroaniline	<0.000896	0.0500	0.0371	74	0.0374	75	34-121	1	40	mg/L	09.24.14 14:12	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **SVOCs by EPA 8270C** Prep Method: SW3510C
Seq Number: 951448 Matrix: Water Date Prep: 09.22.14
MB Sample Id: 661866-1-BLK LCS Sample Id: 661866-1-BKS LCSD Sample Id: 661866-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Nitrobenzene	<0.00102	0.0500	0.0327	65	0.0324	65	37-114	1	30	mg/L	09.24.14 14:12	
2-Nitrophenol	<0.00103	0.0500	0.0343	69	0.0353	71	38-125	3	30	mg/L	09.24.14 14:12	
4-Nitrophenol	<0.000387	0.0500	0.0199	40	0.0200	40	14-82	1	40	mg/L	09.24.14 14:12	
N-Nitrosodi-n-Propylamine	<0.00104	0.0500	0.0343	69	0.0354	71	38-117	3	30	mg/L	09.24.14 14:12	
N-Nitrosodiphenylamine	<0.000983	0.0500	0.0360	72	0.0360	72	40-127	0	30	mg/L	09.24.14 14:12	
di-n-Octyl Phthalate	<0.000408	0.0500	0.0370	74	0.0374	75	34-145	1	30	mg/L	09.24.14 14:12	
Pentachlorophenol	<0.000522	0.0500	0.0324	65	0.0331	66	10-137	2	40	mg/L	09.24.14 14:12	
Phenanthrene	<0.000812	0.0500	0.0365	73	0.0363	73	39-126	1	30	mg/L	09.24.14 14:12	
Phenol	<0.000525	0.0500	0.0168	34	0.0170	34	15-64	1	40	mg/L	09.24.14 14:12	
Pyrene	<0.000468	0.0500	0.0379	76	0.0374	75	40-130	1	30	mg/L	09.24.14 14:12	
Pyridine	<0.000741	0.0500	0.0106	21	0.0117	23	16-135	10	40	mg/L	09.24.14 14:12	
1,2,4-Trichlorobenzene	<0.000929	0.0500	0.0313	63	0.0306	61	34-117	2	30	mg/L	09.24.14 14:12	
2,4,6-Trichlorophenol	<0.00109	0.0500	0.0346	69	0.0358	72	42-125	3	30	mg/L	09.24.14 14:12	
2,4,5-Trichlorophenol	<0.000893	0.0500	0.0340	68	0.0359	72	39-125	5	30	mg/L	09.24.14 14:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
2-Fluorophenol	48		47		47		30-100	%	09.24.14 14:12
Phenol-d6	34		35		35		15-94	%	09.24.14 14:12
Nitrobenzene-d5	69		68		67		46-111	%	09.24.14 14:12
2-Fluorobiphenyl	72		67		66		44-117	%	09.24.14 14:12
2,4,6-Tribromophenol	60		71		70		48-117	%	09.24.14 14:12
Terphenyl-D14	81		79		77		46-126	%	09.24.14 14:12

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** Prep Method: TX1005P
Seq Number: 950868 Matrix: Water Date Prep: 09.17.14
MB Sample Id: 661610-1-BLK LCS Sample Id: 661610-1-BKS LCSD Sample Id: 661610-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<0.900	100	93.8	94	94.2	94	70-130	0	25	mg/L	09.17.14 14:14	
C12-C28 Diesel Range Hydrocarbons	<0.900	100	85.4	85	88.6	89	70-130	4	25	mg/L	09.17.14 14:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	82		99		101		70-130	%	09.17.14 14:14
1-Chlorooctane	85		99		100		70-130	%	09.17.14 14:14

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** Prep Method: TX1005P
Seq Number: 950959 Matrix: Solid Date Prep: 09.18.14
MB Sample Id: 661702-1-BLK LCS Sample Id: 661702-1-BKS LCSD Sample Id: 661702-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<9.00	1000	972	97	980	98	70-130	1	30	mg/kg	09.18.14 22:05	
C12-C28 Diesel Range Hydrocarbons	<9.00	1000	900	90	903	90	70-130	0	30	mg/kg	09.18.14 22:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	94		105		106		70-130	%	09.18.14 22:05
1-Chlorooctane	97		106		106		70-130	%	09.18.14 22:05

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** Prep Method: TX1005P
Seq Number: 951348 Matrix: Water Date Prep: 09.23.14
MB Sample Id: 661917-1-BLK LCS Sample Id: 661917-1-BKS LCSD Sample Id: 661917-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<0.900	100	105	105	107	107	70-130	2	25	mg/L	09.23.14 15:18	
C12-C28 Diesel Range Hydrocarbons	<0.900	100	86.4	86	87.3	87	70-130	1	25	mg/L	09.23.14 15:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	96		121		118		70-130	%	09.23.14 15:18
1-Chlorooctane	103		120		118		70-130	%	09.23.14 15:18

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** Prep Method: TX1005P
Seq Number: 951349 Matrix: Solid Date Prep: 09.23.14
MB Sample Id: 661923-1-BLK LCS Sample Id: 661923-1-BKS LCSD Sample Id: 661923-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<9.00	1000	1100	110	1070	107	70-130	3	30	mg/kg	09.23.14 22:08	
C12-C28 Diesel Range Hydrocarbons	<9.00	1000	906	91	885	89	70-130	2	30	mg/kg	09.23.14 22:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	108		124		120		70-130	%	09.23.14 22:08
1-Chlorooctane	111		123		118		70-130	%	09.23.14 22:08

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** Prep Method: TX1005P
Seq Number: 950959 Matrix: Soil Date Prep: 09.18.14
Parent Sample Id: 493344-001 MS Sample Id: 493344-001 S MSD Sample Id: 493344-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<11.0	1230	1220	99	1180	96	70-130	3	30	mg/kg	09.18.14 23:03	
C12-C28 Diesel Range Hydrocarbons	<11.0	1230	1110	90	1110	90	70-130	0	30	mg/kg	09.18.14 23:03	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
o-Terphenyl	104		105		70-130	%	09.18.14 23:03
1-Chlorooctane	107		106		70-130	%	09.18.14 23:03

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** Prep Method: TX1005P
Seq Number: 951348 Matrix: Water Date Prep: 09.23.14
Parent Sample Id: 493665-001 MS Sample Id: 493665-001 S MSD Sample Id: 493665-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<0.832	92.4	105	114	107	117	70-130	2	25	mg/L	09.23.14 18:22	
C12-C28 Diesel Range Hydrocarbons	<0.832	92.4	83.6	90	86.7	95	70-130	4	25	mg/L	09.23.14 18:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
o-Terphenyl	120		127		70-130	%	09.23.14 18:22
1-Chlorooctane	124		126		70-130	%	09.23.14 18:22

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** Prep Method: TX1005P
Seq Number: 951349 Matrix: Soil Date Prep: 09.23.14
Parent Sample Id: 493661-004 MS Sample Id: 493661-004 S MSD Sample Id: 493661-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<11.5	1270	1410	111	1370	108	70-130	3	30	mg/kg	09.23.14 23:05	
C12-C28 Diesel Range Hydrocarbons	<11.5	1270	1140	90	1130	89	70-130	1	30	mg/kg	09.23.14 23:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
o-Terphenyl	122		120		70-130	%	09.23.14 23:05
1-Chlorooctane	122		118		70-130	%	09.23.14 23:05

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **Total Petroleum Hydrocarbons by Texas 1005** Prep Method: TX1005P
Seq Number: 950868 Matrix: Water Date Prep: 09.17.14
Parent Sample Id: 493223-001 MS Sample Id: 493223-001 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
C6-C12 Gasoline Range Hydrocarbons	<0.823	91.5	89.2	97	70-130	mg/L	09.17.14 15:11	
C12-C28 Diesel Range Hydrocarbons	<0.823	91.5	82.6	90	70-130	mg/L	09.17.14 15:11	

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
o-Terphenyl	100		70-130	%	09.17.14 15:11
1-Chlorooctane	102		70-130	%	09.17.14 15:11

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951260 Matrix: Solid Date Prep: 09.22.14
MB Sample Id: 661912-1-BLK LCS Sample Id: 661912-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
MTBE	<0.000589	0.500	0.486	97	68-138	mg/kg	09.22.14 17:43	
Benzene	<0.000192	0.100	0.0896	90	62-132	mg/kg	09.22.14 17:43	
Toluene	<0.000129	0.100	0.0815	82	66-124	mg/kg	09.22.14 17:43	
Ethylbenzene	<0.0000955	0.100	0.0911	91	71-134	mg/kg	09.22.14 17:43	
m,p-Xylenes	<0.000362	0.200	0.184	92	69-128	mg/kg	09.22.14 17:43	
o-Xylene	<0.000229	0.100	0.0892	89	72-131	mg/kg	09.22.14 17:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	108		102		74-126	%	09.22.14 17:43
1,2-Dichloroethane-D4	112		108		80-120	%	09.22.14 17:43
Toluene-D8	97		98		73-132	%	09.22.14 17:43
4-Bromofluorobenzene	94		102		58-152	%	09.22.14 17:43

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951282 Matrix: Solid Date Prep: 09.23.14
MB Sample Id: 661921-1-BLK LCS Sample Id: 661921-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
MTBE	<0.000589	0.500	0.513	103	68-138	mg/kg	09.23.14 10:10	
Benzene	<0.000192	0.100	0.0886	89	62-132	mg/kg	09.23.14 10:10	
Toluene	<0.000129	0.100	0.0751	75	66-124	mg/kg	09.23.14 10:10	
Ethylbenzene	<0.0000955	0.100	0.0856	86	71-134	mg/kg	09.23.14 10:10	
m,p-Xylenes	<0.000362	0.200	0.177	89	69-128	mg/kg	09.23.14 10:10	
o-Xylene	<0.000229	0.100	0.0839	84	72-131	mg/kg	09.23.14 10:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	108		109		74-126	%	09.23.14 10:10
1,2-Dichloroethane-D4	100		115		80-120	%	09.23.14 10:10
Toluene-D8	90		89		73-132	%	09.23.14 10:10
4-Bromofluorobenzene	98		97		58-152	%	09.23.14 10:10

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951378 Matrix: Water Date Prep: 09.24.14
MB Sample Id: 661976-1-BLK LCS Sample Id: 661976-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
MTBE	<0.000508	0.500	0.541	108	65-135	mg/L	09.24.14 09:43	
Benzene	<0.000147	0.100	0.114	114	66-142	mg/L	09.24.14 09:43	
Toluene	<0.000153	0.100	0.122	122	59-139	mg/L	09.24.14 09:43	
Ethylbenzene	<0.0000806	0.100	0.116	116	75-125	mg/L	09.24.14 09:43	
m,p-Xylenes	<0.000366	0.200	0.237	119	75-125	mg/L	09.24.14 09:43	
o-Xylene	<0.0000975	0.100	0.118	118	75-125	mg/L	09.24.14 09:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	104		102		75-131	%	09.24.14 09:43
1,2-Dichloroethane-D4	108		102		63-144	%	09.24.14 09:43
Toluene-D8	110		106		80-117	%	09.24.14 09:43
4-Bromofluorobenzene	96		103		74-124	%	09.24.14 09:43

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951474 Matrix: Solid Date Prep: 09.24.14
MB Sample Id: 662023-1-BLK LCS Sample Id: 662023-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
MTBE	<0.000589	0.500	0.584	117	68-138	mg/kg	09.24.14 11:04	
Benzene	<0.000192	0.100	0.0980	98	62-132	mg/kg	09.24.14 11:04	
Toluene	<0.000129	0.100	0.0856	86	66-124	mg/kg	09.24.14 11:04	
Ethylbenzene	<0.0000955	0.100	0.0986	99	71-134	mg/kg	09.24.14 11:04	
m,p-Xylenes	<0.000362	0.200	0.201	101	69-128	mg/kg	09.24.14 11:04	
o-Xylene	<0.000229	0.100	0.0974	97	72-131	mg/kg	09.24.14 11:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	110		112		74-126	%	09.24.14 11:04
1,2-Dichloroethane-D4	109		113		80-120	%	09.24.14 11:04
Toluene-D8	89		95		73-132	%	09.24.14 11:04
4-Bromofluorobenzene	109		95		58-152	%	09.24.14 11:04

