TGE RESOURCES, INC.

Environmental Consulting,
Engineering and Industrial Hygiene

Limited Phase II Environmental Site Assessment
Proposed Star Lake Hospital
29805 Pacific Highway South
Federal Way, King County, Washington
TGE Project No.: R13411.02

Prepared for:

MultiCare Health System, a Washington nonprofit corporation
315 Martin Luther King Jr. Way
Tacoma, Washington 98415-0299

September 12, 2017

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TGERESOURCES.INC.
Environmental, Engineering, Building Sciences, Industrial Hygiene & Remediation Services

September 12, 2017

MultiCare Health System, a Washington nonprofit corporation
315 Martin Luther King Jr. Way
Tacoma, Washington 98415-0299

RE: Limited Phase II Environmental Site Assessment
Proposed Star Lake Hospital
29805 Pacific Highway South
Federal Way, King County, Washington
TGE Project No.: R13411.02

To whomever it may concern,

In accordance with TGE Resources, Inc., ("TGE") Proposal No. P13411.02, dated August 9, 2017, TGE has completed a Limited Phase II Environmental Site Assessment (ESA) of the above-referenced Property. The attached report details our scope of services, findings, and conclusions related to this study.

We appreciate the opportunity to provide you with these services. Should you have any questions or comments regarding this report or any related matter, please call us at (713) 744-5800. It has been a pleasure working with you on this project.

Sincerely,

TGE Resources, Inc.

Timothy E. Crump, P.G., CPG
Sr. Project Manager

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Licensed Geologist
TIMOTHY E. CRUMP
exp. 08/03/18

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EXECUTIVE SUMMARY

TGE Resources, Inc., ("TGE") has completed a Limited Phase II Environmental Site Assessment (ESA) of the Proposed Star Lake Hospital property located at 29805 Pacific Highway South in Federal Way, King County, Washington, hereinafter referred to as the "Site" or "Property", in general compliance with *American Society of Testing Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase II Site Assessment Process (E 1903-11),* published July, 2011, hereinafter "the Practice". Per the Practice, the stated objective of this characterization assessment (Limited Phase II) was to preliminarily investigate the commercial real estate for the presence (or likely presence) of hazardous substances or petroleum products under conditions indicative of a release to the Site; and, to the extent possible as contracted, complete "All Appropriate Inquiry" (or "AAI") via Site characterization for the presence of Recognized Environmental Conditions, or "RECs". TGE understands that Client requires knowledge of the environmental condition of the Property prior to a pending property real estate transaction involving its redevelopment for use in providing healthcare to the public.

In undertaking the current Limited Phase II assessment, TGE advanced and sampled certain soil borings (designated SB-1 through SB-5) to depths ranging from 12 feet below grade (fbg) to 20 fbg; likewise, two additional soil borings were advanced for temporary vapor monitor points (designated TVMP-1 and TVMP-2) to depths of eight (8) fbg. Sample locations were selected in consideration of RECs identified in connection with the Property, as per a Phase I ESA that was previously prepared by TGE (Report No. R13411.01; dated August 17, 2017). Analytical data was obtained from soil and soil vapor samples with material results/findings from this assessment presented below. A full reporting and account of specific project efforts and results is provided within the attached document.

In consideration of Phase II efforts, gasoline petroleum products (NWTPH-Gx), diesel/residual petroleum products (NWTPH-Dx), pesticides/herbicides, volatile organic compounds (VOCs), and/or Resource Conservation and Recovery Act (RCRA) 8 metals in soil and soil vapor samples collected from the Site were reported by the analytical laboratory at concentrations not in excess of laboratory detection limits and/or respective Washington State Department of Ecology (Ecology) screening limits, as set forth within the State of Washington Model Toxics Control Act (MTCA) regulation/statute (as applicable), with the exception of those analytes tabulated herein.

Soil Vapor Analytical Results						
Analyte	**2015 Sub-slab Soil Gas Screening Level Method B Cancer Screening Level (TR=1E^{-6}) (ug/m^3)**	**2015 Indoor Air Cleanup Level Method B Cancer Screening Level (ug/m^3)**	**TVMP-1 (Reported Concentration) (ug/m^3)**	**TVMP-1 (Calculated Indoor Air Concentration) (ug/m^3)**	**TVMP-2 (Reported Concentration) (ug/m^3)**	**TVMP-2 (Calculated Indoor Air Concentration) (ug/m^3)**
TPH (8015 & 8015D)						
1,3-Butadiene	2.78	0.08	**54.7**	**1.641**	**24.6**	**0.738**
Benzene	10.68	0.32	**26.2**	**0.786**	7.46	0.2238
Chloroform	3.62	0.11	<0.25	**---**	**38.6**	**1.158**

- Note: Any bold/highlighted type represents concentrations in excess of the applicable Ecology screening levels as established within the Draft Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action dated February 2016.

Relatively minor concentrations of the VOC analytes methyl ethyl ketone, acetone and benzene were detected within the soil samples collected from SB-1 through SB-5; however, reported concentrations were well below the applicable MTCA regulation/statue.

Recommendations

Based on results of this Site characterization effort, and within stated project limitations and qualifications made part of this work, TGE provides recommendation(s) for Client consideration as itemized below.

Finding	Recommendation
Elevated concentrations of VOCs (specifically 1,3-butadiene, chloroform and benzene) were detected within Site soil vapor, as established through the installation and sampling of temporary soil vapor monitor points.	Design (engineer), install, and performance test (for intrinsic capability) a vapor mitigation (control) system in response to Site-specific (vapor) findings coincident with repurposing of the property for intended use.
Prior to razing the Site, abandoned auto repair chemicals and wastes (for which the volume and contents are unknown) will require regulated disposal management; as will other regulated materials associated with Site improvements (light bulbs/ballasts, etc.).	Prior to commencement of planned demolition and earthwork activities at the Site, all regulated materials must be profiled and submitted for recycling, reuse, and/or destruction/disposal from the Property.

1.0 INTRODUCTION

TGE Resources, Inc., ("TGE") has completed a Limited Phase II Environmental Site Assessment (ESA) of the Proposed Star Lake Hospital property located at 29805 Pacific Highway South in Federal Way, King County, Washington (**Figure 1 – Site Location Map**) hereinafter referred to as the "Site" or "Property", in general compliance with *American Society of Testing Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase II Site Assessment Process (E 1903-11),* published July, 2011, hereinafter "the Practice". Per the Practice, the stated objective of this characterization assessment (Limited Phase II) was to preliminarily investigate the commercial real estate for the presence (or likely presence) of hazardous substances or petroleum products under conditions indicative of a release to the Site; and, to the extent possible as contracted, complete "All Appropriate Inquiry" (or "AAI") via Site characterization for the presence of Recognized Environmental Conditions, or "RECs". TGE understands that Client requires knowledge of the environmental condition of the Property prior to a pending property real estate transaction involving its redevelopment for use in providing healthcare to the public.

According to King County Appraisal District (CAD) information, the Property is comprised of two parcels (referenced herein as Tract A and Tract B) comprising a reported 1.72 acres (74,887 square feet) of land. Site improvements consist of a 6,350 square-foot, partial two-story, commercial office and repair facility that was constructed in 1970. At the time of the Phase I ESA, which was undertaken on July 19, 2017, the Property was in use as improved commercial real estate. Access to portions of the Property (southwestern fenced area and west service bay) were not provided to TGE for inspection during Site reconnissance. Per Site sources, access in this area was controlled by the federal government.

Based on review of previous Phase I and Phase II reports prepared by others, the eastern portion of the Property (along Pacific Highway South) was developed as a fueling station/restaurant in the 1920s with historic use of underground (fuel) storage tanks (USTs). The historic fueling station/restaurant reportedly ceased operation by the late 1960s, and the former structure was demolished. However, four USTs, a septic system, and a basement level (automotive repair area) were discovered in connection with the former fueling station structure and were subsequently excavated in 1993 and 2000. During associated excavation, petroleum impacted soil was reported to the State (under its LUST/VCP program). Per regulatory case files reviewed by TGE, this finding/condition was granted "case closure" (by the State) in 2001; the presence of residual (degraded) hydrocarbon is likely within the Site limits as associated with this former release.

Based upon Findings from the Phase I ESA prepared by TGE (Report No. R13411.01; dated August 17, 2017), the following RECs were identified in connection with the Property:

- *"Historic Site use from the 1920s through the 1990s that involved retail fuel storage and sales; auto repair; equipment rental/repair/service; a greenhouse operation; and on-Site placement of fill of unknown source and character – all of which included either recorded and/or inferred use of hazardous substances and/or petroleum products with the potential to adversely impact the Site;*

- *Current Site use with an auto repair/service/vehicle holding operation (from which TGE was partially restricted access for inspection) with the reported use of hazardous substances and/or petroleum products with the potential to adversely impact the Site;*

- *Per regulatory records reviewed, adjoining land north has operated as a fueling station since at least the mid-1930s with concurrent use of USTs. In addition, land within 350 feet northwest of the Site has operated as a dry cleaning facility (for at least 13 years); and*

- *Historic use of adjoining land west as a gravel pit/quarry from at least the 1940s through the 1980s."*

Additional investigation was requested by Client in consideration of both Property and near-Property use. In undertaking the current Limited Phase II assessment, TGE advanced and sampled certain soil borings (designated SB-1 through SB-5) to depths ranging from 12 feet below grade (fbg) to 20 fbg; and two temporary vapor monitor points (designated TVMP-1 and TVMP-2) to depths of eight (8) fbg. Following TGE's assessment, analytical data was obtained from soil and soil vapor samples pursuant to this investigation. Results of TGE's Phase II ESA are provided within the following report sections.

2.0 SUBSURFACE CONDITIONS

PHYSICAL SETTING INFORMATION FOR PROPERTY AND SURROUNDING AREA	
Topography	Published natural surface drainage for the area is toward the northwest.
Property Elevation	Approximately 426 feet above mean sea level.
Closest Surface Water	Per published topographic map information, unnamed creek, located approximately 1,000 feet north of the Property.
Depth to Groundwater	Published as "approximately 45-50 feet"; local drilling vendor sources report a depth to water in excess of 50 fbg.
Soil Characteristics	
Soil Type	Alderwood gravelly sandy loam, 8 to 15 percent (AgC).
Description	Alderwood gravelly sandy loams are moderately well-drained soils that have a substratum of consolidated till at a depth of approximately 24 to 40 inches. They have very gravelly sandy loam A and B horizons about 30 inches thick that overlay an extremely gravelly 2C horizon. Coarse fragments are mostly sub-rounded to rounded pebbles and cobbles of mixed lithology. Permeability is moderately rapid in the A and B horizons, and rapid to very rapid in the 2C horizon. Surface horizons have moderately rapid permeability, but the till substratum is very slowly permeable, creating a high water table in winter. Erosion hazard is slight to moderate. The unconsolidated gravelly and extremely gravelly materials make Alderwood soils very well suited for nearly all buildings: excellent foundation properties and no problems with excess water. Site soil(s) are listed as "hydric soils" within the U.S. Department of Agriculture-Natural Resources Conservation Service Hydric Soils List for King County.
Geology/Hydrogeology	
Formation	The Site appears to overlie the Pleistocene-age younger glacial drift (Qg1).
Description	"Younger glacial drift, undivided. Till, outwash, and associated deposits; sorted and unsorted sand, gravel, silt, and clay. Includes some alluvium."
Primary Aquifer	Vashon recessional outwash unit.
Hydrogeologic Gradient	Based on a review of publicly available and reasonably ascertainable documents (topographic maps, state well reports, and/or subsurface investigations conducted within the Site or immediate vicinity by TGE or others) the known or inferred hydrogeologic gradient is toward the northwest. Known or inferred depth to groundwater is approximately 45-50 fbg.

3.0 SOIL BORING AND WELL SCREEN INSTALLATION

On August 24, 2017, TGE Project Manager Timothy E. Crump, P.G., who meets requirements of the Revised Code of Washington (RCW), Title 18, Chapter 220, §20 (RCW 18.220.020) and the Practice as a Phase II Assessor (as per 3.1.33), mobilized to the Site with a subcontract driller to install and collect samples at locations within the Property as tabulated below.

Borehole Name	Depth (fbg)	Borehole Location
SB-1	15	Within the northern portion of the Site, adjacent to a vehicle repair area and near vehicle impound storage.
SB-2	14	Along the northern perimeter of the building, adjacent to the vehicle service/repair bays.
SB-3	18	Adjacent to the former greenhouse area in the northwestern portion of the Property.
SB-4	12	In the southwestern portion of the Site, adjacent to a sump associated with vehicle service/repair activities.
SB-5	20	Within the south-central portion of the Site, associated with the former fueling station UST area.
TVMP-1	8	Within the central portion of the Site, within the footprint of the future healthcare facility.
TVMP-2	8	

A Sample Location Map is presented as **Figure 2**. Photographs of drilling and sampling activities are contained in **Appendix A**.

Sediments encountered during drilling operations were logged and classified in accordance with the Unified Soil Classification System and the ASTM Standard D 2488-90; the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). Boring logs describing sediments encountered are presented in **Appendix B – Soil Boring Logs**. Subsurface strata separation is approximated, as actual transitions may be gradual.

Sampling equipment used during the advancement of soil borings and temporary vapor monitor points was properly decontaminated before completing each borehole. TVMPs were constructed of 0.17 inch ID, high density polyethylene (HDPE), Teflon-lined tubing inserted down each borehole to a gas permeable implant set at the target depth within a soil vapor intake zone. Vapor well construction details are tabulated below:

Construction Material	TVMP-1 and TVMP-2
Hydrated Bentonite	0-6 fbg
Granular Bentonite	6-7 fbg
Sand (filter pack)	7-8 fbg

Following completion of soil vapor sampling on August 24, 2017, the polyethylene tubing was removed from each vapor monitoring point and properly disposed off-Site. The annular space of each borehole was filled with bentonite (pellets) and capped to grade with asphalt patch.

Investigation-derived waste was stored on-Property in an appropriately labeled 30-gallon drum (as tabulated below). Per TGE's scope of work, removal of this material by a transporter and disposal facility is currently underway pending approval of waste profile documentation by the respective disposal facilities.

30-Gallon Drum(s) Contents	Number of Drum(s)	Location Stored
Soil Cuttings	1	North of the subject building, adjacent to a car repair canopy.

4.0 SAMPLING AND LABORATORY ANALYSIS

Samples of Site soil and soil vapor were collected and analyzed during the Limited Phase II ESA of the Proposed Star Lake Hospital property located at 29805 Pacific Highway South in Federal Way, King County, Washington. A sample collection matrix and relevant analytical parameters used in laboratory characterization are provided in the table below. All sample containers were labeled according to sample designation, including the date and time sampled, and placed immediately on ice for shipment to ESC Lab Sciences in Mt. Juliet, Tennessee, a National Environmental Laboratory Accreditation Program (NELAP) certified laboratory.

Sample Location	Gasoline/Diesel Petroleum Products (NWTPH-Gx/Dx)	Pesticides & Herbicides (EPA 8081/8151)	RCRA 8 (EPA 6020/7471)	TO-15	pH	VOCs (EPA 8260c)	% Moisture
Soil Samples							
SB-1 (5-6')	X	–	X	—	X	—	X
SB-2 (2-3')	X	–	X	—	—	—	X
SB-3 (3-4')	X	X	X	—	—	—	X
SB-4 (2-3')	X	–	X	—	—	—	X
SB-5 (11-12')	X	–	X	—	—	—	X
Soil Vapor Samples							
TVMP-1	—	—	—	X	—	—	—
TVMP-2	—	—	—	X	—	—	—

Analytical results of soil and soil vapor samples are summarized in **Table 1** and **Table 2**. Laboratory reports and sample chain-of-custody documentation are contained in **Appendix C**. Laboratory quantitation limits for analyzed parameters are included in laboratory reports in **Appendix C** and comply with Environmental Protection Agency (EPA) Solid Waste (SW) 846 and applicable Model Toxics Control Act (MTCA) CLARC criteria.

4.1 Cleanup Goals

The March, 1989 Model Toxics Control Act (MTCA), Chapter 70.105D RCW, mandated the Washington Department of Ecology (Ecology) to establish a program for the identification and remediation of sites with potential contamination by hazardous substances. The "Model Toxics Control Act Cleanup Regulation" (Washington Administrative Code [WAC] 173-340) was adopted in 1990/1991 to detail the legal processes and technical requirements for cleanup of contaminated sites under the MTCA. Under the MTCA program, Ecology requires responsible parties (i.e. the Property owner) to report releases of hazardous substances occurring as consequence of past practices; current/new releases must be reported as follows:

- releases from Underground Storage Tanks (UST) are regulated under Chapter 90.76 RCW and are to be reported within 24 hours of discovery (WAC 173-340-450[2]); and

- hazardous substance releases must be reported within ninety (90) calendar days of discovery (WAC 173-340-300[2]).

Available physical evidence is to be used to determine whether hazardous substances have been released to the environment. If a release is indicated, it must be reported if it may pose a threat to human health or the environment. A release report must be prepared and submitted to Ecology to provide a summary of applicable/available visual observations, readings from field instruments, and laboratory data; however, additional testing is not required at that time to comply with the reporting requirements of MTCA (WAC 173-340-300). Pursuant to WAC 173-340-310, submittal of a release report requires agency evaluation to determine whether an initial investigation is required. Initial investigations are required when there is a release or threatened release to the environment; the release or threatened release is a

hazardous substance; and/or the release or threatened release may pose a threat to human health or the environment. Per Policy 310A ("Initial Investigations"), the initial investigation process (WAC 173-340-310) includes the following:

- determination of the need for an investigation;
- whether another agency or a consultant may conduct the initial investigation;
- tasks to be completed as part of the initial investigation;
- what decisions/notification must be made based on the initial investigation; and
- case tracking process.

4.2 Soil Sample Collection and Analytical Results

4.2.1 Soil Sample Collection

TGE personnel used an organic vapor meter (OVM) to qualitatively identify the presence of total volatile organic compounds (VOCs) in Site sediments. In this field screening method, a portion of the soil sample core is placed into a designated field screening sample jar and aluminum foil immediately placed over the mouth of the jar. The jar is then left under ambient conditions for approximately five to ten minutes to permit volatile gases (if any) present within the soil pore space to equilibrate within the void space of the sample jar. Following this equilibration period, the probe of the OVM is inserted through the aluminum foil into the jar headspace to obtain a qualitative measurement of volatile gases. This method of field screening should not be considered a quantitative analysis, but rather a qualitative indication that VOCs may (or may not) be present. For the current project, OVM readings were recorded in units of parts per million (ppm) total VOCs and are listed on boring logs contained in **Appendix B**. OVM responses were generally absent in ambient air monitored in the work zone during field activities. Appreciable OVM responses and/or physical evidence (i.e., a solvent or hydrocarbon odor or appearance) was not found in soil headspace samples collected from the boreholes. Minor OVM responses ranging from 0.1 to 0.6 ppm (total VOCs) were recorded for soils collected from the boreholes of SB-1, SB-3, SB-4, SB-5 and TVMP-1.

In each boring, the soil sample with greatest recognizable environmental impact, if any, was collected for laboratory analysis. Additional (contingency) soil samples were also collected within the upper five feet of each boring or within the subsoil profile to the terminal depth of the borehole; and analysis considered if field conditions warranted and Client authorized additional efforts[1]. TGE's sampling protocol included close adherence to EPA SW 846 guidance as well as TGE's Standard Operating Procedures (SOP). Specifically, soil samples were collected in properly decontaminated samplers and placed into sterile, glass containers in a manner that minimized available "head space" within the container. Laboratory quantitation limits for parameters tested are included on the laboratory reports and comply with EPA SW-846 criteria.

4.2.2 Soil Sample Analytical Results

Gasoline petroleum products (NWTPH-Gx), diesel/residual petroleum products (NWTPH-Dx), pesticides/herbicides, VOCs, and/or Resource Conservation and Recovery Act (RCRA) 8 metals in Site soil samples were reported by the analytical laboratory not in excess of laboratory detection limits and/or respective Ecology screening limits as set forth within the MTCA regulation/statute. Relatively minor concentrations of the VOC analytes methyl ethyl ketone, acetone and benzene were detected within the soil samples collected from SB-1 through SB-5; however, reported concentrations were well below the applicable MTCA regulation/statue.

For reference, soil laboratory data is summarized in **Table 1**, and laboratory data reports (with chain-of-custody documentation) are provided in **Appendix C**.

[1] Contingency analysis of these soil samples was not performed.

4.3 Soil Vapor Sample Collection and Analytical Results

4.3.1 Soil Vapor Sample Collection

One soil vapor sample was collected from each temporary vapor monitoring point (TVMP-1 and TVMP-2) from intake zones set at depths of approximately 7 fbg to 8 fbg. Sampling methodologies included use of a decontaminated stainless steel Summa canister, pre-set under vacuum by the contract laboratory to extract a soil vapor sample from the target/screened interval upon connection to a quick-release check valve. A shut-in test was conducted prior to soil vapor sample collection to confirm the absence of leakage in the above-grade sampling train, lines and fittings.

4.3.2 Soil Vapor Analytical Results

VOCs in Site soil vapor samples collected from the Site were reported by the analytical laboratory at concentrations not in excess of laboratory detection limits and/or respective Ecology screening limits, as set forth within the MTCA regulation/statute (as applicable), with the exception of the VOC analytes 1,3-butadiene, benzene and chloroform. As tabulated below, concentrations of these VOC analytes exceed applicable Ecology screening levels, as established within the Draft Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State for indoor air (Method B cancer screening scenario), within the soil vapor samples collected from TVMP-1 and TVMP-2.

Soil Vapor Analytical Results						
Analyte	**2015 Sub-slab Soil Gas Screening Level Method B Cancer Screening Level (TR=1E^{-6}) (ug/m^3)**	**2015 Indoor Air Cleanup Level Method B Cancer Screening Level (ug/m^3)**	**TVMP-1 (Reported Concentration) (ug/m^3)**	**TVMP-1 (Calculated Indoor Air Concentration) (ug/m^3)**	**TVMP-2 (Reported Concentration) (ug/m^3)**	**TVMP-2 (Calculated Indoor Air Concentration) (ug/m^3)**
TPH (8015 & 8015D)						
1,3-Butadiene	2.78	0.08	**54.7**	**1.641**	**24.6**	**0.738**
Benzene	10.68	0.32	**26.2**	**0.786**	7.46	0.2238
Chloroform	3.62	0.11	<0.25	**---**	**38.6**	**1.158**

- Note: Any bold/highlighted type represents concentrations in excess of the applicable Ecology screening levels as established within the Draft Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action dated February 2016.

For reference, soil vapor laboratory data is summarized in **Table 2**, and laboratory data reports (with chain-of-custody documentation) are provided in **Appendix C**.

4.4 Project Deviations

Per TGE Proposal Number P13411.02 dated August 9, 2017, no deviations from the proposal were realized during performance of the Phase II ESA conducted for the Property by TGE, with the exception of those tasks that are summarized below:

- borings were drilled to depths of 8 fbg to 20 fbg prior to encountering boring refusal;
- groundwater was not encountered within the maximum depth investigated;
- due to an inability of accessing groundwater at the Site, TGE was not able to establish or specifically infer groundwater flow direction at the Property with reliability.

Boring locations, as completed in the field, are provided on **Figure 2** (attached).

4.5 Laboratory Data Validation

TGE reviewed data packages prepared by ESC Lab Sciences in Mt. Juliet, Tennessee relative to soil and soil vapor sample analyses for the Site. The intended use of data generated by the current investigation was to provide limited Site characterization details relative to targeted COCs. Analyses performed were limited to the following:

Analytical Method	Analytical Method Description
SW-846 8260b	VOCs by gas chromatography mass spectroscopy (GC/MS)
NWTPH-Dx	Semi-Volatile Organic Compounds by gas chromatography (GC
NWTPH-Gx	VOCs by gas chromatography (GC)
EPA 8141/8081	Pesticides by GC
EPA 8151	Herbicides by GC
SM-2540g	moisture/solid percentage by general chemistry
SW-846 7471A	mercury by cold vapor atomic absorption (CVAA)
SW-846 6020/7471A	RCRA-8 Metals by Inductively Coupled Plasma (ICP)
SW-846 9095A	per hydrogen ion (pH)
TO-15	VOCs by gas chromatography mass spectroscopy (GC/MS)

Qualified Analytical Data

Upon analytical report review, select analytes (refer to **Table 1** and **Table 2**) were denoted with a "J" flag. When a sample is denoted with a "J" flag, the analyte is an estimated value between the Reporting Limit (RL) and Method Detection Limit (MDL). Additionally, the pH value from SB-1 (5-6') is denoted with a "T8" flag. The "T8" flag indicates that a sample was analyzed outside of the holding time for the intended analysis; however, pH is considered an "immediate" test by the contract laboratory and is, therefore, always associated with a "T8" flag.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

For laboratory data quality analysis/quality control (QA/QC), the MS/MSD is performed as an indication as to whether there is sample matrix interference specific to the sample selected for the analysis. This test is "sample-specific" and essentially for informational purposes. Review of the laboratory reports for Site soil and soil vapor samples reported qualifiers associated with certain analytes. However, per laboratory QA/QC documentation, sample detection limits provided were within applicable Ecology guidelines, these qualifiers were associated with "unrelated samples" (i.e., a batch sample not collected from the Property) and/or given that all other quality control (including the laboratory control sample/laboratory control sample duplicate [LCS/LCSD]) met laboratory quality objectives, the data is considered valid.

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

LCS/LCSD is used by a laboratory to estimate/check precision and accuracy for each analyte in a method by batch and ensure that the analytical instrument in use is in "control" of any potential matrix interference inherent to the sample. No data qualifiers were listed within the LCS/LCSD data (which supersedes MS/MSD), with the exception of the following:

Reported LCS/LCSD Flags				
Lab Package	**Flag**	**Flag Description**	**Analyte**	**Affected Sample IDs**
L931900	"J3"	Associated batch QC was outside the established quality control range for precision	2,4,5-T	SB-3 (3-4')
L931900	"J4"	Associated batch QC was outside the established quality control range for accuracy	Bromobenzene 4-Chlorotoluene 1,2-Dichloroethane MCPA MCPP	SB-1 (5-6') SB-2 (2-3') SB-3 (3-4') SB-4 (2-3') SB-5 (11-12')

Reported LCS/LCSD Flags				
Lab Package	**Flag**	**Flag Description**	**Analyte**	**Affected Sample IDs**
L931900	"E"	Result exceeds the upper calibration limit for the target COC	MCPA MCPP	N/A All analytes reported below laboratory detection limits

- Within lab package L931900, the "J3" and "J4" flags for the above referenced VOCs, (some of which are considered "target compounds") represent a slight low and high bias, respectively; however, because these analytes were reported below laboratory detection limits, the data was unaffected and is considered valid as qualified.