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951536 Matrix: Solid Date Prep: 09.25.14
MB Sample Id: 662067-1-BLK LCS Sample Id: 662067-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
MTBE	<0.000589	0.500	0.500	100	68-138	mg/kg	09.25.14 11:20	
Benzene	<0.000192	0.100	0.0854	85	62-132	mg/kg	09.25.14 11:20	
Toluene	<0.000129	0.100	0.0747	75	66-124	mg/kg	09.25.14 11:20	
Ethylbenzene	<0.0000955	0.100	0.0844	84	71-134	mg/kg	09.25.14 11:20	
m,p-Xylenes	<0.000362	0.200	0.169	85	69-128	mg/kg	09.25.14 11:20	
o-Xylene	<0.000229	0.100	0.0803	80	72-131	mg/kg	09.25.14 11:20	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		108		74-126	%	09.25.14 11:20
1,2-Dichloroethane-D4	100		108		80-120	%	09.25.14 11:20
Toluene-D8	91		90		73-132	%	09.25.14 11:20
4-Bromofluorobenzene	113		105		58-152	%	09.25.14 11:20

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951260 Matrix: Soil Date Prep: 09.22.14
Parent Sample Id: 493303-001 MS Sample Id: 493303-001 S MSD Sample Id: 493303-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
MTBE	<0.000620	0.526	0.494	94	0.508	97	68-138	3	25	mg/kg	09.22.14 22:42	
Benzene	<0.000202	0.105	0.0935	89	0.0949	90	62-132	1	25	mg/kg	09.22.14 22:42	
Toluene	0.000627	0.105	0.0835	79	0.0895	85	66-124	7	25	mg/kg	09.22.14 22:42	
Ethylbenzene	0.000554	0.105	0.0930	88	0.0948	90	71-134	2	25	mg/kg	09.22.14 22:42	
m,p-Xylenes	0.00174	0.210	0.189	89	0.195	92	69-128	3	25	mg/kg	09.22.14 22:42	
o-Xylene	0.000722	0.105	0.0887	84	0.0904	85	72-131	2	25	mg/kg	09.22.14 22:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	102		104		74-126	%	09.22.14 22:42
1,2-Dichloroethane-D4	105		100		80-120	%	09.22.14 22:42
Toluene-D8	101		99		73-132	%	09.22.14 22:42
4-Bromofluorobenzene	97		105		58-152	%	09.22.14 22:42

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951282 Matrix: Soil Date Prep: 09.23.14
Parent Sample Id: 493344-011 MS Sample Id: 493344-011 S MSD Sample Id: 493344-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
MTBE	<0.000756	0.641	0.673	105	0.585	91	68-138	14	25	mg/kg	09.23.14 15:06	
Benzene	<0.000247	0.128	0.130	102	0.137	107	62-132	5	25	mg/kg	09.23.14 15:06	
Toluene	<0.000166	0.128	0.101	79	0.113	88	66-124	11	25	mg/kg	09.23.14 15:06	
Ethylbenzene	<0.000122	0.128	0.116	91	0.125	98	71-134	7	25	mg/kg	09.23.14 15:06	
m,p-Xylenes	<0.000464	0.257	0.230	89	0.258	101	69-128	11	25	mg/kg	09.23.14 15:06	
o-Xylene	<0.000294	0.128	0.108	84	0.121	95	72-131	11	25	mg/kg	09.23.14 15:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	116		102		74-126	%	09.23.14 15:06
1,2-Dichloroethane-D4	129	**	112		80-120	%	09.23.14 15:06
Toluene-D8	90		95		73-132	%	09.23.14 15:06
4-Bromofluorobenzene	102		105		58-152	%	09.23.14 15:06

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951474 Matrix: Soil Date Prep: 09.24.14
Parent Sample Id: 493554-002 MS Sample Id: 493554-002 S MSD Sample Id: 493554-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
MTBE	<0.000776	0.658	0.754	115	0.646	99	68-138	15	25	mg/kg	09.24.14 15:07	
Benzene	<0.000253	0.132	0.117	89	0.132	102	62-132	12	25	mg/kg	09.24.14 15:07	
Toluene	<0.000170	0.132	0.0952	72	0.101	78	66-124	6	25	mg/kg	09.24.14 15:07	
Ethylbenzene	0.000220	0.132	0.114	86	0.118	91	71-134	3	25	mg/kg	09.24.14 15:07	
m,p-Xylenes	<0.000476	0.263	0.241	92	0.238	92	69-128	1	25	mg/kg	09.24.14 15:07	
o-Xylene	<0.000302	0.132	0.113	86	0.115	88	72-131	2	25	mg/kg	09.24.14 15:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	108		114		74-126	%	09.24.14 15:07
1,2-Dichloroethane-D4	92		107		80-120	%	09.24.14 15:07
Toluene-D8	83		90		73-132	%	09.24.14 15:07
4-Bromofluorobenzene	88		94		58-152	%	09.24.14 15:07

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951378 Matrix: Ground Water Date Prep: 09.24.14
Parent Sample Id: 493640-001 MS Sample Id: 493640-001 S MSD Sample Id: 493640-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
MTBE	0.00753	0.500	0.531	105	0.543	107	65-135	2	20	mg/L	09.24.14 15:07	
Benzene	<0.000147	0.100	0.0918	92	0.0912	91	66-142	1	20	mg/L	09.24.14 15:07	
Toluene	<0.000153	0.100	0.0957	96	0.0878	88	59-139	9	20	mg/L	09.24.14 15:07	
Ethylbenzene	<0.0000806	0.100	0.0990	99	0.0962	96	75-125	3	20	mg/L	09.24.14 15:07	
m,p-Xylenes	<0.000366	0.200	0.196	98	0.200	100	75-125	2	20	mg/L	09.24.14 15:07	
o-Xylene	<0.0000975	0.100	0.110	110	0.108	108	75-125	2	20	mg/L	09.24.14 15:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	101		101		75-131	%	09.24.14 15:07
1,2-Dichloroethane-D4	96		104		63-144	%	09.24.14 15:07
Toluene-D8	106		105		80-117	%	09.24.14 15:07
4-Bromofluorobenzene	96		93		74-124	%	09.24.14 15:07

Analytical Method: **BTEX-MTBE by SW 8260B** Prep Method: SW5030B
Seq Number: 951536 Matrix: Soil Date Prep: 09.25.14
Parent Sample Id: 493661-008 MS Sample Id: 493661-008 S MSD Sample Id: 493661-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
MTBE	<0.000699	0.593	0.510	86	0.569	95	68-138	11	25	mg/kg	09.25.14 15:49	
Benzene	<0.000228	0.119	0.0952	80	0.102	85	62-132	7	25	mg/kg	09.25.14 15:49	
Toluene	<0.000154	0.119	0.0811	68	0.0925	77	66-124	13	25	mg/kg	09.25.14 15:49	
Ethylbenzene	0.000303	0.119	0.0893	75	0.0999	83	71-134	11	25	mg/kg	09.25.14 15:49	
m,p-Xylenes	<0.000429	0.237	0.183	77	0.209	87	69-128	13	25	mg/kg	09.25.14 15:49	
o-Xylene	<0.000272	0.119	0.0835	70	0.0985	82	72-131	16	25	mg/kg	09.25.14 15:49	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	126		118		74-126	%	09.25.14 15:49
1,2-Dichloroethane-D4	111		104		80-120	%	09.25.14 15:49
Toluene-D8	90		93		73-132	%	09.25.14 15:49
4-Bromofluorobenzene	103		105		58-152	%	09.25.14 15:49

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951027 Matrix: Solid Date Prep: 09.18.14

MB Sample Id: 661766-1-BLK LCS Sample Id: 661766-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.000157	0.0500	0.0505	101	71-119	mg/kg	09.18.14 10:42	
Bromobenzene	<0.000438	0.0500	0.0471	94	84-123	mg/kg	09.18.14 10:42	
Bromochloromethane	<0.000475	0.0500	0.0500	100	71-120	mg/kg	09.18.14 10:42	
Bromodichloromethane	<0.000265	0.0500	0.0548	110	78-126	mg/kg	09.18.14 10:42	
Bromoform	<0.000698	0.0500	0.0534	107	63-136	mg/kg	09.18.14 10:42	
Bromomethane	<0.00106	0.0500	0.0421	84	57-118	mg/kg	09.18.14 10:42	
MTBE	<0.000340	0.0500	0.0500	100	64-148	mg/kg	09.18.14 10:42	
tert-Butylbenzene	<0.000206	0.0500	0.0527	105	83-132	mg/kg	09.18.14 10:42	
Sec-Butylbenzene	<0.000490	0.0500	0.0523	105	84-131	mg/kg	09.18.14 10:42	
n-Butylbenzene	<0.000470	0.0500	0.0554	111	82-127	mg/kg	09.18.14 10:42	
Carbon Tetrachloride	<0.000234	0.0500	0.0523	105	63-135	mg/kg	09.18.14 10:42	
Chlorobenzene	<0.000239	0.0500	0.0476	95	83-121	mg/kg	09.18.14 10:42	
Chloroethane	<0.000549	0.0500	0.0387	77	57-122	mg/kg	09.18.14 10:42	
Chloroform	<0.000292	0.0500	0.0512	102	74-118	mg/kg	09.18.14 10:42	
Chloromethane	<0.000299	0.0500	0.0451	90	58-110	mg/kg	09.18.14 10:42	
2-Chlorotoluene	<0.000392	0.0500	0.0501	100	83-129	mg/kg	09.18.14 10:42	
4-Chlorotoluene	<0.000439	0.0500	0.0513	103	83-125	mg/kg	09.18.14 10:42	
p-Cymene (p-Isopropyltoluene)	<0.000420	0.0500	0.0542	108	84-130	mg/kg	09.18.14 10:42	
1,2-Dibromo-3-Chloropropane	<0.00155	0.0500	0.0540	108	58-133	mg/kg	09.18.14 10:42	
Dibromochloromethane	<0.000473	0.0500	0.0528	106	77-130	mg/kg	09.18.14 10:42	
Dibromomethane	<0.000352	0.0500	0.0484	97	73-126	mg/kg	09.18.14 10:42	
1,2-Dichlorobenzene	<0.000431	0.0500	0.0488	98	84-121	mg/kg	09.18.14 10:42	
1,3-Dichlorobenzene	<0.000371	0.0500	0.0504	101	84-124	mg/kg	09.18.14 10:42	
1,4-Dichlorobenzene	<0.000238	0.0500	0.0487	97	82-120	mg/kg	09.18.14 10:42	
Dichlorodifluoromethane	<0.000426	0.0500	0.0497	99	54-122	mg/kg	09.18.14 10:42	
1,2-Dichloroethane	<0.000351	0.0500	0.0504	101	70-123	mg/kg	09.18.14 10:42	
1,1-Dichloroethane	<0.000201	0.0500	0.0500	100	73-124	mg/kg	09.18.14 10:42	
1,2-Dibromoethane	<0.000423	0.0500	0.0468	94	80-127	mg/kg	09.18.14 10:42	
trans-1,2-dichloroethene	<0.000292	0.0500	0.0476	95	63-110	mg/kg	09.18.14 10:42	
cis-1,2-Dichloroethene	<0.000340	0.0500	0.0489	98	72-131	mg/kg	09.18.14 10:42	
1,1-Dichloroethene	<0.000237	0.0500	0.0457	91	68-119	mg/kg	09.18.14 10:42	
2,2-Dichloropropane	<0.00118	0.0500	0.0593	119	67-137	mg/kg	09.18.14 10:42	
1,3-Dichloropropane	<0.000250	0.0500	0.0501	100	82-131	mg/kg	09.18.14 10:42	
1,2-Dichloropropane	<0.000472	0.0500	0.0512	102	75-122	mg/kg	09.18.14 10:42	
trans-1,3-dichloropropene	<0.000303	0.0500	0.0543	109	73-125	mg/kg	09.18.14 10:42	
1,1-Dichloropropene	<0.000423	0.0500	0.0508	102	72-118	mg/kg	09.18.14 10:42	
cis-1,3-Dichloropropene	<0.000428	0.0500	0.0529	106	74-135	mg/kg	09.18.14 10:42	
Ethylbenzene	<0.000430	0.0500	0.0498	100	80-123	mg/kg	09.18.14 10:42	
Hexachlorobutadiene	<0.000863	0.0500	0.0497	99	77-130	mg/kg	09.18.14 10:42	
isopropylbenzene	<0.000167	0.0500	0.0526	105	55-155	mg/kg	09.18.14 10:42	
Methylene Chloride	0.00167	0.0500	0.0452	90	57-134	mg/kg	09.18.14 10:42	
Naphthalene	<0.000271	0.0500	0.0518	104	53-162	mg/kg	09.18.14 10:42	
n-Propylbenzene	<0.000179	0.0500	0.0516	103	84-131	mg/kg	09.18.14 10:42	
Styrene	<0.000150	0.0500	0.0519	104	80-126	mg/kg	09.18.14 10:42	
1,1,1,2-Tetrachloroethane	<0.000407	0.0500	0.0521	104	81-127	mg/kg	09.18.14 10:42	
1,1,2,2-Tetrachloroethane	<0.000459	0.0500	0.0488	98	75-133	mg/kg	09.18.14 10:42	
Tetrachloroethylene	<0.000256	0.0500	0.0468	94	79-124	mg/kg	09.18.14 10:42	
Toluene	<0.000462	0.0500	0.0502	100	74-122	mg/kg	09.18.14 10:42	
1,2,4-Trichlorobenzene	<0.000434	0.0500	0.0526	105	79-128	mg/kg	09.18.14 10:42	
1,2,3-Trichlorobenzene	<0.000243	0.0500	0.0512	102	75-131	mg/kg	09.18.14 10:42	
1,1,2-Trichloroethane	<0.000326	0.0500	0.0518	104	75-131	mg/kg	09.18.14 10:42	
1,1,1-Trichloroethane	<0.000339	0.0500	0.0516	103	71-124	mg/kg	09.18.14 10:42	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951027 Matrix: Solid Date Prep: 09.18.14