Method Blank

A detailed review of corresponding laboratory method blanks established that no analytes were reported at concentrations above method reporting limits. A detailed review of corresponding laboratory method blanks established that no analytes were reported at concentrations above method reporting limits.

Based on the above-referenced review and the project level of required performance (LORP), soil and soil vapor data presented herein was considered valid as qualified.

5.0 FINDINGS

TGE has completed a Limited Phase II ESA of the Proposed Star Lake Hospital property located at 29805 Pacific Highway South in Federal Way, King County, Washington. This assessment was performed to preliminarily characterize Site RECs identified by TGE for the Property consistent with ASTM Standard Practice for Environmental Site Assessments (E1527-13).

5.1 Findings

Gasoline petroleum products (NWTPH-Gx), diesel/residual petroleum products (NWTPH-Dx), pesticides/herbicides, VOCs, and/or RCRA 8 metals in soil and soil vapor samples collected from the Site were reported by the analytical laboratory at concentrations not in excess of laboratory detection limits and/or respective Ecology screening limits as set forth within the MTCA regulation/statute (as applicable), with the exception of those analytes tabulated below.

Soil Vapor Analytical Results						
Analyte	**2015 Sub-slab Soil Gas Screening Level Method B Cancer Screening Level (TR=1E^{-6}) (ug/m^3)**	**2015 Indoor Air Cleanup Level Method B Cancer Screening Level (ug/m^3)**	**TVMP-1 (Reported Concentration) (ug/m^3)**	**TVMP-1 (Calculated Indoor Air Concentration) (ug/m^3)**	**TVMP-2 (Reported Concentration) (ug/m^3)**	**TVMP-2 (Calculated Indoor Air Concentration) (ug/m^3)**
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- Note: Any bold/highlighted type represents concentrations in excess of the applicable Ecology screening levels as established within the Draft Ecology Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action dated February 2016.

5.2 Recommendations

Based on results of this Site characterization effort, and within stated project limitations and qualifications made part of this work, TGE provides recommendation(s) for Client consideration as itemized below.

Finding	Recommendation
Elevated concentrations of VOCs (specifically 1,3-butadiene, chloroform and benzene) were detected within Site soil vapor, as established through the installation and sampling of temporary soil vapor monitor points.	Design (engineer), install, and performance test (for intrinsic capability) a vapor mitigation (control) system in response to Site-specific (vapor) findings coincident with repurposing of the property for intended use.
Prior to razing the Site, abandoned auto repair chemicals and wastes (for which the volume and contents are unknown) will require regulated disposal management; as will other regulated materials associated with Site improvements (light bulbs/ballasts, etc.).	Prior to commencement of planned demolition and earthwork activities at the Site, all regulated materials must be profiled and submitted for recycling, reuse, and/or destruction/disposal from the Property.

6.0 QUALIFICATIONS

Our professional services have been performed, our findings obtained and our recommendations in accordance with customary principles and practices in the fields of environmental science, geoscience and engineering. This company is not responsible for independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

Work performed in conjunction with this assessment and data developed are intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

Conclusions presented in this report are professional opinions based solely upon visual observations and preliminary testing of soil and soil vapor at the Site, as described in this report. This report is intended exclusively for the purpose outlined herein and at the Property indicated. This report is intended for the sole use of Client, and their representatives. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or re-use of this document or its findings, conclusions, or recommendations presented herein is at the sole risk of said user.

It should be recognized that this study was not intended to be a definitive investigation of contamination across the Property. Although the scope of services for this investigation included exploratory borings and analytical testing of soil and soil vapor, it is possible that currently unrecognized contamination may exist at the Site and that the levels of this potential contamination may vary across the Property.

Opinions and recommendations presented herein apply to Site conditions existing at the time of our investigation and those reasonable foreseeable. They cannot necessarily apply to Site changes of which this company is not aware and has not had the opportunity to evaluate.

7.0 REFERENCES

ASTM Guidance
ASTM Standard Guide for Environmental Site Assessments: Phase II Site Assessment Process (E 1903-11), published July, 2011.

ASTM Standard Guide for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-13).

Topographic Map
USGS 7.5 minute Topographic Map, Poverty Bay, Washington Quadrangle (2014).

Area Soil Map
US Department of Agriculture Soil Conservation Service Soil Survey of King County, Washington.

Geologic Map
U.S. Department of the Interior | U.S. Geological Survey, Ask MRData, Last Modified: 27 October 2015.

CLARC Tables
Model Toxics Control Act (MTCA) Cleanup Levels and Risk Calculation (CLARC) Levels Tables, last revised August, 2015, https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx.

USEPA
USEPA, "OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air", OSWER Publication 9200.2-154, June, 2015 http://www.epa.gov/oswer/vaporintrusion/documents/OSWER-Vapor-Intrusion-Technical-Guide-Final.pdf.

USEPA Regional Screening Levels table, May 2016, http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm.

USEPA VISL Calculator, May 2016, http://www.epa.gov/oswer/vaporintrusion/guidance.html.

FIGURES

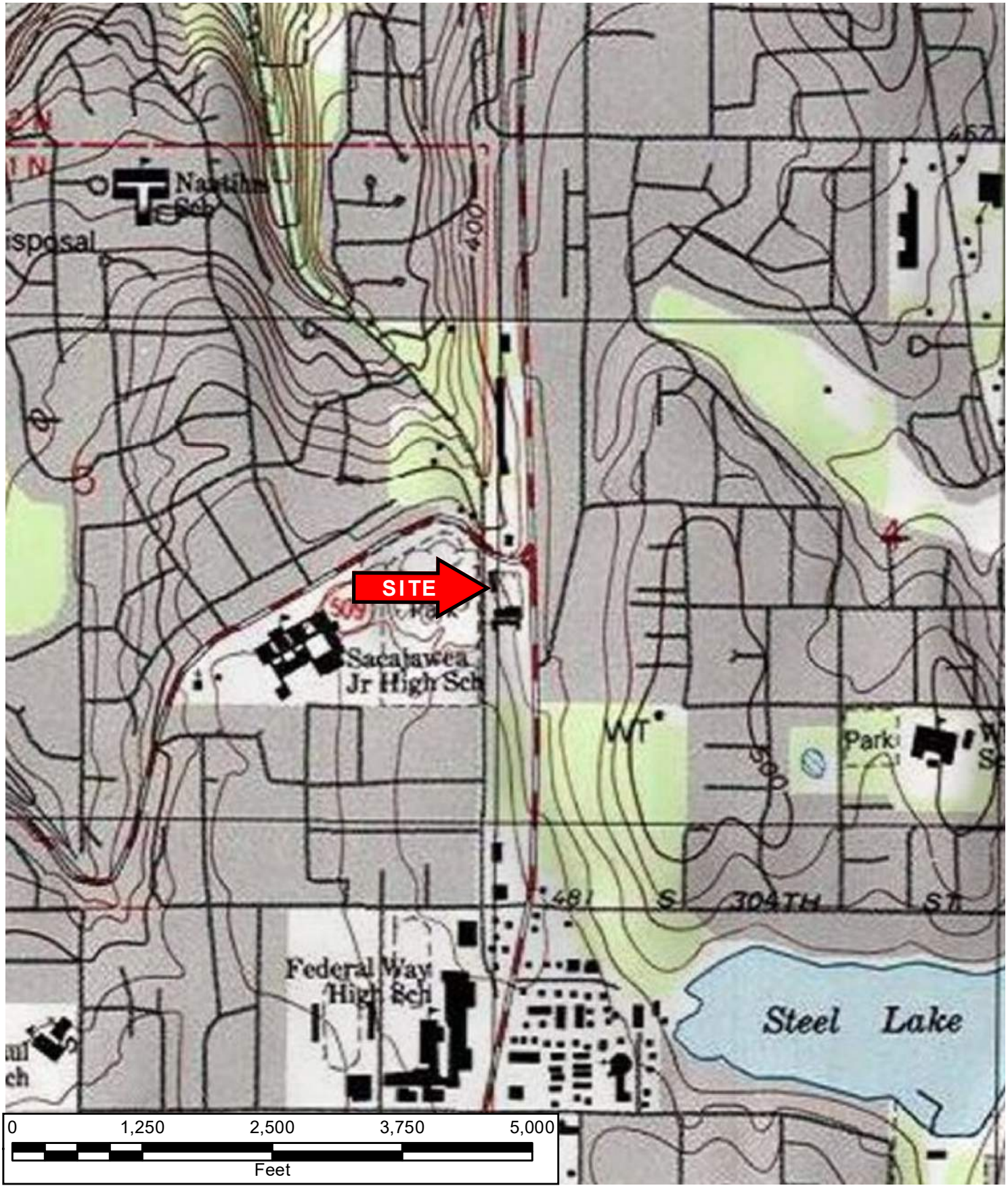
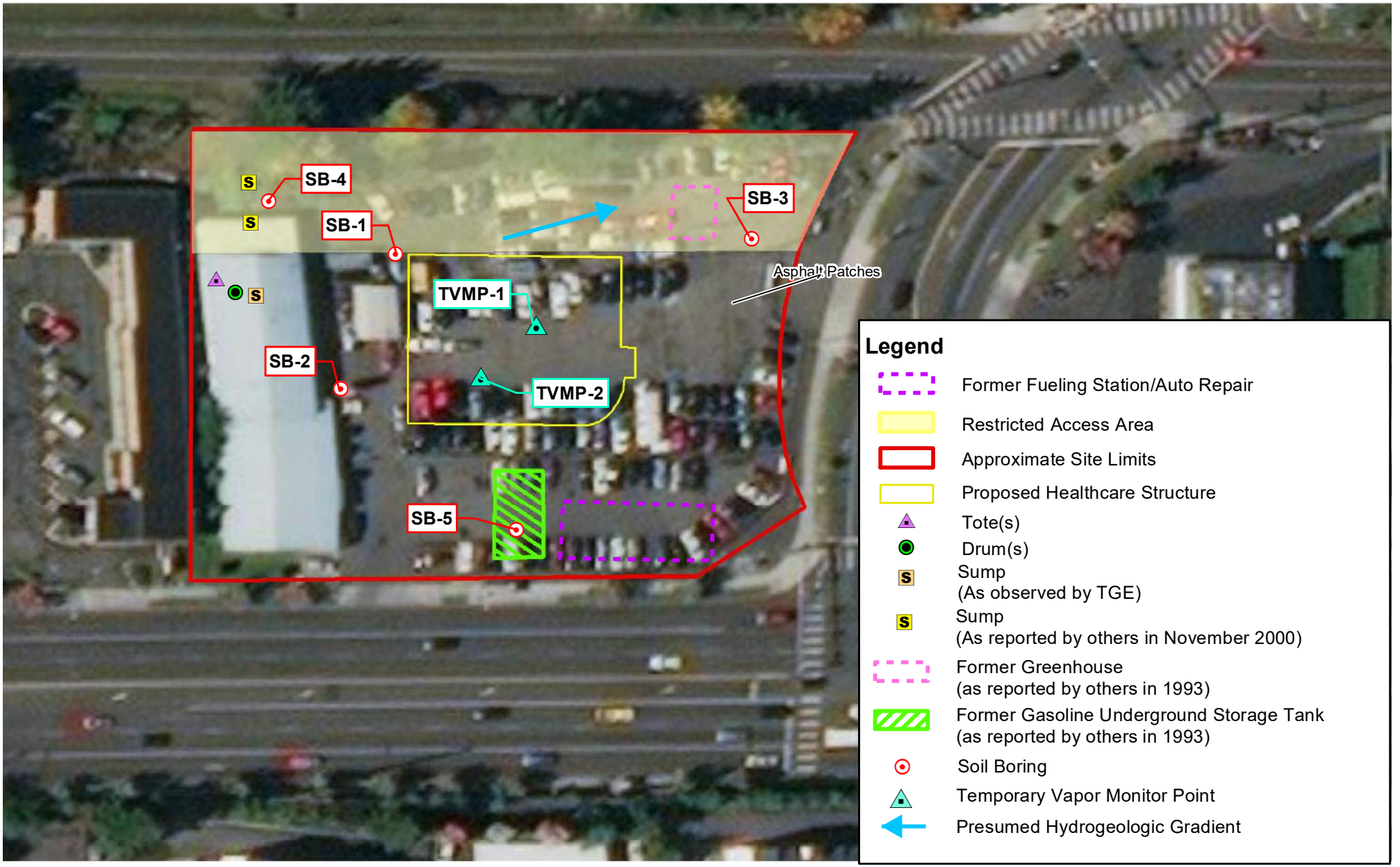


Figure 1
Site Location Map
TGE Project No.: R13411.02

TGE RESOURCES, INC.
8048 Northcourt Road
Houston, Texas 77040

Topographic Map
USGS 7.5 Minute Series Topographic Map
Poverty Bay, Washington Quadrangle
1994



Future Star Lake Hospital
29805 Pacific Highway South
Federal Way, King County, Washington
TGE Project No.: R13411.02

TGE RESOURCES, INC.
8048 Northcourt Road
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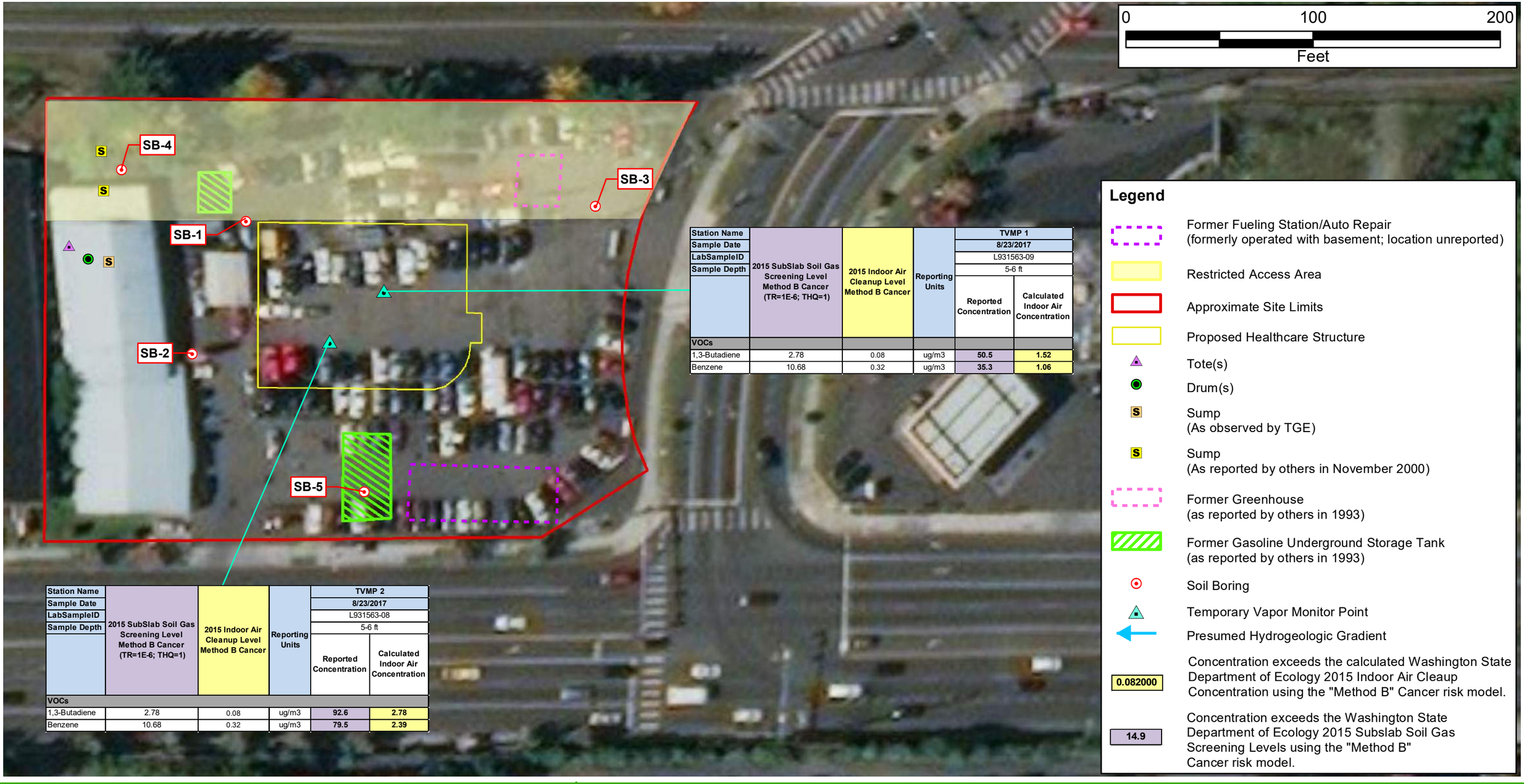
Figure 2
Sample Location Map



Station Name	2015 SubSlab Soil Gas Screening Level Method B Cancer (TR=1E-6; THQ=1)	2015 Indoor Air Cleanup Level Method B Cancer	Reporting Units	TVMP 1	
Sample Date				8/23/2017	
LabSampleID				L931563-09	
Sample Depth				5-6 ft	
				Reported Concentration	Calculated Indoor Air Concentration
VOCs					
1,3-Butadiene	2.78	0.08	ug/m3	**50.5**	**1.52**
Benzene	10.68	0.32	ug/m3	**35.3**	**1.06**

Station Name	2015 SubSlab Soil Gas Screening Level Method B Cancer (TR=1E-6; THQ=1)	2015 Indoor Air Cleanup Level Method B Cancer	Reporting Units	TVMP 2	
Sample Date				8/23/2017	
LabSampleID				L931563-08	
Sample Depth				5-6 ft	
				Reported Concentration	Calculated Indoor Air Concentration
VOCs					
1,3-Butadiene	2.78	0.08	ug/m3	**92.6**	**2.78**
Benzene	10.68	0.32	ug/m3	**79.5**	**2.39**

Legend

- Former Fueling Station/Auto Repair (formerly operated with basement; location unreported)
- Restricted Access Area
- Approximate Site Limits
- Proposed Healthcare Structure
- Tote(s)
- Drum(s)
- S — Sump (As observed by TGE)
- S — Sump (As reported by others in November 2000)
- Former Greenhouse (as reported by others in 1993)
- Former Gasoline Underground Storage Tank (as reported by others in 1993)
- Soil Boring
- Temporary Vapor Monitor Point
- Presumed Hydrogeologic Gradient
- 0.082000 — Concentration exceeds the calculated Washington State Department of Ecology 2015 Indoor Air Cleaup Concentration using the "Method B" Cancer risk model.
- 14.9 — Concentration exceeds the Washington State Department of Ecology 2015 Subslab Soil Gas Screening Levels using the "Method B" Cancer risk model.

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Figure 3
Soil Vapor Concentration Map

TABLES

Table # 1
SOIL ANALYTICAL RESULTS
Future Star Lake Hospital
Federal Way, WA
TGE Project No.: R13411.02

Station Name	Method A Direct Contact	Method B Cancer Direct Contact*	Simplified Terrestrial Eco Evaluation Unrestricted	Soil Protective of Groundwater Vadose at 13 Deg	Reporting Units	SB1	SB2	SB3	SB4	SB5
Laboratory Identification						L931900-01	L931900-02	L931900-03	L931900-04	L931900-07
Sample Date						8/24/2017	8/24/2017	8/24/2017	8/24/2017	8/24/2017
Depth Range						5 - 6 ft	2 - 3 ft	3 - 4 ft	2 - 3 ft	11 - 12 ft
Hydrocarbon										
Gasoline range organics (Benzene Present)	30.00	NL	200	NL	mg/kg	**0.0422 J**	**0.0439 J**	<0.0429	<0.0355	<0.0463
Gasoline range organics (Benzene NonDetect)	100.00	NL	200	NL	mg/kg	**0.0422 J**	**0.0439 J**	<0.0429	<0.0355	<0.0463
Diesel range organics	2000.00	NL	460	NL	mg/kg	**16.9**	**6.37**	**11.3**	<1.39	**23.1 J**
Oil Range Organics	2000.00	NL	NL	NL	mg/kg	**170**	**45.1**	**51.1**	**6.49 J**	**201**
Metals										
Arsenic	20	0.67	NL	2.92	mg/kg	**1.44 J**	**14**	**4.4**	**2.68**	**1.74 J**
Barium	NL	NL	1320	1650	mg/kg	**47.5**	**119**	**126**	**50.2**	**39.1**
Cadmium	2	NL	NL	0.69	mg/kg	<0.0733	**0.317 J**	**0.132 J**	<0.0732	<0.0777
Lead	250	NL	220	3000	mg/kg	**2.45**	**34.2**	**13.2**	**2.9**	**2.24**
Mercury	2	NL	NL	2.09	mg/kg	**0.00842 J**	**0.0802**	**0.0285**	**0.00903 J**	**0.00577 J**
Selenium	NL	NL	0.8	5.2	mg/kg	<0.775	<0.859	<0.836	<0.774	<0.821
Silver	NL	NL	NL	13.6	mg/kg	<0.293	<0.325	<0.316	<0.293	<0.311
Total Chromium	NL	NL	42	NL	mg/kg	**20.7**	**21.3**	**27.5**	**22**	**22.6**
Other										
% Moisture	NL	NL	NL	NL	%	**95.5**	**86.1**	**88.5**	**95.6**	**90.1**
pH	NL	NL	NL	NL	s.u.	**3.87 T8**	NT	NT	NT	NT
Herbicides (Method 8151)										
4-(chloro-2-methylphenoxy) acetic acid	NL	NL	NL	NL	mg/kg	NT	NT	<1.5	NT	NT
Dalapon, sodium salt	NL	NL	NL	NL	mg/kg	NT	NT	<0.0383	NT	NT
Dicamba	NL	NL	NL	NL	mg/kg	NT	NT	<0.0532	NT	NT
Dichlorophenoxy, 2,4- butyric acid, 4-	NL	NL	NL	NL	mg/kg	NT	NT	<0.101	NT	NT
Dichlorophenoxyacetic acid, 2,4-	NL	NL	NL	NL	mg/kg	NT	NT	<0.0238	NT	NT
Dichloroprop	NL	NL	NL	NL	mg/kg	NT	NT	<0.083	NT	NT
Dinoseb	NL	NL	NL	NL	mg/kg	NT	NT	<0.0236	NT	NT
TP Silvex, 2,4,5-	NL	NL	NL	NL	mg/kg	NT	NT	<0.0363	NT	NT
Trichlorophenoxyacetic acid, 2,4,5-	NL	NL	NL	NL	mg/kg	NT	NT	<0.0289	NT	NT
Organophosphate Pesticides (Method 8141)										
Azinphos-methyl	NL	NL	NL	NL	mg/kg	NT	NT	<0.00427	NT	NT
Chlorpyrifos	NL	NL	NL	NL	mg/kg	NT	NT	<0.0104	NT	NT
Coumaphos	NL	NL	NL	NL	mg/kg	NT	NT	<0.00768	NT	NT
Demeton	NL	NL	NL	NL	mg/kg	NT	NT	<0.00383	NT	NT
Diazinon	NL	NL	NL	NL	mg/kg	NT	NT	<0.00505	NT	NT
Dichlorvos		3.45			mg/kg	NT	NT	<0.0109	NT	NT
Dimethoate	NL	NL	NL	NL	mg/kg	NT	NT	<0.0224	NT	NT
Disulfoton	NL	NL	NL	NL	mg/kg	NT	NT	<0.00563	NT	NT
EPN	NL	NL	NL	NL	mg/kg	NT	NT	<0.00579	NT	NT
Ethoprop	NL	NL	NL	NL	mg/kg	NT	NT	<0.00525	NT	NT
Fensulfothion	NL	NL	NL	NL	mg/kg	NT	NT	<0.0191	NT	NT
Fenthion	NL	NL	NL	NL	mg/kg	NT	NT	<0.00687	NT	NT
lindane	0.01	NL	NL	NL	mg/kg	NT	NT	<0.00164	NT	NT
Malathion	NL	NL	NL	NL	mg/kg	NT	NT	<0.00791	NT	NT
Merphos	NL	NL	NL	NL	mg/kg	NT	NT	<0.00609	NT	NT
Methyl parathion	NL	NL	NL	NL	mg/kg	NT	NT	<0.00756	NT	NT
Naled	NL	NL	NL	NL	mg/kg	NT	NT	<0.00472	NT	NT
Parathion	NL	NL	NL	NL	mg/kg	NT	NT	<0.00645	NT	NT
Phorate	NL	NL	NL	NL	mg/kg	NT	NT	<0.00532	NT	NT
Phosdrin	NL	NL	NL	NL	mg/kg	NT	NT	<0.0115	NT	NT
Prothiofos	NL	NL	NL	NL	mg/kg	NT	NT	<0.00682	NT	NT
Ronnel	NL	NL	NL	NL	mg/kg	NT	NT	<0.00494	NT	NT
Sulprofos	NL	NL	NL	NL	mg/kg	NT	NT	<0.00626	NT	NT
TEPP	NL	NL	NL	NL	mg/kg	NT	NT	<0.177	NT	NT
Tetrachlorvinphos	NL	41.67	NL	NL	mg/kg	NT	NT	<0.00607	NT	NT
Trichloronate	NL	NL	NL	NL	mg/kg	NT	NT	<0.0075	NT	NT
OrganoChlorine Pesticides (Method 8081)										
Aldrin	NL	0.06	0.17	0.003	mg/kg	NT	NT	<0.00153	NT	NT
Chlordane	NL	2.86	1	2.06	mg/kg	NT	NT	<0.0441	NT	NT
DDD	NL	4.17	NL	NL	mg/kg	NT	NT	<0.00176	NT	NT
DDE	NL	2.94	NL	0.45	mg/kg	NT	NT	<0.00174	NT	NT
DDT	3	2.94	NL	NL	mg/kg	NT	NT	<0.00226	NT	NT
Dieldrin	NL	0.06	0.17	0.003	mg/kg	NT	NT	<0.00172	NT	NT
Endosulfan I	NL	NL	NL	NL	mg/kg	NT	NT	<0.00168	NT	NT
Endosulfan II	NL	NL	NL	NL	mg/kg	NT	NT	<0.00181	NT	NT
Endosulfan sulfate	NL	NL	NL	NL	mg/kg	NT	NT	<0.00171	NT	NT
Endrin	NL	NL	0.4	NL	mg/kg	NT	NT	<0.00177	NT	NT
Endrin aldehyde	NL	NL	NL	NL	mg/kg	NT	NT	<0.00146	NT	NT
Endrin ketone	NL	NL	NL	NL	mg/kg	NT	NT	<0.00186	NT	NT
Heptachlor	NL	0.22	NL	NL	mg/kg	NT	NT	<0.00174	NT	NT
Heptachlor epoxide	NL	0.11	NL	NL	mg/kg	NT	NT	<0.00182	NT	NT
Hexachlorobenzene	NL	0.625	31	0.88	mg/kg	NT	NT	<0.0014	NT	NT
Hexachlorocyclohexane, alpha	NL	0.16	NL	0.001	mg/kg	NT	NT	<0.00154	NT	NT
Hexachlorocyclohexane, beta	NL	0.56	NL	NL	mg/kg	NT	NT	<0.00181	NT	NT
Hexachlorocyclohexane, delta	NL	NL	NL	NL	mg/kg	NT	NT	<0.00162	NT	NT
MCPP	NL	NL	NL	NL	mg/kg	NT	NT	<1.24	NT	NT
Methoxychlor	NL	NL	NL	62.4	mg/kg	NT	NT	<0.00201	NT	NT
Tetraethyl dithiopyrophosphate	NL	NL	NL	NL	mg/kg	NT	NT	<0.00436	NT	NT
Toxaphene	NL	0.91	NL	NL	mg/kg	NT	NT	<0.0407	NT	NT
VOAs										
Acetone	NL	NL	NL	28.90	mg/kg	**0.0359 J**	**0.326**	**0.121**	**0.0162 J**	**0.0143 J**
Acrylonitrile	NL	1.85	NL	NL	mg/kg	<0.00187	<0.00218	<0.0021	<0.00187	<0.00199
Benzene	0.03	18.18	NL	0.03	mg/kg	<0.000283	<0.000329	**0.000351 J**	<0.000282	<0.0003
Bromobenzene	NL	NL	NL	NL	mg/kg	<0.000297	<0.000346	<0.000334	<0.000297	<0.000315
Bromodichloromethane	NL	16.13	NL	0.04	mg/kg	<0.000266	<0.00031	<0.000298	<0.000266	<0.000282
Bromoform	NL	126.58	NL	0.36	mg/kg	<0.000444	<0.000517	<0.000498	<0.000444	<0.000471
Bromomethane	NL	NL	NL	0.05	mg/kg	<0.0014	<0.00163	<0.00157	<0.0014	<0.00149
Butylbenzene, n-	NL	NL	NL	NL	mg/kg	<0.00027	<0.000315	<0.000303	<0.00027	<0.000286
Butylbenzene, sec-	NL	NL	NL	NL	mg/kg	<0.000211	<0.000245	<0.000236	<0.00021	<0.000223
Butylbenzene, tert-	NL	NL	NL	NL	mg/kg	<0.000216	<0.000251	<0.000242	<0.000215	<0.000229
Carbon tetrachloride	NL	14.29	NL	0.04	mg/kg	<0.000344	<0.0004	<0.000385	<0.000343	<0.000364
Chlorobenzene	NL	NL	NL	0.86	mg/kg	<0.000222	<0.000258	<0.000249	<0.000222	<0.000235
Chloroethane	NL	NL	NL	NL	mg/kg	<0.000991	<0.00115	<0.00111	<0.00099	<0.00105
Chloroform	NL	32.26	NL	0.07	mg/kg	<0.00024	<0.000279	<0.000269	<0.00024	<0.000254
Chloromethane	NL	NL	NL	NL	mg/kg	<0.000393	<0.000457	<0.000441	<0.000392	<0.000416
Chlorotoluene, o-	NL	NL	NL	NL	mg/kg	<0.000315	<0.000367	<0.000354	<0.000315	<0.000334
Chlorotoluene, p-	NL	NL	NL	NL	mg/kg	<0.000251	<0.000293	<0.000282	<0.000251	<0.000266
Cumene	NL	NL	NL	NL	mg/kg	<0.000255	<0.000296	<0.000286	<0.000254	<0.00027
Cymene	NL	NL	NL	NL	mg/kg	<0.000214	<0.000249	<0.00024	<0.000213	<0.000226
Dibromo-3-chloropropane, 1,2-	NL	1.25	NL	NL	mg/kg	<0.0011	<0.00128	<0.00123	<0.0011	<0.00117
Dibromochloromethane	NL	11.90	NL	0.03	mg/kg	<0.000391	<0.000455	<0.000438	<0.00039	<0.000414
Dichlorobenzene, 1,2-	NL	NL	NL	6.98	mg/kg	<0.000319	<0.000372	<0.000358	<0.000319	<0.000339
Dichlorobenzene, 1,3-	NL	NL	NL	NL	mg/kg	<0.00025	<0.000291	<0.000281	<0.00025	<0.000265
Dichlorobenzene, 1,4-	NL	185.19	NL	1.23	mg/kg	<0.000237	<0.000276	<0.000266	<0.000236	<0.000251
Dichlorodifluoromethane	NL	NL	NL	NL	mg/kg	<0.000747	<0.000869	<0.000838	<0.000746	<0.000791
Dichloroethane, 1,1-	NL	175.44	NL	0.04	mg/kg	<0.000208	<0.000243	<0.000234	<0.000208	<0.000221
Dichloroethane, 1,2-	NL	10.99	NL	0.02	mg/kg	<0.000278	<0.000323	<0.000311	<0.000277	<0.000294
Dichloroethylene, 1,1-	NL	NL	NL	0.05	mg/kg	<0.000317	<0.000369	<0.000356	<0.000317	<0.000336