MB Sample Id: 661766-1-BLK LCS Sample Id: 661766-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Trichloroethene	<0.000327	0.0500	0.0482	96	78-119	mg/kg	09.18.14 10:42	
Trichlorofluoromethane	<0.000485	0.0500	0.0476	95	71-148	mg/kg	09.18.14 10:42	
1,2,3-Trichloropropane	<0.000701	0.0500	0.0478	96	75-131	mg/kg	09.18.14 10:42	
1,2,4-Trimethylbenzene	<0.000113	0.0500	0.0528	106	60-159	mg/kg	09.18.14 10:42	
1,3,5-trimethylbenzene	<0.000397	0.0500	0.0536	107	61-160	mg/kg	09.18.14 10:42	
Vinyl Chloride	<0.000827	0.0500	0.0422	84	60-123	mg/kg	09.18.14 10:42	
o-Xylene	<0.000279	0.0500	0.0518	104	79-125	mg/kg	09.18.14 10:42	
m,p-Xylenes	<0.000386	0.100	0.103	103	78-127	mg/kg	09.18.14 10:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	116		104		53-142	%	09.18.14 10:42
1,2-Dichloroethane-D4	105		98		56-150	%	09.18.14 10:42
Toluene-D8	102		102		70-130	%	09.18.14 10:42
4-Bromofluorobenzene	107		101		68-152	%	09.18.14 10:42

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951236 Matrix: Solid Date Prep: 09.22.14

MB Sample Id: 661907-1-BLK LCS Sample Id: 661907-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.000157	0.0500	0.0475	95	71-119	mg/kg	09.22.14 10:45	
Bromobenzene	<0.000438	0.0500	0.0440	88	84-123	mg/kg	09.22.14 10:45	
Bromochloromethane	<0.000475	0.0500	0.0473	95	71-120	mg/kg	09.22.14 10:45	
Bromodichloromethane	<0.000265	0.0500	0.0575	115	78-126	mg/kg	09.22.14 10:45	
Bromoform	<0.000698	0.0500	0.0551	110	63-136	mg/kg	09.22.14 10:45	
Bromomethane	<0.00106	0.0500	0.0410	82	57-118	mg/kg	09.22.14 10:45	
MTBE	<0.000340	0.0500	0.0525	105	64-148	mg/kg	09.22.14 10:45	
tert-Butylbenzene	<0.000206	0.0500	0.0501	100	83-132	mg/kg	09.22.14 10:45	
Sec-Butylbenzene	<0.000490	0.0500	0.0500	100	84-131	mg/kg	09.22.14 10:45	
n-Butylbenzene	<0.000470	0.0500	0.0514	103	82-127	mg/kg	09.22.14 10:45	
Carbon Tetrachloride	<0.000234	0.0500	0.0498	100	63-135	mg/kg	09.22.14 10:45	
Chlorobenzene	<0.000239	0.0500	0.0453	91	83-121	mg/kg	09.22.14 10:45	
Chloroethane	<0.000549	0.0500	0.0473	95	57-122	mg/kg	09.22.14 10:45	
Chloroform	<0.000292	0.0500	0.0511	102	74-118	mg/kg	09.22.14 10:45	
Chloromethane	<0.000299	0.0500	0.0444	89	58-110	mg/kg	09.22.14 10:45	
2-Chlorotoluene	<0.000392	0.0500	0.0472	94	83-129	mg/kg	09.22.14 10:45	
4-Chlorotoluene	<0.000439	0.0500	0.0470	94	83-125	mg/kg	09.22.14 10:45	
p-Cymene (p-Isopropyltoluene)	<0.000420	0.0500	0.0496	99	84-130	mg/kg	09.22.14 10:45	
1,2-Dibromo-3-Chloropropane	<0.00155	0.0500	0.0535	107	58-133	mg/kg	09.22.14 10:45	
Dibromochloromethane	<0.000473	0.0500	0.0521	104	77-130	mg/kg	09.22.14 10:45	
Dibromomethane	<0.000352	0.0500	0.0485	97	73-126	mg/kg	09.22.14 10:45	
1,2-Dichlorobenzene	<0.000431	0.0500	0.0465	93	84-121	mg/kg	09.22.14 10:45	
1,3-Dichlorobenzene	<0.000371	0.0500	0.0478	96	84-124	mg/kg	09.22.14 10:45	
1,4-Dichlorobenzene	<0.000238	0.0500	0.0469	94	82-120	mg/kg	09.22.14 10:45	
Dichlorodifluoromethane	<0.000426	0.0500	0.0420	84	54-122	mg/kg	09.22.14 10:45	
1,2-Dichloroethane	<0.000351	0.0500	0.0471	94	70-123	mg/kg	09.22.14 10:45	
1,1-Dichloroethane	<0.000201	0.0500	0.0481	96	73-124	mg/kg	09.22.14 10:45	
1,2-Dibromoethane	<0.000423	0.0500	0.0456	91	80-127	mg/kg	09.22.14 10:45	
trans-1,2-dichloroethene	<0.000292	0.0500	0.0443	89	63-110	mg/kg	09.22.14 10:45	
cis-1,2-Dichloroethene	<0.000340	0.0500	0.0492	98	72-131	mg/kg	09.22.14 10:45	
1,1-Dichloroethene	<0.000237	0.0500	0.0440	88	68-119	mg/kg	09.22.14 10:45	
2,2-Dichloropropane	<0.00118	0.0500	0.0544	109	67-137	mg/kg	09.22.14 10:45	
1,3-Dichloropropane	<0.000250	0.0500	0.0496	99	82-131	mg/kg	09.22.14 10:45	
1,2-Dichloropropane	<0.000472	0.0500	0.0538	108	75-122	mg/kg	09.22.14 10:45	
trans-1,3-dichloropropene	<0.000303	0.0500	0.0513	103	73-125	mg/kg	09.22.14 10:45	
1,1-Dichloropropene	<0.000423	0.0500	0.0464	93	72-118	mg/kg	09.22.14 10:45	
cis-1,3-Dichloropropene	<0.000428	0.0500	0.0544	109	74-135	mg/kg	09.22.14 10:45	
Ethylbenzene	<0.000430	0.0500	0.0452	90	80-123	mg/kg	09.22.14 10:45	
Hexachlorobutadiene	<0.000863	0.0500	0.0455	91	77-130	mg/kg	09.22.14 10:45	
isopropylbenzene	<0.000167	0.0500	0.0491	98	55-155	mg/kg	09.22.14 10:45	
Methylene Chloride	0.00110	0.0500	0.0448	90	57-134	mg/kg	09.22.14 10:45	
Naphthalene	<0.000271	0.0500	0.0520	104	53-162	mg/kg	09.22.14 10:45	
n-Propylbenzene	<0.000179	0.0500	0.0476	95	84-131	mg/kg	09.22.14 10:45	
Styrene	<0.000150	0.0500	0.0494	99	80-126	mg/kg	09.22.14 10:45	
1,1,1,2-Tetrachloroethane	<0.000407	0.0500	0.0493	99	81-127	mg/kg	09.22.14 10:45	
1,1,2,2-Tetrachloroethane	<0.000459	0.0500	0.0498	100	75-133	mg/kg	09.22.14 10:45	
Tetrachloroethylene	<0.000256	0.0500	0.0414	83	79-124	mg/kg	09.22.14 10:45	
Toluene	<0.000462	0.0500	0.0458	92	74-122	mg/kg	09.22.14 10:45	
1,2,4-Trichlorobenzene	<0.000434	0.0500	0.0507	101	79-128	mg/kg	09.22.14 10:45	
1,2,3-Trichlorobenzene	<0.000243	0.0500	0.0504	101	75-131	mg/kg	09.22.14 10:45	
1,1,2-Trichloroethane	<0.000326	0.0500	0.0535	107	75-131	mg/kg	09.22.14 10:45	
1,1,1-Trichloroethane	<0.000339	0.0500	0.0492	98	71-124	mg/kg	09.22.14 10:45	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951236 Matrix: Solid Date Prep: 09.22.14

MB Sample Id: 661907-1-BLK LCS Sample Id: 661907-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Trichloroethene	<0.000327	0.0500	0.0468	94	78-119	mg/kg	09.22.14 10:45	
Trichlorofluoromethane	<0.000485	0.0500	0.0430	86	71-148	mg/kg	09.22.14 10:45	
1,2,3-Trichloropropane	<0.000701	0.0500	0.0481	96	75-131	mg/kg	09.22.14 10:45	
1,2,4-Trimethylbenzene	<0.000113	0.0500	0.0481	96	60-159	mg/kg	09.22.14 10:45	
1,3,5-trimethylbenzene	<0.000397	0.0500	0.0496	99	61-160	mg/kg	09.22.14 10:45	
Vinyl Chloride	<0.000827	0.0500	0.0433	87	60-123	mg/kg	09.22.14 10:45	
o-Xylene	<0.000279	0.0500	0.0484	97	79-125	mg/kg	09.22.14 10:45	
m,p-Xylenes	<0.000386	0.100	0.0914	91	78-127	mg/kg	09.22.14 10:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		103		53-142	%	09.22.14 10:45
1,2-Dichloroethane-D4	101		99		56-150	%	09.22.14 10:45
Toluene-D8	103		101		70-130	%	09.22.14 10:45
4-Bromofluorobenzene	99		97		68-152	%	09.22.14 10:45

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951138 Matrix: Water Date Prep: 09.20.14