Table # 1
SOIL ANALYTICAL RESULTS
Future Star Lake Hospital
Federal Way, WA
TGE Project No.: R13411.02

Station Name	Method A Direct Contact	Method B Cancer Direct Contact*	Simplified Terrestrial Eco Evaluation Unrestricted	Soil Protective of Groundwater Vadose at 13 Deg	Reporting Units	SB1	SB2	SB3	SB4	SB5
Laboratory Identification						L931900-01	L931900-02	L931900-03	L931900-04	L931900-07
Sample Date						8/24/2017	8/24/2017	8/24/2017	8/24/2017	8/24/2017
Depth Range						5 - 6 ft	2 - 3 ft	3 - 4 ft	2 - 3 ft	11 - 12 ft
Dichloroethylene, cis-1,2-	NL	NL	NL	0.08	mg/kg	<0.000246	<0.000286	<0.000276	<0.000246	<0.000261
Dichloroethylene, trans-1,2	NL	NL	NL	0.52	mg/kg	<0.000277	<0.000322	<0.00031	<0.000276	<0.000293
Dichloropropane, 1,2-	NL	27.78	NL	0.03	mg/kg	<0.000375	<0.000436	<0.000421	<0.000374	<0.000397
Dichloropropane, 1,3-	NL	NL	NL	NL	mg/kg	<0.000217	<0.000252	<0.000243	<0.000217	<0.00023
Dichloropropane, 2,2-	NL	NL	NL	NL	mg/kg	<0.000292	<0.00034	<0.000328	<0.000292	<0.00031
Dichloropropene, 1,1-	NL	NL	NL	NL	mg/kg	<0.000332	<0.000386	<0.000373	<0.000332	<0.000352
Dichloropropene, cis 1,3-	NL	NL	NL	NL	mg/kg	<0.000274	<0.000319	<0.000308	<0.000274	<0.000291
Dichloropropene, trans 1,3-	NL	NL	NL	NL	mg/kg	<0.00028	<0.000325	<0.000314	<0.000279	<0.000296
Diisopropyl ether	NL	NL	NL	NL	mg/kg	<0.00026	<0.000302	<0.000291	<0.000259	<0.000275
Ethyl benzene	6	NL	NL	NL	mg/kg	<0.000311	<0.000362	<0.000349	<0.000311	<0.00033
Ethylene dibromide	0.005	0.5	NL	NL	mg/kg	<0.000359	<0.000418	<0.000403	<0.000359	<0.000381
Hexachlorobutadiene	NL	12.82	NL	0.61	mg/kg	<0.000358	<0.000417	<0.000402	<0.000358	<0.00038
Methyl ethyl ketone	NL	NL	NL	NL	mg/kg	**0.0064 J**	**0.0129**	**0.0162**	<0.0049	<0.00519
Methyl isobutyl ketone	NL	NL	NL	NL	mg/kg	<0.00197	<0.00229	<0.00221	<0.00197	<0.00209
Methylene bromide	NL	NL	NL	NL	mg/kg	<0.0004	<0.000466	<0.000449	<0.0004	<0.000424
Methylene chloride	0.02	500	NL	0.02	mg/kg	<0.00105	<0.00122	<0.00118	<0.00105	<0.00111
MTBE	0.1	555.56	NL	0.10	mg/kg	<0.000222	<0.000258	<0.000249	<0.000222	<0.000235
Naphthalene	5	NL	NL	4.45	mg/kg	<0.00105	<0.00122	<0.00118	<0.00105	<0.00111
Propylbenzene, n-	NL	NL	NL	NL	mg/kg	<0.000216	<0.000251	<0.000242	<0.000215	<0.000229
Styrene	NL	NL	NL	2.23	mg/kg	<0.000245	<0.000285	<0.000275	<0.000245	<0.00026
Tetrachloroethane, 1,1,1,2-	NL	38.46	NL	NL	mg/kg	<0.000277	<0.000322	<0.00031	<0.000276	<0.000293
Tetrachloroethane, 1,1,2,2-	NL	5.00	NL	0.00	mg/kg	<0.000382	<0.000445	<0.000429	<0.000382	<0.000405
Tetrachloroethylene	0.05	476.19	NL	0.05	mg/kg	<0.000289	<0.000336	<0.000324	<0.000289	<0.000306
Toluene	7	NL	NL	4.52	mg/kg	<0.000455	<0.000529	<0.00051	<0.000454	<0.000482
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NL	NL	NL	NL	mg/kg	<0.000382	<0.000445	<0.000429	<0.000382	<0.000405
Trichlorobenzene, 1,2,3-	NL	NL	NL	NL	mg/kg	<0.00032	<0.000373	<0.00036	<0.00032	<0.00034
Trichlorobenzene, 1,2,4-	NL	34.48	NL	0.56	mg/kg	<0.000406	<0.000473	<0.000456	<0.000406	<0.000431
Trichloroethane, 1,1,1-	NL	NL	NL	1.49	mg/kg	<0.0003	<0.000349	<0.000336	<0.000299	<0.000317
Trichloroethane, 1,1,2-	NL	17.54	NL	0.03	mg/kg	<0.00029	<0.000338	<0.000326	<0.00029	<0.000307
Trichloroethylene	NL	12.00	NL	0.03	mg/kg	<0.000292	<0.00034	<0.000328	<0.000292	<0.00031
Trichlorofluoromethane	NL	NL	NL	NL	mg/kg	<0.0004	<0.000466	<0.000449	<0.0004	<0.000424
Trichloropropane, 1,2,3-	NL	0.03	NL	NL	mg/kg	<0.000776	<0.000903	<0.000871	<0.000775	<0.000822
Trimethylbenzene, 1,2,3-	NL	NL	NL	NL	mg/kg	<0.000301	<0.00035	<0.000337	<0.0003	<0.000319
Trimethylbenzene, 1,2,4-	NL	NL	NL	NL	mg/kg	<0.000221	<0.000257	<0.000248	<0.000221	<0.000234
Trimethylbenzene, 1,3,5-	NL	NL	NL	NL	mg/kg	<0.000279	<0.000324	<0.000313	<0.000278	<0.000295
Vinyl chloride	NL	NL	NL	0.002	mg/kg	<0.000305	<0.000355	<0.000342	<0.000304	<0.000323
Xylenes	NL	NL	NL	NL	mg/kg	<0.000731	<0.000851	<0.00082	<0.00073	<0.000775

Notes:

16.60	Concentrations in blue indicate levels above method detection limits yet below Washington Department of Ecology (Ecology) screening level(s)
NL	No Limit Established
mg/kg	Milligrams per kilogram (parts per million)
J	Analyte is an estimated value between the Reporting Limit (RL) and Method Detection Limit (MDL) (for organics
*	Result Exceeds the Washington Department of Ecology Method B Direct Contact cancer assessment level. This screening level is used upon demonstration that Site groundwater is not impacted.

Table # 2
SOIL GAS ANALYTICAL RESULTS
Future Star Lake Hospital
Federal Way, WA
TGE Project No.: R13411.02

Station Name	2015 SubSlab Soil Gas Screening Level Method B Cancer (TR=1E-6; THQ=1)	2015 Indoor Air Cleanup Level Method B Cancer	US EPA RSL Industrial Indoor Air Concentration (TR=1E^{-6}; THQ=1)	US EPA RSL Residental Indoor Air Concentration (TR=1E^{-6}; THQ=1)	Reporting Units	TVMP1		TVMP2	
Sample Date						8/24/2017		8/24/2017	
LabSampleID						L931900-05		L931900-06	
Sample Depth						5-6 ft		5-6 ft	
						Reported Concentration	Calculated Indoor Air Concentration	Reported Concentration	Calculated Indoor Air Concentration
1,2-Dichlorotetrafluoroethane	NL	NL	NL	NL	ug/m3	<0.19	--	<0.19	--
2,2,4-Trimethylpentane	NL	NL	NL	NL	ug/m3	<0.23	--	3.58	0.1074
Acetone	NL	NL	140000.00	32000.00	ug/m3	118	3.54	26.3	0.789
Allyl chloride	NL	NL	2.00	0.47	ug/m3	<0.24	--	<0.24	--
Benzene	10.68	0.32	1.60	0.36	ug/m3	26.2	0.786	7.46	0.2238
Benzyl chloride	1.70	0.05	0.25	0.06	ug/m3	<0.39	--	<0.39	--
Bromodichloromethane	2.25	0.07	0.33	0.08	ug/m3	<0.42	--	<0.42	--
Bromoform	75.76	2.27	11	2.6	ug/m3	<0.71	--	<0.71	--
Bromomethane	NL	NL	22	5.2	ug/m3	<0.15	--	<0.15	--
Butadiene, 1,3-	2.78	0.08	0.41	0.094	ug/m3	54.7	1.641	24.6	0.738
Carbon disulfide	NL	NL	3100	730	ug/m3	9.65	0.2895	7.14	0.2142
Carbon tetrachloride	13.89	0.42	2	0.47	ug/m3	<0.27	--	<0.27	--
Chlorobenzene	NL	NL	220	52	ug/m3	<0.35	--	<0.35	--
Chloroethane	NL	NL	44000	10000	ug/m3	<0.13	--	<0.13	--
Chloroform	3.62	0.11	0.53	0.12	ug/m3	<0.25	--	38.6	1.158
Chloromethane	NL	NL	390	94	ug/m3	<0.056	--	1.5	0.045
Chlorotoluene, o-	NL	NL	NL	NL	ug/m3	<0.38	--	<0.38	--
Cumene	NL	NL	NL	NL	ug/m3	<0.37	--	<0.37	--
Cyclohexane	NL	NL	26000	6300	ug/m3	55.5	1.665	5.85	0.1755
Dibromochloromethane	3.09	0.09	0.45	0.1	ug/m3	<0.56	--	<0.56	--
Dichlorobenzene, 1,2-	NL	NL	880	210	ug/m3	<0.47	--	<0.47	--
Dichlorobenzene, 1,3-	NL	NL	NL	NL	ug/m3	71.6	2.148	10.5	0.315
Dichlorobenzene, 1,4-	7.58	0.23	1.1	0.26	ug/m3	<0.46	--	<0.46	--
Dichlorodifluoromethane	NL	NL	440	100	ug/m3	4.95	0.1485	<0.17	--
Dichloroethane, 1,1-	52.08	1.56	7.7	1.8	ug/m3	<0.2	--	<0.2	--
Dichloroethane, 1,2-	3.21	0.10	0.47	0.11	ug/m3	<0.25	--	<0.25	--
Dichloroethylene, 1,1-	NL	NL	880	210	ug/m3	<0.15	--	<0.15	--
Dichloroethylene, cis-1,2-	NL	NL	NL	NL	ug/m3	3.27	0.0981	<0.19	--
Dichloroethylene, trans-1,2	NL	NL	NL	NL	ug/m3	<0.17	--	<0.17	--
Dichloropropane, 1,2-	8.33	0.25	1.2	0.28	ug/m3	<0.31	--	<0.31	--
Dichloropropene, cis 1,3-	NL	NL	NL	NL	ug/m3	<0.36	--	<0.36	--
Dichloropropene, trans 1,3-	NL	NL	NL	NL	ug/m3	<0.46	--	<0.46	--
Dioxane 1,4-	NL	NL	2.5	0.56	ug/m3	<0.24	--	<0.24	--
Ethanol	NL	NL	NL	NL	ug/m3	19.7	0.591	11.4	0.342
Ethyl benzene	NL	NL	4.9	1.1	ug/m3	<0.34	--	<0.34	--
Ethyl-4-methyl benzene, 1-	NL	NL	NL	NL	ug/m3	<0.39	--	<0.39	--
Ethylene dibromide	0.14	0.00	0.02	0.0047	ug/m3	<0.61	--	<0.61	--
Heptane, n-	NL	NL	NL	NL	ug/m3	58.3	1.749	7.9	0.237
Hexachlorobutadiene	3.79	0.11	0.56	0.13	ug/m3	<0.82	--	<0.82	--
Hexane, n-	NL	NL	NL	NL	ug/m3	120	3.6	18.4	0.552
Hexanone, 2-	NL	NL	NL	NL	ug/m3	<0.36	--	<0.36	--
Isopropyl alcohol	NL	NL	NL	NL	ug/m3	<0.16	--	<0.16	--
Methyl ethyl ketone	NL	NL	22000	5200	ug/m3	25.3	0.759	<0.22	--
Methyl isobutyl ketone	NL	NL	13000	3100	ug/m3	<0.35	--	<0.35	--
Methyl methacrylate	NL	NL	3100	730	ug/m3	<0.33	--	<0.33	--
Methylene chloride	8333.33	250.00	1200	100	ug/m3	<0.15	--	<0.15	--
MTBE	320.51	9.62	NL	NL	ug/m3	<0.23	--	<0.23	--
Naphthalene	2.45	0.07	0.36	0.083	ug/m3	<0.37	--	<0.37	--
Propene	NL	NL	13000	3100	ug/m3	1120	33.6	253	7.59
Styrene	NL	NL	4400	1000	ug/m3	<0.32	--	<0.32	--
Tetrachloroethane, 1,1,2,2-	11.26	0.34	NL	NL	ug/m3	<0.54	--	<0.54	--
Tetrachloroethylene	320.51	9.62	47	11	ug/m3	<0.34	--	<0.34	--
Tetrahydrofuran	NL	NL	8800	2100	ug/m3	<0.26	--	<0.26	--
Toluene	NL	NL	22000	5200	ug/m3	25.4	0.762	6.27	0.1881
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NL	NL	130000	31000	ug/m3	<0.38	--	<0.38	--
Trichlorobenzene, 1,2,4-	NL	NL	8.8	2.1	ug/m3	<0.38	--	<0.38	--
Trichloroethane, 1,1,1-	NL	NL	22000	5200	ug/m3	<0.28	--	<0.28	--
Trichloroethane, 1,1,2-	5.21	0.16	0.77	0.18	ug/m3	<0.4	--	<0.4	--
Trichloroethylene	12.33	0.37	3	0.48	ug/m3	2.81	0.0843	<0.32	--
Trichlorofluoromethane	NL	NL	3100	730	ug/m3	<0.2	--	<0.2	--
Trimethylbenzene, 1,2,4-	NL	NL	NL	NL	ug/m3	3.43	0.1029	<0.41	--
Trimethylbenzene, 1,3,5-	NL	NL	NL	NL	ug/m3	<0.35	--	<0.35	--
Vinyl acetate	NL	NL	880	210	ug/m3	<0.29	--	<0.29	--
Vinyl Bromide	NL	NL	0.38	0.088	ug/m3	<0.14	--	<0.14	--
Vinyl chloride	9.33	0.28	2.8	0.17	ug/m3	<0.079	--	<0.079	--
Xylene, o-	NL	NL	440	100	ug/m3	2.6	0.078	<0.32	--
Xylenes	NL	NL	440	100	ug/m3	6.58	0.1974	<0.66	--

US EPA RSL	United States Environmental Protection Agency Regional Screening Levels
TR = $1E^{-6}$	Incremental Lifetime Cancer Risk target value of 1 : 1,000,000
THQ = 1	Target hazard quotient for potential non-cancer effects
1.8	Concentration in blue indicates a level above the method detection limit (MDL) (for Reported Concentrations) and below USEPA screening level (if established) for Calculated Indoor Air Concentrations.
NL	Not Listed with a Target Screening Level per US EPA
ug/m^3	Micrograms per cubic meter
---	Soil Vapor attenutation not calculated for constituent concentrations below the laboratory sample quantitation limit.
*	Per USEPA Guidance, "Vapor attenuation refers to the reduction in volatile chemical concentrations that occurs during vapor migration in
0.1242	Concentration exceeds the calculated Washington State Department of Ecology 2015 Indoor Air Cleaup Concentration using the "Method B" Cancer risk model.
0.1242	Concentration exceeds the Washington State Department of Ecology 2015 Subslab Soil Gas Screening Levels using the "Method B" Cancer risk model.

APPENDIX A

Photograph 1. View of installation activities associated with soil boring SB-1.

Photograph 2. Installation activities associated with soil boring SB-2, adjacent to the auto repair bays.

Photograph 3. Installation activities for soil boring SB-3, in the vicinity of the former greenhouse.

Photograph 4. Installation activities for soil boring SB-4, adjacent to the auto repair bays. Note the sump and underground line locations.

Photograph 5. Installation location for SB-5, within the former underground PST tankpit.

Photograph 6. Installation activities for temporary vapor monitoring point TVMP-2, in the footprint of the proposed building.

Photograph 7. Sample collection at temporary vapor monitoring point TVMP-2.

Photograph 8. View of typical soil boring plugging capped with asphalt patch.

Photograph 9. Typical soil lithology as encountered at soil boring SB-2.

Photograph 10. View of investigation-derived waste storage.

APPENDIX B

TGE RESOURCES, INC.

8048 Northcourt Road
Houston, Texas 77040
(713) 744-5800
(713) 744-5888 (fax)

BORING LOG

BOREHOLE NO.: **SB-1**
LATITUDE: **47.335084**
LONGITUDE: **-122.312986**

PROJECT INFORMATION

PROJECT NAME:	**Future Star Lake Hospital**
SITE LOCATION:	**29805 Pacific HWY S**
CITY, STATE	**Federal Way, Washington**
TGE PROJECT NO.:	**R13411.02**
LOGGED BY:	**T. Crump**
CLIENT:	**MultiCare Health System**
DATES DRILLED:	**8/24/17**

DRILLING INFORMATION

DRILLING CO.:	**Cascade Drilling**
DRILLER:	**F. Scott**
RIG TYPE:	**Truck Mounted Geoprobe**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**5' Plastic Sleeve**
TOTAL DEPTH:	**15**
SURFACE ELEVATION:	**---**

DEPTH (in feet)	SAMPLE	% RECOVERY	ORGANIC VAPOR (ppm)	USCS	LITHOLOGIC DESCRIPTION	SOIL PROFILE	REMARKS
0			0.0		Asphalt		
			0.0		Fill Material		
		48	0.0		Gravelly Sand: brown, moist, poorly sorted, fine to medium grained, dense, frequent large gravel		
			0.0				
5			0.3		- very silty, fine-grained		
			0.0		- clayey, few small gravel		
		50	0.0	SP			
			0.1		- frequent large gravel, brown and gray mottled, medium-grained, silty		
10			0.0		- very moist and clayey		
			0.0				
		100	0.0		- beige cobbles (6 inches) and dry		
			0.0		- clayey, brown and gray mottles, very moist, medium-grained		
15							

NOTES: - - -
Boring logs should not be used separately from the original report.

TGE RESOURCES, INC.