MB Sample Id: 661843-1-BLK LCS Sample Id: 661843-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.000204	0.0500	0.0490	98	68-123	mg/L	09.20.14 13:38	
Bromobenzene	<0.000324	0.0500	0.0500	100	83-124	mg/L	09.20.14 13:38	
Bromochloromethane	<0.000562	0.0500	0.0507	101	68-119	mg/L	09.20.14 13:38	
Bromodichloromethane	<0.000242	0.0500	0.0538	108	72-132	mg/L	09.20.14 13:38	
Bromoform	<0.000848	0.0500	0.0537	107	65-136	mg/L	09.20.14 13:38	
Bromomethane	<0.000450	0.0500	0.0426	85	48-120	mg/L	09.20.14 13:38	
MTBE	<0.00122	0.0500	0.0525	105	60-152	mg/L	09.20.14 13:38	
tert-Butylbenzene	<0.000178	0.0500	0.0540	108	83-131	mg/L	09.20.14 13:38	
Sec-Butylbenzene	<0.000101	0.0500	0.0523	105	83-130	mg/L	09.20.14 13:38	
n-Butylbenzene	<0.0000832	0.0500	0.0550	110	82-128	mg/L	09.20.14 13:38	
Carbon Tetrachloride	<0.000279	0.0500	0.0504	101	68-135	mg/L	09.20.14 13:38	
Chlorobenzene	<0.000223	0.0500	0.0490	98	78-124	mg/L	09.20.14 13:38	
Chloroethane	<0.000253	0.0500	0.0412	82	55-120	mg/L	09.20.14 13:38	
Chloroform	<0.000241	0.0500	0.0510	102	71-119	mg/L	09.20.14 13:38	
Chloromethane	<0.000465	0.0500	0.0434	87	54-114	mg/L	09.20.14 13:38	
2-Chlorotoluene	<0.000143	0.0500	0.0507	101	83-128	mg/L	09.20.14 13:38	
4-Chlorotoluene	<0.000174	0.0500	0.0511	102	81-125	mg/L	09.20.14 13:38	
p-Cymene (p-Isopropyltoluene)	<0.000577	0.0500	0.0495	99	85-129	mg/L	09.20.14 13:38	
1,2-Dibromo-3-Chloropropane	<0.00160	0.0500	0.0521	104	62-134	mg/L	09.20.14 13:38	
Dibromochloromethane	<0.000452	0.0500	0.0518	104	74-135	mg/L	09.20.14 13:38	
Dibromomethane	<0.000411	0.0500	0.0505	101	71-124	mg/L	09.20.14 13:38	
1,2-Dichlorobenzene	<0.000286	0.0500	0.0511	102	81-123	mg/L	09.20.14 13:38	
1,3-Dichlorobenzene	<0.000417	0.0500	0.0501	100	82-126	mg/L	09.20.14 13:38	
1,4-Dichlorobenzene	<0.000198	0.0500	0.0499	100	80-119	mg/L	09.20.14 13:38	
Dichlorodifluoromethane	<0.000311	0.0500	0.0540	108	59-121	mg/L	09.20.14 13:38	
1,2-Dichloroethane	<0.000158	0.0500	0.0510	102	64-130	mg/L	09.20.14 13:38	
1,1-Dichloroethane	<0.000158	0.0500	0.0519	104	75-125	mg/L	09.20.14 13:38	
1,2-Dibromoethane	<0.000494	0.0500	0.0504	101	77-129	mg/L	09.20.14 13:38	
trans-1,2-dichloroethene	<0.000269	0.0500	0.0501	100	64-109	mg/L	09.20.14 13:38	
cis-1,2-Dichloroethene	<0.000447	0.0500	0.0500	100	74-130	mg/L	09.20.14 13:38	
1,1-Dichloroethene	<0.000272	0.0500	0.0472	94	68-116	mg/L	09.20.14 13:38	
2,2-Dichloropropane	<0.000453	0.0500	0.0571	114	71-134	mg/L	09.20.14 13:38	
1,3-Dichloropropane	<0.000475	0.0500	0.0507	101	79-133	mg/L	09.20.14 13:38	
1,2-Dichloropropane	<0.000474	0.0500	0.0507	101	72-127	mg/L	09.20.14 13:38	
trans-1,3-dichloropropene	<0.000291	0.0500	0.0471	94	70-132	mg/L	09.20.14 13:38	
1,1-Dichloropropene	<0.000227	0.0500	0.0477	95	69-124	mg/L	09.20.14 13:38	
cis-1,3-Dichloropropene	<0.000380	0.0500	0.0546	109	74-138	mg/L	09.20.14 13:38	
Ethylbenzene	<0.000221	0.0500	0.0495	99	69-131	mg/L	09.20.14 13:38	
Hexachlorobutadiene	<0.000456	0.0500	0.0482	96	74-130	mg/L	09.20.14 13:38	
isopropylbenzene	<0.0000915	0.0500	0.0482	96	66-133	mg/L	09.20.14 13:38	
Naphthalene	<0.000182	0.0500	0.0457	91	69-140	mg/L	09.20.14 13:38	
n-Propylbenzene	<0.000167	0.0500	0.0530	106	86-129	mg/L	09.20.14 13:38	
Styrene	<0.000153	0.0500	0.0513	103	79-128	mg/L	09.20.14 13:38	
1,1,1,2-Tetrachloroethane	<0.000276	0.0500	0.0498	100	78-131	mg/L	09.20.14 13:38	
1,1,2,2-Tetrachloroethane	<0.000321	0.0500	0.0498	100	80-133	mg/L	09.20.14 13:38	
Toluene	<0.000268	0.0500	0.0498	100	62-132	mg/L	09.20.14 13:38	
1,2,4-Trichlorobenzene	<0.000207	0.0500	0.0518	104	77-127	mg/L	09.20.14 13:38	
1,2,3-Trichlorobenzene	<0.000272	0.0500	0.0470	94	76-126	mg/L	09.20.14 13:38	
1,1,2-Trichloroethane	<0.000461	0.0500	0.0498	100	71-135	mg/L	09.20.14 13:38	
1,1,1-Trichloroethane	<0.000213	0.0500	0.0501	100	72-124	mg/L	09.20.14 13:38	
Trichloroethene	<0.000383	0.0500	0.0485	97	74-123	mg/L	09.20.14 13:38	
Trichlorofluoromethane	<0.000419	0.0500	0.0420	84	70-143	mg/L	09.20.14 13:38	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951138 Matrix: Water Date Prep: 09.20.14

MB Sample Id: 661843-1-BLK LCS Sample Id: 661843-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
1,2,3-Trichloropropane	<0.000214	0.0500	0.0474	95	75-134	mg/L	09.20.14 13:38	
1,2,4-Trimethylbenzene	<0.0000719	0.0500	0.0535	107	79-132	mg/L	09.20.14 13:38	
1,3,5-trimethylbenzene	<0.000134	0.0500	0.0544	109	72-139	mg/L	09.20.14 13:38	
o-Xylene	<0.000149	0.0500	0.0536	107	67-132	mg/L	09.20.14 13:38	
m,p-Xylenes	<0.000847	0.100	0.101	101	69-132	mg/L	09.20.14 13:38	
Methylene Chloride	<0.000927	0.0500	0.0477	95	60-121	mg/L	09.20.14 13:38	
Tetrachloroethylene	<0.000229	0.0500	0.0490	98	79-122	mg/L	09.20.14 13:38	
Vinyl Chloride	<0.000292	0.0500	0.0396	79	59-124	mg/L	09.20.14 13:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	109		99		75-131	%	09.20.14 13:38
1,2-Dichloroethane-D4	107		102		63-144	%	09.20.14 13:38
Toluene-D8	100		99		80-117	%	09.20.14 13:38
4-Bromofluorobenzene	101		99		74-124	%	09.20.14 13:38

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951236 Matrix: Solid Date Prep: 09.22.14

MB Sample Id: 661907-1-BLK LCS Sample Id: 661907-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.000157	0.0500	0.0475	95	71-119	mg/kg	09.22.14 10:45	
Bromobenzene	<0.000438	0.0500	0.0440	88	84-123	mg/kg	09.22.14 10:45	
Bromochloromethane	<0.000475	0.0500	0.0473	95	71-120	mg/kg	09.22.14 10:45	
Bromodichloromethane	<0.000265	0.0500	0.0575	115	78-126	mg/kg	09.22.14 10:45	
Bromoform	<0.000698	0.0500	0.0551	110	63-136	mg/kg	09.22.14 10:45	
Bromomethane	<0.00106	0.0500	0.0410	82	57-118	mg/kg	09.22.14 10:45	
MTBE	<0.000340	0.0500	0.0525	105	64-148	mg/kg	09.22.14 10:45	
tert-Butylbenzene	<0.000206	0.0500	0.0501	100	83-132	mg/kg	09.22.14 10:45	
Sec-Butylbenzene	<0.000490	0.0500	0.0500	100	84-131	mg/kg	09.22.14 10:45	
n-Butylbenzene	<0.000470	0.0500	0.0514	103	82-127	mg/kg	09.22.14 10:45	
Carbon Tetrachloride	<0.000234	0.0500	0.0498	100	63-135	mg/kg	09.22.14 10:45	
Chlorobenzene	<0.000239	0.0500	0.0453	91	83-121	mg/kg	09.22.14 10:45	
Chloroethane	<0.000549	0.0500	0.0473	95	57-122	mg/kg	09.22.14 10:45	
Chloroform	<0.000292	0.0500	0.0511	102	74-118	mg/kg	09.22.14 10:45	
Chloromethane	<0.000299	0.0500	0.0444	89	58-110	mg/kg	09.22.14 10:45	
2-Chlorotoluene	<0.000392	0.0500	0.0472	94	83-129	mg/kg	09.22.14 10:45	
4-Chlorotoluene	<0.000439	0.0500	0.0470	94	83-125	mg/kg	09.22.14 10:45	
p-Cymene (p-Isopropyltoluene)	<0.000420	0.0500	0.0496	99	84-130	mg/kg	09.22.14 10:45	
1,2-Dibromo-3-Chloropropane	<0.00155	0.0500	0.0535	107	58-133	mg/kg	09.22.14 10:45	
Dibromochloromethane	<0.000473	0.0500	0.0521	104	77-130	mg/kg	09.22.14 10:45	
Dibromomethane	<0.000352	0.0500	0.0485	97	73-126	mg/kg	09.22.14 10:45	
1,2-Dichlorobenzene	<0.000431	0.0500	0.0465	93	84-121	mg/kg	09.22.14 10:45	
1,3-Dichlorobenzene	<0.000371	0.0500	0.0478	96	84-124	mg/kg	09.22.14 10:45	
1,4-Dichlorobenzene	<0.000238	0.0500	0.0469	94	82-120	mg/kg	09.22.14 10:45	
Dichlorodifluoromethane	<0.000426	0.0500	0.0420	84	54-122	mg/kg	09.22.14 10:45	
1,2-Dichloroethane	<0.000351	0.0500	0.0471	94	70-123	mg/kg	09.22.14 10:45	
1,1-Dichloroethane	<0.000201	0.0500	0.0481	96	73-124	mg/kg	09.22.14 10:45	
1,2-Dibromoethane	<0.000423	0.0500	0.0456	91	80-127	mg/kg	09.22.14 10:45	
trans-1,2-dichloroethene	<0.000292	0.0500	0.0443	89	63-110	mg/kg	09.22.14 10:45	
cis-1,2-Dichloroethene	<0.000340	0.0500	0.0492	98	72-131	mg/kg	09.22.14 10:45	
1,1-Dichloroethene	<0.000237	0.0500	0.0440	88	68-119	mg/kg	09.22.14 10:45	
2,2-Dichloropropane	<0.00118	0.0500	0.0544	109	67-137	mg/kg	09.22.14 10:45	
1,3-Dichloropropane	<0.000250	0.0500	0.0496	99	82-131	mg/kg	09.22.14 10:45	
1,2-Dichloropropane	<0.000472	0.0500	0.0538	108	75-122	mg/kg	09.22.14 10:45	
trans-1,3-dichloropropene	<0.000303	0.0500	0.0513	103	73-125	mg/kg	09.22.14 10:45	
1,1-Dichloropropene	<0.000423	0.0500	0.0464	93	72-118	mg/kg	09.22.14 10:45	
cis-1,3-Dichloropropene	<0.000428	0.0500	0.0544	109	74-135	mg/kg	09.22.14 10:45	
Ethylbenzene	<0.000430	0.0500	0.0452	90	80-123	mg/kg	09.22.14 10:45	
Hexachlorobutadiene	<0.000863	0.0500	0.0455	91	77-130	mg/kg	09.22.14 10:45	
isopropylbenzene	<0.000167	0.0500	0.0491	98	55-155	mg/kg	09.22.14 10:45	
Methylene Chloride	0.00110	0.0500	0.0448	90	57-134	mg/kg	09.22.14 10:45	
Naphthalene	<0.000271	0.0500	0.0520	104	53-162	mg/kg	09.22.14 10:45	
n-Propylbenzene	<0.000179	0.0500	0.0476	95	84-131	mg/kg	09.22.14 10:45	
Styrene	<0.000150	0.0500	0.0494	99	80-126	mg/kg	09.22.14 10:45	
1,1,1,2-Tetrachloroethane	<0.000407	0.0500	0.0493	99	81-127	mg/kg	09.22.14 10:45	
1,1,2,2-Tetrachloroethane	<0.000459	0.0500	0.0498	100	75-133	mg/kg	09.22.14 10:45	
Tetrachloroethylene	<0.000256	0.0500	0.0414	83	79-124	mg/kg	09.22.14 10:45	
Toluene	<0.000462	0.0500	0.0458	92	74-122	mg/kg	09.22.14 10:45	
1,2,4-Trichlorobenzene	<0.000434	0.0500	0.0507	101	79-128	mg/kg	09.22.14 10:45	
1,2,3-Trichlorobenzene	<0.000243	0.0500	0.0504	101	75-131	mg/kg	09.22.14 10:45	
1,1,2-Trichloroethane	<0.000326	0.0500	0.0535	107	75-131	mg/kg	09.22.14 10:45	
1,1,1-Trichloroethane	<0.000339	0.0500	0.0492	98	71-124	mg/kg	09.22.14 10:45	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951236 Matrix: Solid Date Prep: 09.22.14

MB Sample Id: 661907-1-BLK LCS Sample Id: 661907-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Trichloroethene	<0.000327	0.0500	0.0468	94	78-119	mg/kg	09.22.14 10:45	
Trichlorofluoromethane	<0.000485	0.0500	0.0430	86	71-148	mg/kg	09.22.14 10:45	
1,2,3-Trichloropropane	<0.000701	0.0500	0.0481	96	75-131	mg/kg	09.22.14 10:45	
1,2,4-Trimethylbenzene	<0.000113	0.0500	0.0481	96	60-159	mg/kg	09.22.14 10:45	
1,3,5-trimethylbenzene	<0.000397	0.0500	0.0496	99	61-160	mg/kg	09.22.14 10:45	
Vinyl Chloride	<0.000827	0.0500	0.0433	87	60-123	mg/kg	09.22.14 10:45	
o-Xylene	<0.000279	0.0500	0.0484	97	79-125	mg/kg	09.22.14 10:45	
m,p-Xylenes	<0.000386	0.100	0.0914	91	78-127	mg/kg	09.22.14 10:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	Limits	Units	Analysis Date
Dibromofluoromethane	105		103		53-142	%	09.22.14 10:45
1,2-Dichloroethane-D4	101		99		56-150	%	09.22.14 10:45
Toluene-D8	103		101		70-130	%	09.22.14 10:45
4-Bromofluorobenzene	99		97		68-152	%	09.22.14 10:45

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951027 Matrix: Soil Date Prep: 09.18.14

Parent Sample Id: 493344-008 MS Sample Id: 493344-008 S MSD Sample Id: 493344-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000182	0.0580	0.0593	102	0.0600	101	66-142	1	25	mg/kg	09.18.14 17:16	
Bromobenzene	<0.000509	0.0580	0.0558	96	0.0577	97	75-125	3	25	mg/kg	09.18.14 17:16	
Bromochloromethane	<0.000551	0.0580	0.0625	108	0.0595	101	60-140	5	25	mg/kg	09.18.14 17:16	
Bromodichloromethane	<0.000308	0.0580	0.0718	124	0.0675	114	75-125	6	25	mg/kg	09.18.14 17:16	
Bromoform	<0.000811	0.0580	0.0712	123	0.0696	118	75-125	2	25	mg/kg	09.18.14 17:16	
Bromomethane	<0.00123	0.0580	0.0531	92	0.0528	89	60-140	1	25	mg/kg	09.18.14 17:16	
MTBE	<0.000395	0.0580	0.0658	113	0.0611	103	60-140	7	25	mg/kg	09.18.14 17:16	
tert-Butylbenzene	<0.000240	0.0580	0.0610	105	0.0644	109	75-125	5	25	mg/kg	09.18.14 17:16	
Sec-Butylbenzene	<0.000569	0.0580	0.0609	105	0.0640	108	75-125	5	25	mg/kg	09.18.14 17:16	
n-Butylbenzene	<0.000545	0.0580	0.0626	108	0.0652	110	75-125	4	25	mg/kg	09.18.14 17:16	
Carbon Tetrachloride	<0.000271	0.0580	0.0668	115	0.0657	111	62-125	2	25	mg/kg	09.18.14 17:16	
Chlorobenzene	<0.000278	0.0580	0.0553	95	0.0578	98	60-133	4	25	mg/kg	09.18.14 17:16	
Chloroethane	<0.000637	0.0580	0.0523	90	0.0495	84	60-140	6	25	mg/kg	09.18.14 17:16	
Chloroform	<0.000339	0.0580	0.0661	114	0.0648	109	74-125	2	25	mg/kg	09.18.14 17:16	
Chloromethane	<0.000347	0.0580	0.0515	89	0.0546	92	60-140	6	25	mg/kg	09.18.14 17:16	
2-Chlorotoluene	<0.000456	0.0580	0.0586	101	0.0614	104	73-125	5	25	mg/kg	09.18.14 17:16	
4-Chlorotoluene	<0.000510	0.0580	0.0601	104	0.0621	105	74-125	3	25	mg/kg	09.18.14 17:16	
p-Cymene (p-Isopropyltoluene)	<0.000488	0.0580	0.0622	107	0.0650	110	75-125	4	25	mg/kg	09.18.14 17:16	
1,2-Dibromo-3-Chloropropane	<0.00180	0.0580	0.0742	128	0.0725	122	59-125	2	25	mg/kg	09.18.14 17:16	X
Dibromochloromethane	<0.000549	0.0580	0.0646	111	0.0654	110	73-125	1	25	mg/kg	09.18.14 17:16	
Dibromomethane	<0.000409	0.0580	0.0645	111	0.0603	102	69-127	7	25	mg/kg	09.18.14 17:16	
1,2-Dichlorobenzene	<0.000500	0.0580	0.0585	101	0.0596	101	75-125	2	25	mg/kg	09.18.14 17:16	
1,3-Dichlorobenzene	<0.000431	0.0580	0.0578	100	0.0603	102	75-125	4	25	mg/kg	09.18.14 17:16	
1,4-Dichlorobenzene	<0.000276	0.0580	0.0567	98	0.0597	101	75-125	5	25	mg/kg	09.18.14 17:16	
Dichlorodifluoromethane	<0.000494	0.0580	0.0610	105	0.0626	106	65-135	3	25	mg/kg	09.18.14 17:16	
1,2-Dichloroethane	<0.000407	0.0580	0.0668	115	0.0636	107	68-127	5	25	mg/kg	09.18.14 17:16	
1,1-Dichloroethane	<0.000233	0.0580	0.0642	111	0.0629	106	72-125	2	25	mg/kg	09.18.14 17:16	
1,2-Dibromoethane	<0.000491	0.0580	0.0570	98	0.0595	101	73-125	4	25	mg/kg	09.18.14 17:16	
trans-1,2-dichloroethene	<0.000339	0.0580	0.0566	98	0.0581	98	75-125	3	25	mg/kg	09.18.14 17:16	
cis-1,2-Dichloroethene	<0.000395	0.0580	0.0624	108	0.0619	105	75-125	1	25	mg/kg	09.18.14 17:16	
1,1-Dichloroethene	<0.000275	0.0580	0.0557	96	0.0553	93	59-172	1	25	mg/kg	09.18.14 17:16	
2,2-Dichloropropane	<0.00137	0.0580	0.0672	116	0.0686	116	75-125	2	25	mg/kg	09.18.14 17:16	
1,3-Dichloropropane	<0.000290	0.0580	0.0600	103	0.0615	104	75-125	2	25	mg/kg	09.18.14 17:16	
1,2-Dichloropropane	<0.000548	0.0580	0.0615	106	0.0636	107	74-125	3	25	mg/kg	09.18.14 17:16	
trans-1,3-dichloropropene	<0.000352	0.0580	0.0645	111	0.0664	112	66-125	3	25	mg/kg	09.18.14 17:16	
1,1-Dichloropropene	<0.000491	0.0580	0.0617	106	0.0627	106	75-125	2	25	mg/kg	09.18.14 17:16	
cis-1,3-Dichloropropene	<0.000496	0.0580	0.0644	111	0.0653	110	74-125	1	25	mg/kg	09.18.14 17:16	
Ethylbenzene	<0.000499	0.0580	0.0567	98	0.0603	102	75-125	6	25	mg/kg	09.18.14 17:16	
Hexachlorobutadiene	<0.00100	0.0580	0.0569	98	0.0590	100	75-125	4	25	mg/kg	09.18.14 17:16	
isopropylbenzene	<0.000194	0.0580	0.0592	102	0.0630	106	75-125	6	25	mg/kg	09.18.14 17:16	
Methylene Chloride	0.00188	0.0580	0.0583	97	0.0576	94	75-125	1	25	mg/kg	09.18.14 17:16	
Naphthalene	<0.000315	0.0580	0.0630	109	0.0652	110	70-130	3	25	mg/kg	09.18.14 17:16	
n-Propylbenzene	<0.000208	0.0580	0.0592	102	0.0621	105	75-125	5	25	mg/kg	09.18.14 17:16	
Styrene	<0.000174	0.0580	0.0608	105	0.0620	105	75-125	2	25	mg/kg	09.18.14 17:16	
1,1,1,2-Tetrachloroethane	<0.000472	0.0580	0.0629	108	0.0638	108	72-125	1	25	mg/kg	09.18.14 17:16	
1,1,2,2-Tetrachloroethane	<0.000532	0.0580	0.0644	111	0.0628	106	74-125	3	25	mg/kg	09.18.14 17:16	
Tetrachloroethylene	<0.000297	0.0580	0.0514	89	0.0551	93	71-125	7	25	mg/kg	09.18.14 17:16	
Toluene	<0.000536	0.0580	0.0548	94	0.0585	99	59-139	7	25	mg/kg	09.18.14 17:16	
1,2,4-Trichlorobenzene	<0.000504	0.0580	0.0564	97	0.0605	102	75-135	7	25	mg/kg	09.18.14 17:16	
1,2,3-Trichlorobenzene	<0.000282	0.0580	0.0593	102	0.0605	102	75-137	2	25	mg/kg	09.18.14 17:16	
1,1,2-Trichloroethane	<0.000378	0.0580	0.0617	106	0.0627	106	75-127	2	25	mg/kg	09.18.14 17:16	
1,1,1-Trichloroethane	<0.000393	0.0580	0.0641	111	0.0631	107	75-125	2	25	mg/kg	09.18.14 17:16	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951027 Matrix: Soil Date Prep: 09.18.14

Parent Sample Id: 493344-008 MS Sample Id: 493344-008 S MSD Sample Id: 493344-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Trichloroethene	<0.000380	0.0580	0.0574	99	0.0573	97	62-137	0	25	mg/kg	09.18.14 17:16	
Trichlorofluoromethane	<0.000563	0.0580	0.0583	101	0.0597	101	67-125	2	25	mg/kg	09.18.14 17:16	
1,2,3-Trichloropropane	<0.000814	0.0580	0.0648	112	0.0635	107	75-125	2	25	mg/kg	09.18.14 17:16	
1,2,4-Trimethylbenzene	<0.000131	0.0580	0.0613	106	0.0630	106	75-125	3	25	mg/kg	09.18.14 17:16	
1,3,5-trimethylbenzene	<0.000461	0.0580	0.0628	108	0.0659	111	70-130	5	25	mg/kg	09.18.14 17:16	
Vinyl Chloride	<0.000960	0.0580	0.0513	88	0.0517	87	60-140	1	25	mg/kg	09.18.14 17:16	
o-Xylene	<0.000323	0.0580	0.0591	102	0.0624	105	75-125	5	25	mg/kg	09.18.14 17:16	
m,p-Xylenes	<0.000448	0.116	0.116	100	0.120	102	75-125	3	25	mg/kg	09.18.14 17:16	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	110		104		53-142	%	09.18.14 17:16
1,2-Dichloroethane-D4	103		104		56-150	%	09.18.14 17:16
Toluene-D8	99		101		70-130	%	09.18.14 17:16
4-Bromofluorobenzene	99		99		68-152	%	09.18.14 17:16

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951236 Matrix: Soil Date Prep: 09.22.14