8048 Northcourt Road
Houston, Texas 77040
(713) 744-5800
(713) 744-5888 (fax)

BORING LOG

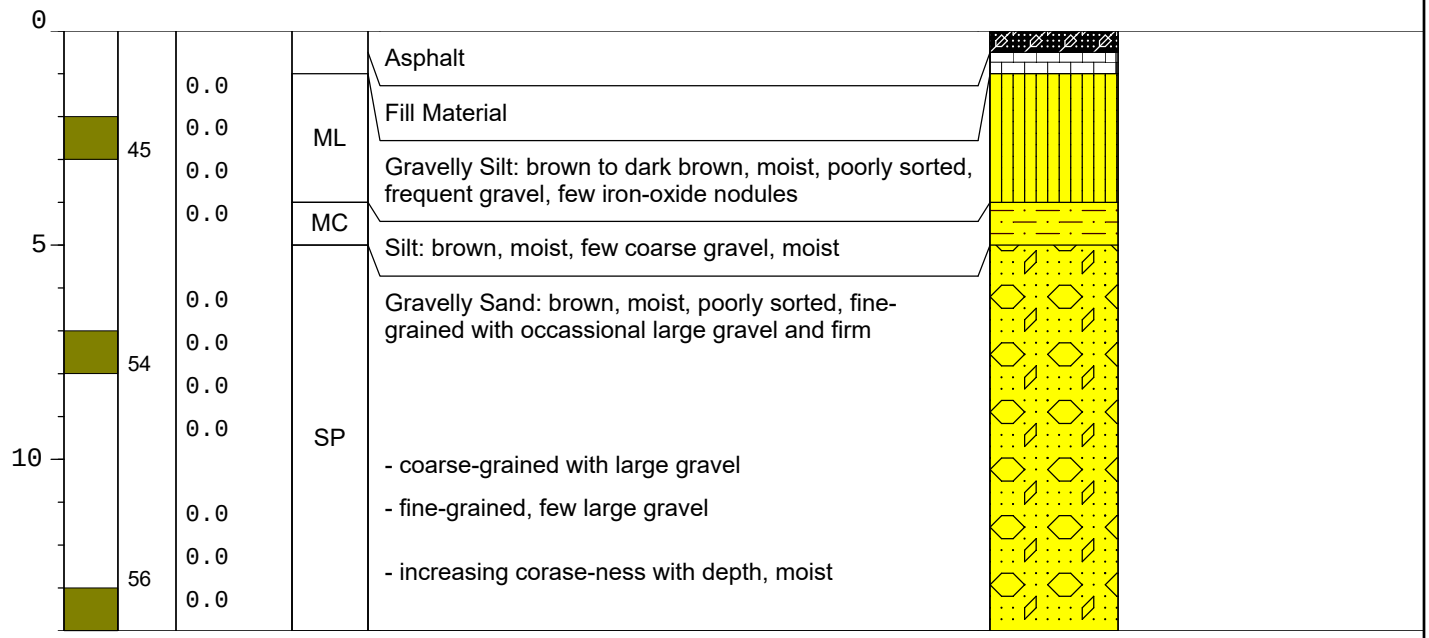
BOREHOLE NO.: **SB-2**
LATITUDE: **47.335003**
LONGITUDE: **-122.312712**

PROJECT INFORMATION

PROJECT NAME:	**Future Star Lake Hospital**
SITE LOCATION:	**29805 Pacific HWY S**
CITY, STATE	**Federal Way, Washington**
TGE PROJECT NO.:	**R13411.02**
LOGGED BY:	**T. Crump**
CLIENT:	**MultiCare Health System**
DATES DRILLED:	**8/24/17**

DRILLING INFORMATION

DRILLING CO.:	**Cascade Drilling**
DRILLER:	**F. Scott**
RIG TYPE:	**Truck Mounted Geoprobe**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**5' Plastic Sleeve**
TOTAL DEPTH:	**14**
SURFACE ELEVATION:	**---**



NOTES: - - -

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TGE RESOURCES, INC.

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Houston, Texas 77040
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(713) 744-5888 (fax)

BORING LOG

BOREHOLE NO.: **SB-3**
LATITUDE: **47.33561980**
LONGITUDE: **-122.31302361**

PROJECT INFORMATION

PROJECT NAME:	**Future Star Lake Hospital**
SITE LOCATION:	**29805 Pacific HWY S**
CITY, STATE	**Federal Way, Washington**
TGE PROJECT NO.:	**R13411.02**
LOGGED BY:	**T. Crump**
CLIENT:	**MultiCare Health System**
DATES DRILLED:	**8/24/17**

DRILLING INFORMATION

DRILLING CO.:	**Cascade Drilling**
DRILLER:	**F. Scott**
RIG TYPE:	**Truck Mounted Geoprobe**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**5' Plastic Sleeve**
TOTAL DEPTH:	**18**
SURFACE ELEVATION:	**---**

DEPTH (in feet)	SAMPLE	% RECOVERY	ORGANIC VAPOR (ppm)	USCS	LITHOLOGIC DESCRIPTION	SOIL PROFILE	REMARKS
0			0.0		Asphalt		
			0.3	SP	Fill Material		
		49	0.6		Gravelly Sand: brown to grayish-brown, moist dense, poorly sorted, fine to medium-grained, few large gravel		
			0.0				
5					Gravelly Silt: brown, poorly sorted, clayey, moist, occassional large gravel		
			0.0	LM			
			0.0		- orangish brown mottles, few gravel, clayey		
		53	0.0				
			0.0		- increasing gravel content with depth		
10					Gravelly Sand: brown to grayish-brown, moist, poorly sorted, fine to medium-grained with large gravel, silty		
			0.0				
			0.0				
		100		SP			
			0.0		- coarse-grained, slightly silty		
15					- fine-grained		
			0.0				
		100	0.1				

NOTES: - - -
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TGE RESOURCES, INC.

8048 Northcourt Road
Houston, Texas 77040
(713) 744-5800
(713) 744-5888 (fax)

BORING LOG

BOREHOLE NO.: **SB-4**
LATITUDE: **47.334892**
LONGITUDE: **-122.31309**

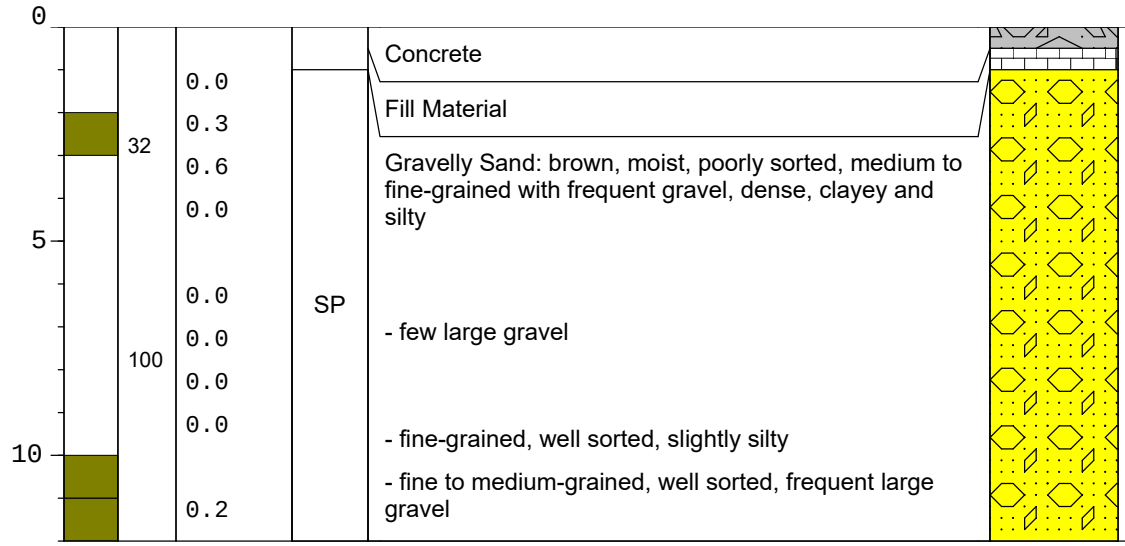
PROJECT INFORMATION

PROJECT NAME:	**Future Star Lake Hospital**
SITE LOCATION:	**29805 Pacific HWY S**
CITY, STATE	**Federal Way, Washington**
TGE PROJECT NO.:	**R13411.02**
LOGGED BY:	**T. Crump**
CLIENT:	**MultiCare Health System**
DATES DRILLED:	**8/24/17**

DRILLING INFORMATION

DRILLING CO.:	**Cascade Drilling**
DRILLER:	**F. Scott**
RIG TYPE:	**Truck Mounted Geoprobe**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**5' Plastic Sleeve**
TOTAL DEPTH:	**12**
SURFACE ELEVATION:	**---**

DEPTH (in feet)	SAMPLE	% RECOVERY	ORGANIC VAPOR (ppm)	USCS	LITHOLOGIC DESCRIPTION	SOIL PROFILE	REMARKS
0			0.0		Concrete		
			0.3		Fill Material		
		32	0.6		Gravelly Sand: brown, moist, poorly sorted, medium to fine-grained with frequent gravel, dense, clayey and silty		
			0.0				
5			0.0	SP			
			0.0		- few large gravel		
		100	0.0				
			0.0				
					- fine-grained, well sorted, slightly silty		
10			0.2		- fine to medium-grained, well sorted, frequent large gravel		



NOTES: - - -
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8048 Northcourt Road
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(713) 744-5888 (fax)

BORING LOG

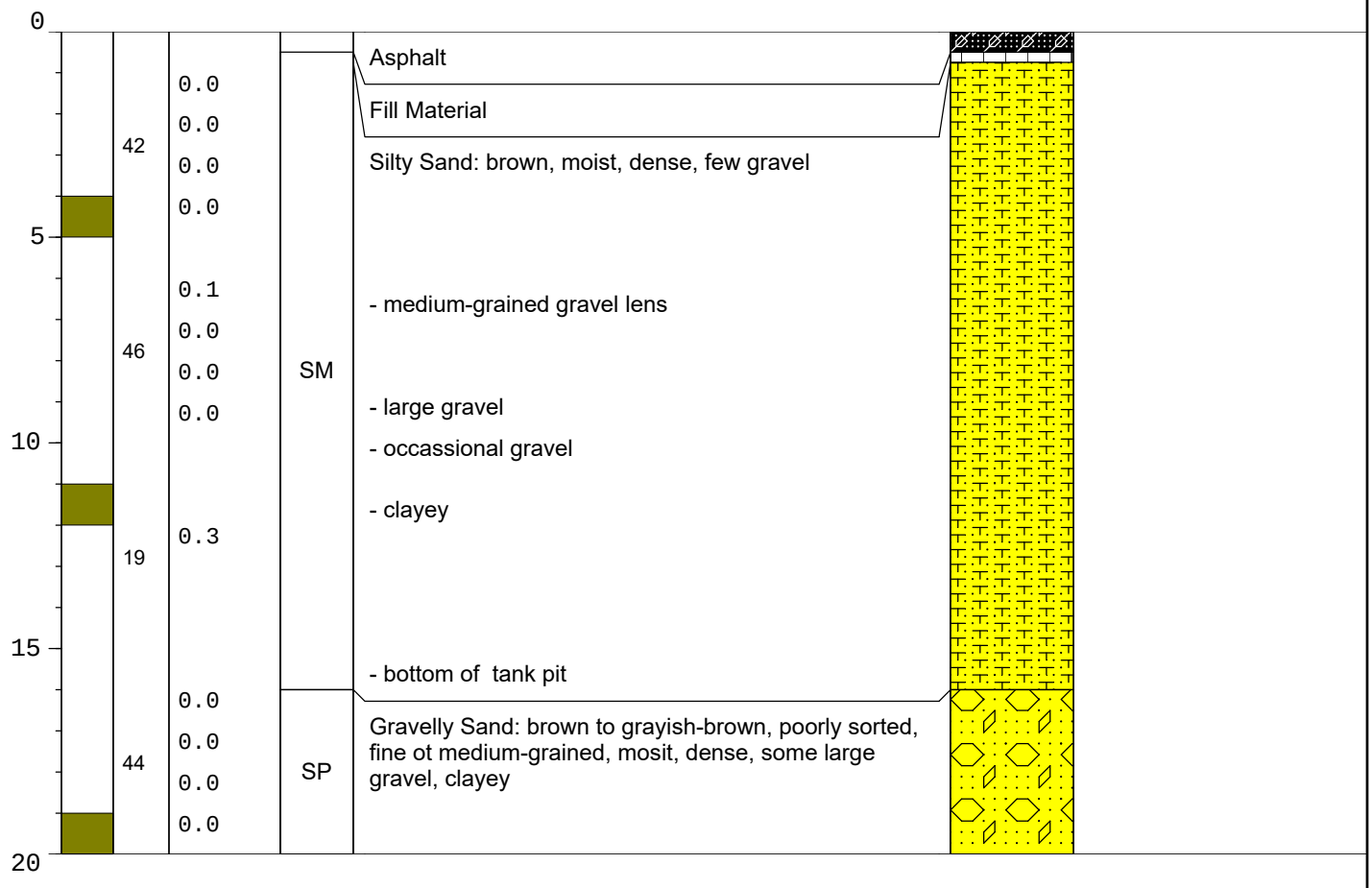
BOREHOLE NO.: **SB-5**
LATITUDE: **47.33526919**
LONGITUDE: **-122.3124305**

PROJECT INFORMATION

PROJECT NAME:	**Future Star Lake Hospital**
SITE LOCATION:	**29805 Pacific HWY S**
CITY, STATE	**Federal Way, Washington**
TGE PROJECT NO.:	**R13411.02**
LOGGED BY:	**T. Crump**
CLIENT:	**MultiCare Health System**
DATES DRILLED:	**8/24/17**

DRILLING INFORMATION

DRILLING CO.:	**Cascade Drilling**
DRILLER:	**F. Scott**
RIG TYPE:	**Truck Mounted Geoprobe**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**5' Plastic Sleeve**
TOTAL DEPTH:	**20**
SURFACE ELEVATION:	**---**



NOTES: - - -

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8048 Northcourt Road
Houston, Texas 77040
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(713) 744-5888 (fax)