Parent Sample Id: 493661-001 MS Sample Id: 493661-001 S MSD Sample Id: 493661-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000183	0.0582	0.0522	90	0.0538	92	66-142	3	25	mg/kg	09.22.14 16:40	
Bromobenzene	<0.000510	0.0582	0.0505	87	0.0499	85	75-125	1	25	mg/kg	09.22.14 16:40	
Bromochloromethane	<0.000553	0.0582	0.0559	96	0.0531	91	60-140	5	25	mg/kg	09.22.14 16:40	
Bromodichloromethane	<0.000309	0.0582	0.0567	97	0.0572	98	75-125	1	25	mg/kg	09.22.14 16:40	
Bromoform	<0.000813	0.0582	0.0664	114	0.0645	110	75-125	3	25	mg/kg	09.22.14 16:40	
Bromomethane	<0.00123	0.0582	0.0433	74	0.0421	72	60-140	3	25	mg/kg	09.22.14 16:40	
MTBE	<0.000396	0.0582	0.0609	105	0.0558	95	60-140	9	25	mg/kg	09.22.14 16:40	
tert-Butylbenzene	<0.000240	0.0582	0.0571	98	0.0579	99	75-125	1	25	mg/kg	09.22.14 16:40	
Sec-Butylbenzene	<0.000571	0.0582	0.0557	96	0.0573	98	75-125	3	25	mg/kg	09.22.14 16:40	
n-Butylbenzene	<0.000547	0.0582	0.0560	96	0.0559	96	75-125	0	25	mg/kg	09.22.14 16:40	
Carbon Tetrachloride	<0.000272	0.0582	0.0499	86	0.0505	86	62-125	1	25	mg/kg	09.22.14 16:40	
Chlorobenzene	<0.000279	0.0582	0.0514	88	0.0523	89	60-133	2	25	mg/kg	09.22.14 16:40	
Chloroethane	<0.000639	0.0582	0.0436	75	0.0477	82	60-140	9	25	mg/kg	09.22.14 16:40	
Chloroform	<0.000341	0.0582	0.0551	95	0.0538	92	74-125	2	25	mg/kg	09.22.14 16:40	
Chloromethane	<0.000348	0.0582	0.0364	63	0.0450	77	60-140	21	25	mg/kg	09.22.14 16:40	
2-Chlorotoluene	<0.000457	0.0582	0.0522	90	0.0533	91	73-125	2	25	mg/kg	09.22.14 16:40	
4-Chlorotoluene	<0.000512	0.0582	0.0505	87	0.0515	88	74-125	2	25	mg/kg	09.22.14 16:40	
p-Cymene (p-Isopropyltoluene)	<0.000490	0.0582	0.0549	94	0.0566	97	75-125	3	25	mg/kg	09.22.14 16:40	
1,2-Dibromo-3-Chloropropane	<0.00181	0.0582	0.0654	112	0.0569	97	59-125	14	25	mg/kg	09.22.14 16:40	
Dibromochloromethane	<0.000551	0.0582	0.0594	102	0.0580	99	73-125	2	25	mg/kg	09.22.14 16:40	
Dibromomethane	<0.000410	0.0582	0.0520	89	0.0476	81	69-127	9	25	mg/kg	09.22.14 16:40	
1,2-Dichlorobenzene	<0.000502	0.0582	0.0532	91	0.0515	88	75-125	3	25	mg/kg	09.22.14 16:40	
1,3-Dichlorobenzene	<0.000433	0.0582	0.0539	93	0.0546	93	75-125	1	25	mg/kg	09.22.14 16:40	
1,4-Dichlorobenzene	<0.000277	0.0582	0.0509	87	0.0506	86	75-125	1	25	mg/kg	09.22.14 16:40	
Dichlorodifluoromethane	<0.000496	0.0582	0.0394	68	0.0424	72	65-135	7	25	mg/kg	09.22.14 16:40	
1,2-Dichloroethane	<0.000409	0.0582	0.0485	83	0.0454	78	68-127	7	25	mg/kg	09.22.14 16:40	
1,1-Dichloroethane	<0.000234	0.0582	0.0577	99	0.0538	92	72-125	7	25	mg/kg	09.22.14 16:40	
1,2-Dibromoethane	<0.000493	0.0582	0.0546	94	0.0497	85	73-125	9	25	mg/kg	09.22.14 16:40	
trans-1,2-dichloroethene	<0.000341	0.0582	0.0506	87	0.0508	87	75-125	0	25	mg/kg	09.22.14 16:40	
cis-1,2-Dichloroethene	<0.000396	0.0582	0.0561	96	0.0550	94	75-125	2	25	mg/kg	09.22.14 16:40	
1,1-Dichloroethene	<0.000276	0.0582	0.0496	85	0.0508	87	59-172	2	25	mg/kg	09.22.14 16:40	
2,2-Dichloropropane	<0.00138	0.0582	0.0605	104	0.0571	98	75-125	6	25	mg/kg	09.22.14 16:40	
1,3-Dichloropropane	<0.000291	0.0582	0.0550	95	0.0520	89	75-125	6	25	mg/kg	09.22.14 16:40	
1,2-Dichloropropane	<0.000550	0.0582	0.0566	97	0.0568	97	74-125	0	25	mg/kg	09.22.14 16:40	
trans-1,3-dichloropropene	<0.000353	0.0582	0.0594	102	0.0564	96	66-125	5	25	mg/kg	09.22.14 16:40	
1,1-Dichloropropene	<0.000493	0.0582	0.0499	86	0.0510	87	75-125	2	25	mg/kg	09.22.14 16:40	
cis-1,3-Dichloropropene	<0.000498	0.0582	0.0568	98	0.0589	101	74-125	4	25	mg/kg	09.22.14 16:40	
Ethylbenzene	<0.000500	0.0582	0.0515	88	0.0524	90	75-125	2	25	mg/kg	09.22.14 16:40	
Hexachlorobutadiene	<0.00101	0.0582	0.0483	83	0.0458	78	75-125	5	25	mg/kg	09.22.14 16:40	
isopropylbenzene	<0.000195	0.0582	0.0558	96	0.0560	96	75-125	0	25	mg/kg	09.22.14 16:40	
Methylene Chloride	0.00137	0.0582	0.0545	91	0.0537	89	75-125	1	25	mg/kg	09.22.14 16:40	
Naphthalene	<0.000316	0.0582	0.0617	106	0.0545	93	70-130	12	25	mg/kg	09.22.14 16:40	
n-Propylbenzene	<0.000209	0.0582	0.0535	92	0.0530	91	75-125	1	25	mg/kg	09.22.14 16:40	
Styrene	<0.000175	0.0582	0.0565	97	0.0566	97	75-125	0	25	mg/kg	09.22.14 16:40	
1,1,1,2-Tetrachloroethane	<0.000474	0.0582	0.0580	100	0.0567	97	72-125	2	25	mg/kg	09.22.14 16:40	
1,1,2,2-Tetrachloroethane	<0.000534	0.0582	0.0620	107	0.0566	97	74-125	9	25	mg/kg	09.22.14 16:40	
Tetrachloroethylene	<0.000298	0.0582	0.0464	80	0.0478	82	71-125	3	25	mg/kg	09.22.14 16:40	
Toluene	<0.000538	0.0582	0.0518	89	0.0526	90	59-139	2	25	mg/kg	09.22.14 16:40	
1,2,4-Trichlorobenzene	<0.000505	0.0582	0.0522	90	0.0517	88	75-135	1	25	mg/kg	09.22.14 16:40	
1,2,3-Trichlorobenzene	<0.000283	0.0582	0.0541	93	0.0504	86	75-137	7	25	mg/kg	09.22.14 16:40	
1,1,2-Trichloroethane	<0.000379	0.0582	0.0593	102	0.0567	97	75-127	4	25	mg/kg	09.22.14 16:40	
1,1,1-Trichloroethane	<0.000395	0.0582	0.0524	90	0.0508	87	75-125	3	25	mg/kg	09.22.14 16:40	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951236 Matrix: Soil Date Prep: 09.22.14

Parent Sample Id: 493661-001 MS Sample Id: 493661-001 S MSD Sample Id: 493661-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Trichloroethene	<0.000381	0.0582	0.0468	80	0.0494	84	62-137	5	25	mg/kg	09.22.14 16:40	
Trichlorofluoromethane	<0.000565	0.0582	0.0424	73	0.0457	78	67-125	7	25	mg/kg	09.22.14 16:40	
1,2,3-Trichloropropane	<0.000817	0.0582	0.0575	99	0.0527	90	75-125	9	25	mg/kg	09.22.14 16:40	
1,2,4-Trimethylbenzene	<0.000131	0.0582	0.0539	93	0.0529	90	75-125	2	25	mg/kg	09.22.14 16:40	
1,3,5-trimethylbenzene	<0.000463	0.0582	0.0554	95	0.0545	93	70-130	2	25	mg/kg	09.22.14 16:40	
Vinyl Chloride	<0.000963	0.0582	0.0384	66	0.0463	79	60-140	19	25	mg/kg	09.22.14 16:40	
o-Xylene	<0.000324	0.0582	0.0574	99	0.0552	94	75-125	4	25	mg/kg	09.22.14 16:40	
m,p-Xylenes	<0.000450	0.116	0.107	92	0.106	91	75-125	1	25	mg/kg	09.22.14 16:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	99		100		53-142	%	09.22.14 16:40
1,2-Dichloroethane-D4	99		108		56-150	%	09.22.14 16:40
Toluene-D8	101		100		70-130	%	09.22.14 16:40
4-Bromofluorobenzene	98		97		68-152	%	09.22.14 16:40

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951138 Matrix: Water Date Prep: 09.20.14

Parent Sample Id: 493651-001 MS Sample Id: 493651-001 S MSD Sample Id: 493651-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000204	0.0500	0.0468	94	0.0458	92	66-142	2	25	mg/L	09.20.14 15:48	
Bromobenzene	<0.000324	0.0500	0.0473	95	0.0458	92	75-125	3	25	mg/L	09.20.14 15:48	
Bromochloromethane	<0.000562	0.0500	0.0511	102	0.0491	98	60-140	4	25	mg/L	09.20.14 15:48	
Bromodichloromethane	<0.000242	0.0500	0.0502	100	0.0494	99	75-125	2	25	mg/L	09.20.14 15:48	
Bromoform	<0.000848	0.0500	0.0514	103	0.0512	102	75-125	0	25	mg/L	09.20.14 15:48	
Bromomethane	<0.000450	0.0500	0.0436	87	0.0397	79	60-140	9	25	mg/L	09.20.14 15:48	
MTBE	<0.00122	0.0500	0.0529	106	0.0507	101	65-135	4	25	mg/L	09.20.14 15:48	
tert-Butylbenzene	<0.000178	0.0500	0.0518	104	0.0508	102	75-125	2	25	mg/L	09.20.14 15:48	
Sec-Butylbenzene	<0.000101	0.0500	0.0505	101	0.0491	98	75-125	3	25	mg/L	09.20.14 15:48	
n-Butylbenzene	<0.0000832	0.0500	0.0534	107	0.0510	102	75-125	5	25	mg/L	09.20.14 15:48	
Carbon Tetrachloride	<0.000279	0.0500	0.0506	101	0.0466	93	62-125	8	25	mg/L	09.20.14 15:48	
Chlorobenzene	<0.000223	0.0500	0.0468	94	0.0466	93	60-133	0	25	mg/L	09.20.14 15:48	
Chloroethane	<0.000253	0.0500	0.0403	81	0.0404	81	60-140	0	25	mg/L	09.20.14 15:48	
Chloroform	<0.000241	0.0500	0.0499	100	0.0466	93	70-130	7	25	mg/L	09.20.14 15:48	
Chloromethane	<0.000465	0.0500	0.0441	88	0.0417	83	60-140	6	25	mg/L	09.20.14 15:48	
2-Chlorotoluene	<0.000143	0.0500	0.0485	97	0.0479	96	73-125	1	25	mg/L	09.20.14 15:48	
4-Chlorotoluene	<0.000174	0.0500	0.0483	97	0.0464	93	74-125	4	25	mg/L	09.20.14 15:48	
p-Cymene (p-Isopropyltoluene)	<0.000577	0.0500	0.0474	95	0.0463	93	75-125	2	25	mg/L	09.20.14 15:48	
1,2-Dibromo-3-Chloropropane	<0.00160	0.0500	0.0542	108	0.0532	106	59-125	2	25	mg/L	09.20.14 15:48	
Dibromochloromethane	<0.000452	0.0500	0.0499	100	0.0501	100	73-125	0	25	mg/L	09.20.14 15:48	
Dibromomethane	<0.000411	0.0500	0.0483	97	0.0486	97	69-127	1	25	mg/L	09.20.14 15:48	
1,2-Dichlorobenzene	<0.000286	0.0500	0.0489	98	0.0478	96	75-125	2	25	mg/L	09.20.14 15:48	
1,3-Dichlorobenzene	<0.000417	0.0500	0.0476	95	0.0470	94	75-125	1	25	mg/L	09.20.14 15:48	
1,4-Dichlorobenzene	<0.000198	0.0500	0.0472	94	0.0469	94	75-125	1	25	mg/L	09.20.14 15:48	
Dichlorodifluoromethane	<0.000311	0.0500	0.0620	124	0.0575	115	70-130	8	25	mg/L	09.20.14 15:48	
1,2-Dichloroethane	<0.000158	0.0500	0.0497	99	0.0480	96	68-127	3	25	mg/L	09.20.14 15:48	
1,1-Dichloroethane	<0.000158	0.0500	0.0502	100	0.0479	96	72-125	5	25	mg/L	09.20.14 15:48	
1,2-Dibromoethane	<0.000494	0.0500	0.0492	98	0.0498	100	73-125	1	25	mg/L	09.20.14 15:48	
trans-1,2-dichloroethene	<0.000269	0.0500	0.0482	96	0.0452	90	75-125	6	25	mg/L	09.20.14 15:48	
cis-1,2-Dichloroethene	0.000550	0.0500	0.0492	97	0.0470	93	75-125	5	25	mg/L	09.20.14 15:48	
1,1-Dichloroethene	<0.000272	0.0500	0.0477	95	0.0452	90	59-172	5	25	mg/L	09.20.14 15:48	
2,2-Dichloropropane	<0.000453	0.0500	0.0584	117	0.0517	103	75-125	12	25	mg/L	09.20.14 15:48	
1,3-Dichloropropane	<0.000475	0.0500	0.0488	98	0.0490	98	75-125	0	25	mg/L	09.20.14 15:48	
1,2-Dichloropropane	<0.000474	0.0500	0.0482	96	0.0475	95	74-125	1	25	mg/L	09.20.14 15:48	
trans-1,3-dichloropropene	<0.000291	0.0500	0.0441	88	0.0447	89	66-125	1	25	mg/L	09.20.14 15:48	
1,1-Dichloropropene	<0.000227	0.0500	0.0475	95	0.0442	88	75-125	7	25	mg/L	09.20.14 15:48	
cis-1,3-Dichloropropene	<0.000380	0.0500	0.0493	99	0.0491	98	74-125	0	25	mg/L	09.20.14 15:48	
Ethylbenzene	<0.000221	0.0500	0.0477	95	0.0469	94	75-125	2	25	mg/L	09.20.14 15:48	
Hexachlorobutadiene	<0.000456	0.0500	0.0450	90	0.0464	93	75-125	3	25	mg/L	09.20.14 15:48	
isopropylbenzene	<0.0000915	0.0500	0.0457	91	0.0455	91	75-125	0	25	mg/L	09.20.14 15:48	
Naphthalene	<0.000182	0.0500	0.0506	101	0.0491	98	70-130	3	25	mg/L	09.20.14 15:48	
n-Propylbenzene	<0.000167	0.0500	0.0500	100	0.0488	98	75-125	2	25	mg/L	09.20.14 15:48	
Styrene	<0.000153	0.0500	0.0488	98	0.0483	97	75-125	1	25	mg/L	09.20.14 15:48	
1,1,1,2-Tetrachloroethane	<0.000276	0.0500	0.0478	96	0.0479	96	72-125	0	25	mg/L	09.20.14 15:48	
1,1,2,2-Tetrachloroethane	<0.000321	0.0500	0.0507	101	0.0502	100	74-125	1	25	mg/L	09.20.14 15:48	
Toluene	<0.000268	0.0500	0.0471	94	0.0465	93	59-139	1	25	mg/L	09.20.14 15:48	
1,2,4-Trichlorobenzene	<0.000207	0.0500	0.0467	93	0.0491	98	75-135	5	25	mg/L	09.20.14 15:48	
1,2,3-Trichlorobenzene	<0.000272	0.0500	0.0524	105	0.0504	101	75-137	4	25	mg/L	09.20.14 15:48	
1,1,2-Trichloroethane	<0.000461	0.0500	0.0488	98	0.0478	96	75-127	2	25	mg/L	09.20.14 15:48	
1,1,1-Trichloroethane	<0.000213	0.0500	0.0500	100	0.0463	93	75-125	8	25	mg/L	09.20.14 15:48	
Trichloroethene	0.00118	0.0500	0.0463	90	0.0457	89	62-137	1	25	mg/L	09.20.14 15:48	
Trichlorofluoromethane	<0.000419	0.0500	0.0466	93	0.0431	86	60-140	8	25	mg/L	09.20.14 15:48	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951138 Matrix: Water Date Prep: 09.20.14

Parent Sample Id: 493651-001 MS Sample Id: 493651-001 S MSD Sample Id: 493651-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
1,2,3-Trichloropropane	<0.000214	0.0500	0.0472	94	0.0470	94	75-125	0	25	mg/L	09.20.14 15:48	
1,2,4-Trimethylbenzene	<0.0000719	0.0500	0.0509	102	0.0499	100	75-125	2	25	mg/L	09.20.14 15:48	
1,3,5-trimethylbenzene	<0.000134	0.0500	0.0519	104	0.0506	101	70-125	3	25	mg/L	09.20.14 15:48	
o-Xylene	<0.000149	0.0500	0.0509	102	0.0499	100	75-125	2	25	mg/L	09.20.14 15:48	
m,p-Xylenes	<0.000847	0.100	0.0968	97	0.0962	96	75-125	1	25	mg/L	09.20.14 15:48	
Methylene Chloride	<0.000927	0.0500	0.0465	93	0.0442	88	75-125	5	25	mg/L	09.20.14 15:48	
Tetrachloroethylene	<0.000229	0.0500	0.0468	94	0.0465	93	71-125	1	25	mg/L	09.20.14 15:48	
Vinyl Chloride	0.0176	0.0500	0.0567	78	0.0540	73	60-140	5	25	mg/L	09.20.14 15:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	103		99		75-131	%	09.20.14 15:48
1,2-Dichloroethane-D4	102		102		63-144	%	09.20.14 15:48
Toluene-D8	98		99		80-117	%	09.20.14 15:48
4-Bromofluorobenzene	98		98		74-124	%	09.20.14 15:48

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951236 Matrix: Soil Date Prep: 09.22.14

Parent Sample Id: 493661-001 MS Sample Id: 493661-001 S MSD Sample Id: 493661-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000183	0.0582	0.0522	90	0.0538	92	66-142	3	25	mg/kg	09.22.14 16:40	
Bromobenzene	<0.000510	0.0582	0.0505	87	0.0499	85	75-125	1	25	mg/kg	09.22.14 16:40	
Bromochloromethane	<0.000553	0.0582	0.0559	96	0.0531	91	60-140	5	25	mg/kg	09.22.14 16:40	
Bromodichloromethane	<0.000309	0.0582	0.0567	97	0.0572	98	75-125	1	25	mg/kg	09.22.14 16:40	
Bromoform	<0.000813	0.0582	0.0664	114	0.0645	110	75-125	3	25	mg/kg	09.22.14 16:40	
Bromomethane	<0.00123	0.0582	0.0433	74	0.0421	72	60-140	3	25	mg/kg	09.22.14 16:40	
MTBE	<0.000396	0.0582	0.0609	105	0.0558	95	60-140	9	25	mg/kg	09.22.14 16:40	
tert-Butylbenzene	<0.000240	0.0582	0.0571	98	0.0579	99	75-125	1	25	mg/kg	09.22.14 16:40	
Sec-Butylbenzene	<0.000571	0.0582	0.0557	96	0.0573	98	75-125	3	25	mg/kg	09.22.14 16:40	
n-Butylbenzene	<0.000547	0.0582	0.0560	96	0.0559	96	75-125	0	25	mg/kg	09.22.14 16:40	
Carbon Tetrachloride	<0.000272	0.0582	0.0499	86	0.0505	86	62-125	1	25	mg/kg	09.22.14 16:40	
Chlorobenzene	<0.000279	0.0582	0.0514	88	0.0523	89	60-133	2	25	mg/kg	09.22.14 16:40	
Chloroethane	<0.000639	0.0582	0.0436	75	0.0477	82	60-140	9	25	mg/kg	09.22.14 16:40	
Chloroform	<0.000341	0.0582	0.0551	95	0.0538	92	74-125	2	25	mg/kg	09.22.14 16:40	
Chloromethane	<0.000348	0.0582	0.0364	63	0.0450	77	60-140	21	25	mg/kg	09.22.14 16:40	
2-Chlorotoluene	<0.000457	0.0582	0.0522	90	0.0533	91	73-125	2	25	mg/kg	09.22.14 16:40	
4-Chlorotoluene	<0.000512	0.0582	0.0505	87	0.0515	88	74-125	2	25	mg/kg	09.22.14 16:40	
p-Cymene (p-Isopropyltoluene)	<0.000490	0.0582	0.0549	94	0.0566	97	75-125	3	25	mg/kg	09.22.14 16:40	
1,2-Dibromo-3-Chloropropane	<0.00181	0.0582	0.0654	112	0.0569	97	59-125	14	25	mg/kg	09.22.14 16:40	
Dibromochloromethane	<0.000551	0.0582	0.0594	102	0.0580	99	73-125	2	25	mg/kg	09.22.14 16:40	
Dibromomethane	<0.000410	0.0582	0.0520	89	0.0476	81	69-127	9	25	mg/kg	09.22.14 16:40	
1,2-Dichlorobenzene	<0.000502	0.0582	0.0532	91	0.0515	88	75-125	3	25	mg/kg	09.22.14 16:40	
1,3-Dichlorobenzene	<0.000433	0.0582	0.0539	93	0.0546	93	75-125	1	25	mg/kg	09.22.14 16:40	
1,4-Dichlorobenzene	<0.000277	0.0582	0.0509	87	0.0506	86	75-125	1	25	mg/kg	09.22.14 16:40	
Dichlorodifluoromethane	<0.000496	0.0582	0.0394	68	0.0424	72	65-135	7	25	mg/kg	09.22.14 16:40	
1,2-Dichloroethane	<0.000409	0.0582	0.0485	83	0.0454	78	68-127	7	25	mg/kg	09.22.14 16:40	
1,1-Dichloroethane	<0.000234	0.0582	0.0577	99	0.0538	92	72-125	7	25	mg/kg	09.22.14 16:40	
1,2-Dibromoethane	<0.000493	0.0582	0.0546	94	0.0497	85	73-125	9	25	mg/kg	09.22.14 16:40	
trans-1,2-dichloroethene	<0.000341	0.0582	0.0506	87	0.0508	87	75-125	0	25	mg/kg	09.22.14 16:40	
cis-1,2-Dichloroethene	<0.000396	0.0582	0.0561	96	0.0550	94	75-125	2	25	mg/kg	09.22.14 16:40	
1,1-Dichloroethene	<0.000276	0.0582	0.0496	85	0.0508	87	59-172	2	25	mg/kg	09.22.14 16:40	
2,2-Dichloropropane	<0.00138	0.0582	0.0605	104	0.0571	98	75-125	6	25	mg/kg	09.22.14 16:40	
1,3-Dichloropropane	<0.000291	0.0582	0.0550	95	0.0520	89	75-125	6	25	mg/kg	09.22.14 16:40	
1,2-Dichloropropane	<0.000550	0.0582	0.0566	97	0.0568	97	74-125	0	25	mg/kg	09.22.14 16:40	
trans-1,3-dichloropropene	<0.000353	0.0582	0.0594	102	0.0564	96	66-125	5	25	mg/kg	09.22.14 16:40	
1,1-Dichloropropene	<0.000493	0.0582	0.0499	86	0.0510	87	75-125	2	25	mg/kg	09.22.14 16:40	
cis-1,3-Dichloropropene	<0.000498	0.0582	0.0568	98	0.0589	101	74-125	4	25	mg/kg	09.22.14 16:40	
Ethylbenzene	<0.000500	0.0582	0.0515	88	0.0524	90	75-125	2	25	mg/kg	09.22.14 16:40	
Hexachlorobutadiene	<0.00101	0.0582	0.0483	83	0.0458	78	75-125	5	25	mg/kg	09.22.14 16:40	
isopropylbenzene	<0.000195	0.0582	0.0558	96	0.0560	96	75-125	0	25	mg/kg	09.22.14 16:40	
Methylene Chloride	0.00137	0.0582	0.0545	91	0.0537	89	75-125	1	25	mg/kg	09.22.14 16:40	
Naphthalene	<0.000316	0.0582	0.0617	106	0.0545	93	70-130	12	25	mg/kg	09.22.14 16:40	
n-Propylbenzene	<0.000209	0.0582	0.0535	92	0.0530	91	75-125	1	25	mg/kg	09.22.14 16:40	
Styrene	<0.000175	0.0582	0.0565	97	0.0566	97	75-125	0	25	mg/kg	09.22.14 16:40	
1,1,1,2-Tetrachloroethane	<0.000474	0.0582	0.0580	100	0.0567	97	72-125	2	25	mg/kg	09.22.14 16:40	
1,1,2,2-Tetrachloroethane	<0.000534	0.0582	0.0620	107	0.0566	97	74-125	9	25	mg/kg	09.22.14 16:40	
Tetrachloroethylene	<0.000298	0.0582	0.0464	80	0.0478	82	71-125	3	25	mg/kg	09.22.14 16:40	
Toluene	<0.000538	0.0582	0.0518	89	0.0526	90	59-139	2	25	mg/kg	09.22.14 16:40	
1,2,4-Trichlorobenzene	<0.000505	0.0582	0.0522	90	0.0517	88	75-135	1	25	mg/kg	09.22.14 16:40	
1,2,3-Trichlorobenzene	<0.000283	0.0582	0.0541	93	0.0504	86	75-137	7	25	mg/kg	09.22.14 16:40	
1,1,2-Trichloroethane	<0.000379	0.0582	0.0593	102	0.0567	97	75-127	4	25	mg/kg	09.22.14 16:40	
1,1,1-Trichloroethane	<0.000395	0.0582	0.0524	90	0.0508	87	75-125	3	25	mg/kg	09.22.14 16:40	

QC Summary

Work Orders: 493688,493661,493344

Geotest Engineering, Inc.

Phase II ESA Waterline Replacement

Analytical Method: **VOAs by SW-846 8260** Prep Method: SW5030B

Seq Number: 951236 Matrix: Soil Date Prep: 09.22.14

Parent Sample Id: 493661-001 MS Sample Id: 493661-001 S MSD Sample Id: 493661-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Trichloroethene	<0.000381	0.0582	0.0468	80	0.0494	84	62-137	5	25	mg/kg	09.22.14 16:40	
Trichlorofluoromethane	<0.000565	0.0582	0.0424	73	0.0457	78	67-125	7	25	mg/kg	09.22.14 16:40	
1,2,3-Trichloropropane	<0.000817	0.0582	0.0575	99	0.0527	90	75-125	9	25	mg/kg	09.22.14 16:40	
1,2,4-Trimethylbenzene	<0.000131	0.0582	0.0539	93	0.0529	90	75-125	2	25	mg/kg	09.22.14 16:40	
1,3,5-trimethylbenzene	<0.000463	0.0582	0.0554	95	0.0545	93	70-130	2	25	mg/kg	09.22.14 16:40	
Vinyl Chloride	<0.000963	0.0582	0.0384	66	0.0463	79	60-140	19	25	mg/kg	09.22.14 16:40	
o-Xylene	<0.000324	0.0582	0.0574	99	0.0552	94	75-125	4	25	mg/kg	09.22.14 16:40	
m,p-Xylenes	<0.000450	0.116	0.107	92	0.106	91	75-125	1	25	mg/kg	09.22.14 16:40	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
Dibromofluoromethane	99		100		53-142	%	09.22.14 16:40
1,2-Dichloroethane-D4	99		108		56-150	%	09.22.14 16:40
Toluene-D8	101		100		70-130	%	09.22.14 16:40
4-Bromofluorobenzene	98		97		68-152	%	09.22.14 16:40

CHAIN OF CUSTODY

Page ___ Of ___

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Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

Xenco Quote #

Xenco Job # 493661-1

Client / Reporting Information

Company Name / Branch: Geotest Engineering, Inc

Company Address: 5600 Bintliff Drive

Email: nkolli@geotestengi.com

Phone No:

Project Contact: Naresh Kolli

Samplers's Name: Oommen Zacharia

Project Information

Project Name/Number: Phase II ESA Waterline Replacement Sharpstown Area. 1130020801

Project Location: Houston TX

Invoice To: Accounting

PO Number:

Analytical Information

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH	BTEX-MTBE	VOC	SVOC	Field Comments
1	EB1	8-10	9/16	3:45pm	S	2											/	/	
2	EB2	4-6	9/16	4:30pm	S	2											/	/	
3	EB3	12-14	9/16	3:00pm	S	2											/	/	
4	EB10A	4-6	9/16	10:00am	S	2									/	/			
5	EB11A	8-10	9/16	1:00pm	S	2									/	/			
6	EB12	4-6	9/16	2:00pm	S	2									/	/			
7	EB13	8-10	9/15	1:45pm	S	2									/	/			
8	EB14	12-14	9/15	1:15pm	S	2									/	/			
9	EB15	6-8	9/15	12:45pm	S	2									/	/			
10	EB16	14-15	9/15	3:30pm	S	2									/	/			

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1 Sampler:	9/19/14	1 9/19/14 1325	2		2
3		3	4		4
5	9/19/14 1405	5			

Custody Seal #

Preserved where applicable

On Ice: [X]

Temp: 1.8°C Temp Gun ID: IR-31
C/F:-1.1
Corrected Temp: 0.7°C

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless pr

CHAIN OF CUSTODY

Page ___ Of ___

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Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

Xenco Quote #

Xenco Job # 49306 | 77

Client / Reporting Information

Company Name / Branch: Geolest Engineering, Inc

Company Address: 5600 Bintliff Drive

Email: nkolli@geolesteng.com

Phone No:

Project Contact: Naresh Kolli

Samplers's Name: Ammen Zacharia

Project Information

Project Name/Number: Phase II ESA Waterline Replacement Shaw Avenue 113002801

Project Location: Houston TX

Invoice To: Accounting

PO Number:

Analytical Information

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH	BTEX-MTBE	VOC	SVOC	Field Comments
1	EB17	4-6	9/15	4:00pm	S	2									/	/			
2	EB 23	8-10	9/15	11:30am	S	2									/	/			
3	EB 25	8-10	9/15	12:00pm	S	2									/	/	/		
4	EB 2		9/16	4:31pm	GW	2											/	/	
5	EB10A		9/16	10:00am	GW	2									/	/			
6	EB13		9/15	1:45pm	GW	2									/	/			
7	EB16		9/15	3:30pm	GW	2									/	/			
8																			
9																			
10																			

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] ~~Level III Std QC+ Forms~~
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
Relinquished by Sampler: 1	9/19/14	1 CG 9/19/14 1325	2		2
Relinquished by: 3		3	4		4
Relinquished by: 5	9/19/14 1405	5 Tara Harkens	Custody Seal #	Preserved where applicable	On Ice ☒

Temp: 1.8°C Temp Gun ID: IR-31
C/F:-1.1
Corrected Temp: 0.7°C

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Geotest Engineering, Inc.

Date/ Time Received: 09/19/2014 02:05:00 PM

Work Order #: 493661

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)?	.7	
#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?	**Yes**	014-Marked for SVOC did not receive an SVOC bottle received 2-2oz jar ID:COMP no date and time, one marked for TPH, one marked for VOCs
#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)?	**No**	received one vials for TPH and 1 vials for VOC limited sample
#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)?	**Yes**	
#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: th

PH Device/Lot#:

NonConformance:

014-Marked for SVOC did not receive an SVOC bottle
received 2-2oz jar ID:COMP no date and time, one marked for TPH, one marked for VOCs

Corrective Action Taken:

per client, SVOC container will be delivered later today on separate COC. For the two composite samples analyze for TPH and VOCs.

Nonconformance Documentation

Contact: Naresh Kolli **Contacted by :** Debbie Simmons **DateTime :** 09/19/2014

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Geotest Engineering, Inc.

Date/ Time Received: 09/19/2014 02:05:00 PM

Work Order #: 493661

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

Sample Receipt Checklist

Checklist completed by: Tanya Torres Date: 09/22/2014

Checklist reviewed by: Debbie Simmons Date: 09/22/2014

APPENDIX C

PHOTOGRAPHS OF DRILLING ACTIVITIES

Picture 1: Project Alignment on Allday Drive.

Picture 2: Project Alignment on Clarewood Drive.

Job No.: 1130020801

Picture 3: Project Alignment on Green Ash Drive.

APPENDIX D

QUALIFICATIONS OF ENVIRONMENTAL
PROFESSIONAL PARTICIPATING
IN PHASE II ESA

Mohan Ballagere, P.E.

Vice President

EDUCATION

M.S. in Civil Engineering (Geotechnical), 1992, South Dakota School of Mines & Technology, Rapid City, South Dakota

B.S. in Civil Engineering, 1984, University of Mysore, India

PROFESSIONAL REGISTRATION

Texas 2001 Civil Engineering

RELEVANT PROJECT EXPERIENCE

Mr. Ballagere is a Vice President at Geotest Engineering, Inc. He has over 20 years of experience in the civil, geotechnical field and environmental assessment and has worked on various projects involving bridges, water, wastewater, new and overlay pavements, port facilities, private and commercial buildings, Phase I & II Environmental Site Assessments, site reconnaissance, fault studies and ground stabilization. His responsibilities include overseeing field exploration for environmental assessment, reviewing analytical testing, preparation of environmental proposals, performing environmental assessment and reviewing environmental reports pertaining to Phase I & II Environmental Site Assessments and findings and conclusions for environmental impact study projects related to bridges, roads, water, wastewater and storm water. Some of the relevant environmental assessment projects are:

- Phase I ESA Chimney Rock Lift Station Rehabilitation – Houston, Texas
- Phase I and II ESA Tasfield Force Main – Houston, Texas
- Phase I and II ESA Water Line Replacement in the Parkhurst Area – Houston, Texas
- Phase I ESA Buckingham Lift Station – Houston, Texas
- Phase I ESA A. Kuykendall League 29.46 acres – Houston, Texas
- New Ground Water Storage Tanks at District 175 & 184 – Houston, Texas
- Phase II ESA Long Point Rd. at Wirt Rd. Intersection – Houston, Texas
- Phase I ESA San Felipe Rd. Improvements – Houston, Texas
- Phase I and II ESA Sharpstown Area Drainage Improvements – Houston, Texas
- Phase I and II ESA Bellaire/Fondren Intersection Improvements – Houston, Texas
- Phase I ESA Pasadena Lift Station Improvements Pansy, Crenshaw and El Cary – Pasadena, Texas
- Phase I and II Reconstruction of Lyons Avenue from US 59 to Waco – Houston, Texas
- Phase I ESA 12" Water Line along Kingsland Blvd. from Baker Rd. to Harris Co. 346 Water Plant – Houston, Texas
- Phase I ESA Tasfield Community Project – Harris County, Texas
- Phase I ESA S. Gessner - Cravens Project – Houston, Texas
- Ph. I ESA - 16827 Old Richmond Road – Houston, Texas
- Ph. I ESA Historic Holman Street Reconstruction Project – Houston, Texas
- Ph. II ESA Long Point Rd. from 400' East of Hollister to 150 ft. west of Pech Rd. – Houston, Texas

Naresh Kolli, P.E.
Assistant Project Manager

EDUCATION

- **Master of Engineering** in Civil Engineering (Geotechnical Engineering)
  McNeese State University, Lake Charles, LA, July 2005.
- **Bachelor of Engineering** in Civil Engineering
  Kakatiya University, India, June 2002.

PROFESSIONAL REGISTRATION

Texas 2012 Civil Engineering

RELEVANT PROJECT EXPERIENCE:

Mr. Naresh Kolli, is an Assistant Project Manager at Geotest Engineering, Inc. He has over 8 years of experience in the civil, geotechnical and environmental field and has worked on various projects involving high rise office buildings to single story commercial buildings, warehouses, schools and government projects, Phase I & II Environmental Site Assessments, site reconnaissance and geological and rock profile studies. His responsibilities include coordination of drilling and sampling of soil borings and supervision of laboratory testing, performing engineering analyses and preparation of geotechnical as well as Phase I and II Environmental Site Assessment reports.

- Phase II ESA – Reconstruction of Long Point Road – Houston, Texas
- Phase I ESA – South Point Park and Ride – Houston, Texas
- Phase I ESA – 11730 Sam Houston Parkway, Houston, Texas
- Phase I ESA – Historic Holman Street Reconstruction Project – Houston, Texas.
- Phase I ESA – 18" Waterline Loop Alignment – Pasadena, Texas
- Phase I ESA – 5107 Griggs Road – Houston, Texas
- Phase I ESA – Yale Street Detention Basin – Houston, Texas
- Phase I ESA – Astoria Boulevard – Houston, Texas
- Phase I ESA – Fourth ward Street reconstruction – Houston, Texas
- Phase I and II – 5216 Almeda Road – Houston, Texas
- Phase I ESA – Waterline Replacements Timbergrove Area – Houston, Texas
- Phase I ESA – Waterline Replacements Glenwood Forest Area – Houston, Texas
- Phase I and Phase II ESA – Waterline Replacements Fulton North Area – Houston, Texas
- Phase I ESA – Pavement & Drainage Improvements along Witter Street – Pasadena, Texas
- Phase I ESA – Craigmont Estates Detention Pond – City of Baytown, Texas
- Phase I ESA – Beltway 8 & Feeder Road Drainage Improvements – Pasadena, Texas
- Phase I ESA – Pump & Lift Station Renewal & Replacements; Fairway Lift Station – Houston, Texas
- Phase I ESA – Pump & Lift Station Renewal & Replacements; Grenshaw Lift Station – Houston, Texas
- Phase I ESA – 18" Sanitary Sewer at George Bush IAH
- Phase I ESA – Pump & Lift Station Renewal & Replacement – Post Oak #1 Lift Station – Houston, Texas