BORING LOG

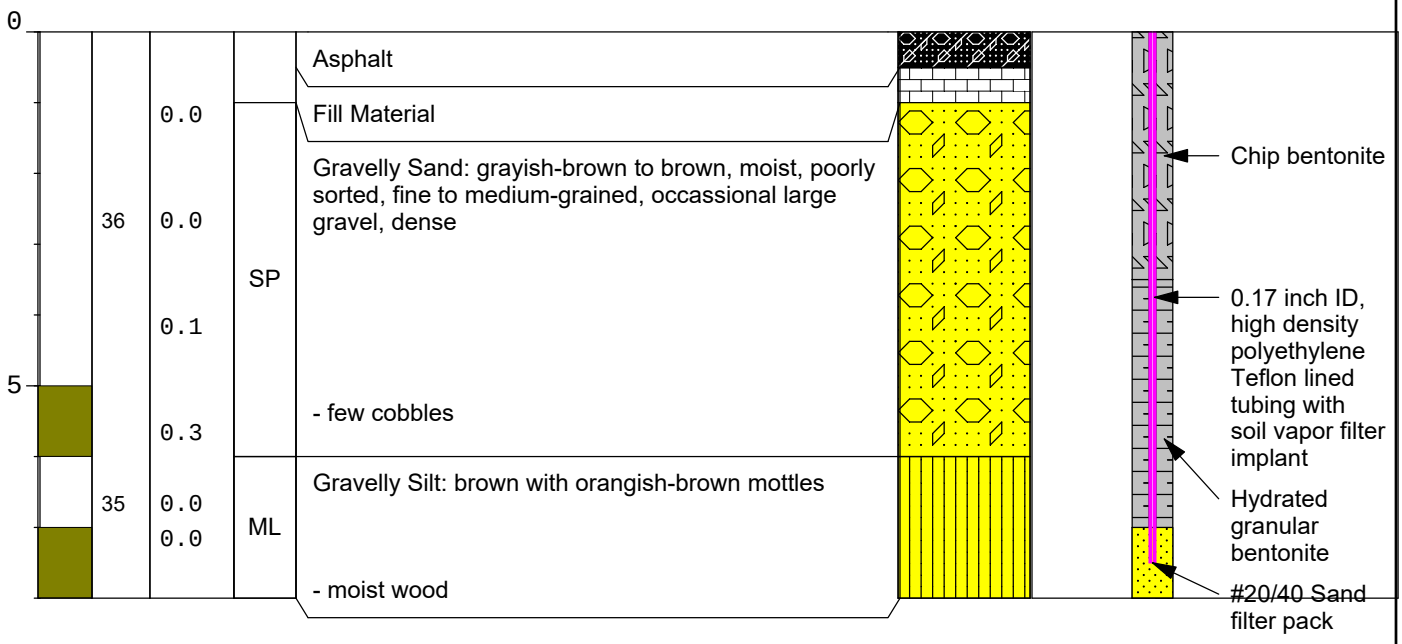
BOREHOLE NO.: **TVMP-1**
LATITUDE: **47.33529641**
LONGITUDE: **-122.31284619**
TOC ELEVATION: **---**

PROJECT INFORMATION

PROJECT NAME:	**Future Star Lake Hospital**
SITE LOCATION:	**29805 Pacific HWY S**
CITY, STATE	**Federal Way, Washington**
TGE PROJECT NO.:	**R13411.02**
LOGGED BY:	**T. Crump**
CLIENT:	**MultiCare Health System**
DATES DRILLED:	**8/24/17**

DRILLING INFORMATION

DRILLING CO.:	**Cascade Drilling**
DRILLER:	**F. Scott**
RIG TYPE:	**Truck Mounted Geoprobe**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**5' Plastic Sleeve**
TOTAL DEPTH:	**8**
SURFACE ELEVATION:	**---**



NOTES: - - -

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TGE RESOURCES, INC.

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(713) 744-5888 (fax)

BORING LOG

BOREHOLE NO.: **TVMP-2**
LATITUDE: **47.33521409**
LONGITUDE: **-122.30274039**
TOC ELEVATION: **---**

PROJECT INFORMATION

PROJECT NAME:	**Future Star Lake Hospital**
SITE LOCATION:	**29805 Pacific HWY S**
CITY, STATE	**Federal Way, Washington**
TGE PROJECT NO.:	**R13411.02**
LOGGED BY:	**T. Crump**
CLIENT:	**MultiCare Health System**
DATES DRILLED:	**8/24/17**

DRILLING INFORMATION

DRILLING CO.:	**Cascade Drilling**
DRILLER:	**F. Scott**
RIG TYPE:	**Truck Mounted Geoprobe**
METHOD OF DRILLING:	**Direct Push**
SAMPLING METHOD:	**5' Plastic Sleeve**
TOTAL DEPTH:	**8**
SURFACE ELEVATION:	**---**

DEPTH (in feet)	SAMPLE	% RECOVERY	ORGANIC VAPOR (ppm)	USCS	LITHOLOGIC DESCRIPTION	SOIL PROFILE	WELL CONSTRUCTION
0		30	0.0	SP	Asphalt Fill Material Gravelly Sand: dark brown to brown, moist, loose, medium-grained, some large gravel, poorly sorted		Chip bentonite
5		24	0.0	ML	Gravelly Silt: brown, fine-grained, moist		0.17 inch ID, high density polyethylene Teflon lined tubing with soil vapor filter implant Hydrated granular bentonite #20/40 Sand filter pack

NOTES: - - -

Boring logs should not be used separately from the original report.

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. SE63250 AE44792

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: **Niklexi LLC**

Site Address: **29805 Pacific Hwy S**

Consulting Firm: **TGE Resources**

City: **Federal Way** County: **King**

Unique Ecology Well ID

Tag No. _____

Location: 1/4 **NW** 1/4 **SW** Sec **4** TWN **21N** R **4E** [EWM] [WWM]

Lat/Long (s,t,r: Lat Deg x Lat Min/Sec x; Long Deg x Long Min/Sec x

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Tax Parcel No.: **0421049157**

[X] Driller [ ] Trainee Name (Print): **Frank Scott**

Driller/Trainee Signature: _____

Driller/Trainee License No.: **2549**

Cased or **Uncased** Diameter: 2 1/4" Static Level: WA

Work/Decommision Start Date: 8-24-17

If trainee, licesned drillers' Signature and License No.: _____

Work/Decommision Completed Date: 8-24-17

Construction/Design	Well Data 103-17-1400	Formation Description
CONCRETE SURFACE SEAL	1 FT	0 - 5 FT Fill
BACKFILL	7 FT Bent. Chips	05 - 8 FT Brown Silt
		0 - FT
DEPTH OF BORING	8 FT	

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. SE63250 AE44792

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: **Niklexi LLC**

Site Address: **29805 Pacific Hwy S**

Consulting Firm: **TGE Resources**

City: **Federal Way** County: **King**

EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 **NW** 1/4 **SW** Sec **4** TWN **21N** R **4E** WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r Lat Deg x Lat Min/Sec x

Long Deg x Long Min/Sec x

Tax Parcel No. **0421049157**

[X] Driller [ ] Trainee Name (Print) **Frank Scott**

Driller/Trainee Signature _____

Driller/Trainee License No. **2549**

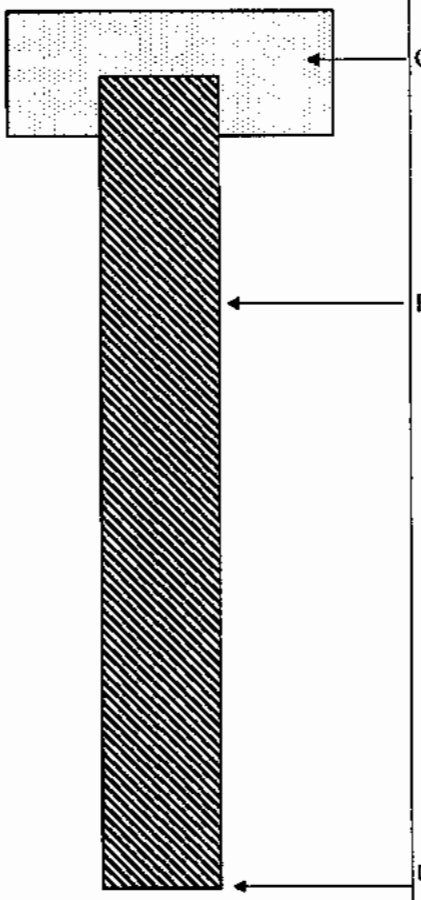
Cased or **Uncased** Diameter 2 1/4" Static Level wet

Work/Decommission Start Date 4-24-17

If trainee, licesned drillers' Signature and License No. _____

Work/Decommission Completed Date 4-24-17

Construction/Design — Well Data 103-17-1400 — Formation Description



CONCRETE SURFACE SEAL	1 FT	0 - 5 FT	Fill
BACKFILL	7 FT	05 - 8 FT	Brown Silt
Bent. Chips			
		0 - FT	
DEPTH OF BORING	8 FT		

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev. 2-01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE03364 AF44949

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: Niklexi LLC

Site Address: 29805 Pacific Hwy S

Consulting Firm: TGE Resources

City: Federal Way County: King

EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 NW 1/4 SW Sec 4 TWN 21N R 4E WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r Lat Deg x Lat Min/Sec x

Long Deg x Long Min/Sec x

Tax Parcel No. 0421049157

[X] Driller [ ] Trainee Name (Print) Frank Scott

Driller/Trainee Signature _____

Driller/Trainee License No. 2549

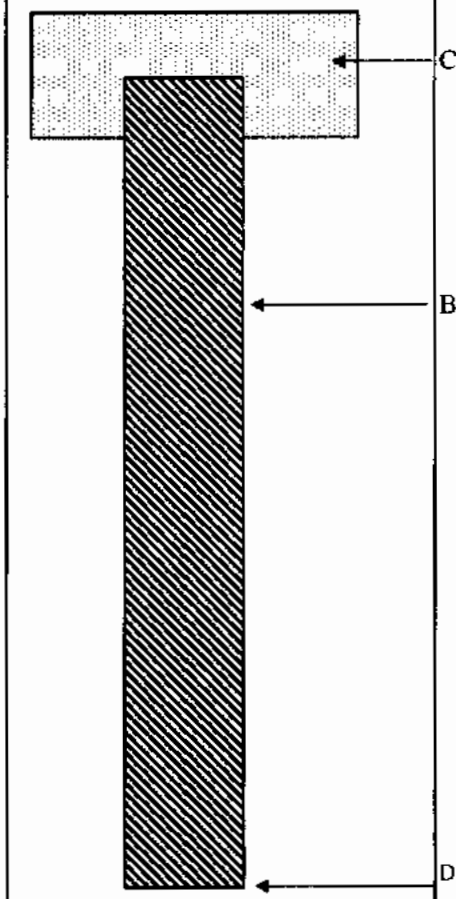
Cased or Uncased Diameter 2/4" Static Level N/A

Work/Decommision Start Date 8-24-17

If trainee, licesned drillers' Signature and License No. _____

Work/Decommision Completed Date 8-24-17

Construction/Design | Well Data 103-17-1400 | Formation Description



CONCRETE SURFACE SEAL — 1 FT

BACKFILL — 13 FT

Bent-chips

DEPTH OF BORING — 14 FT

Formation Description	
0 - 1	FT
Fill	
0 1 - 5	FT
Brown silt	
0 5 - 14	FT
Brown sand & gravels	

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2-01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. SE63364 AE44949

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: **Niklexi LLC**

Site Address: **29805 Pacific Hwy S**

Consulting Firm: **TGE Resources**

City: **Federal Way** County: **King**

EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 **NW** 1/4 **SW** Sec **4** TWN **21N** R **4E** WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r Lat Deg x Lat Min/Sec x

Long Deg x Long Min/Sec x

Tax Parcel No. **0421049157**

[X] Driller [ ] Trainee Name (Print) **Frank Scott**

Driller/Trainee Signature _____

Driller/Trainee License No. **2549**

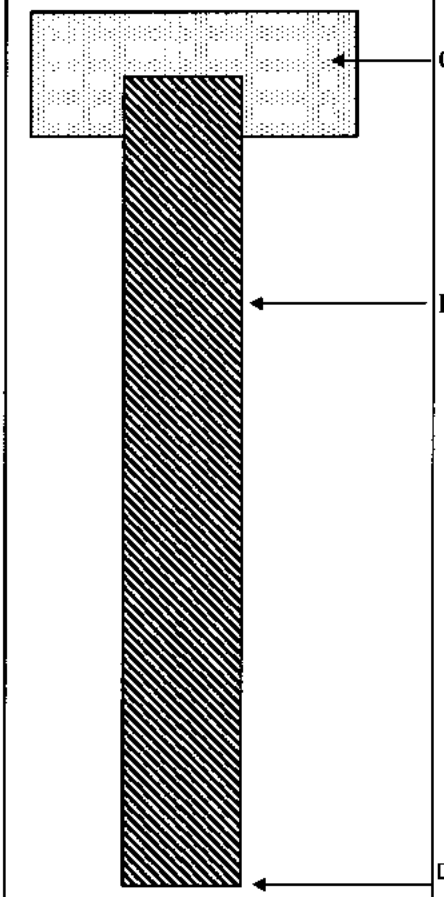
Cased or **Uncased** Diameter 2 4 0 Static Level N/A

Work/Decommision Start Date 8-24-17

If trainee, licesned drillers' Signature and License No. _____

Work/Decommision Completed Date 8-24-17

Construction/Design — Well Data 103-17-1400 — Formation Description



CONCRETE SURFACE SEAL — 1 FT

BACKFILL — 11 FT — Bent. chips

DEPTH OF BORING — 12 FT

Formation Description	
0 - 1 Fill	FT
01 - 5 Brown silt	FT
05 - 12 Brown Sand & gravels	FT

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. SE63364 AE44949

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: **Niklexi LLC**

Site Address: **29805 Pacific Hwy S**

Consulting Firm: **TGE Resources**

City: **Federal Way** County: **King**

FWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 **NW** 1/4 **SW** Sec **4** TWN **21N** R **4E** WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No. **0421049157**

[X] Driller [ ] Trainee Name (Print) **Frank Scott**

Driller/Trainee Signature _____

Driller/Trainee License No. **2549**

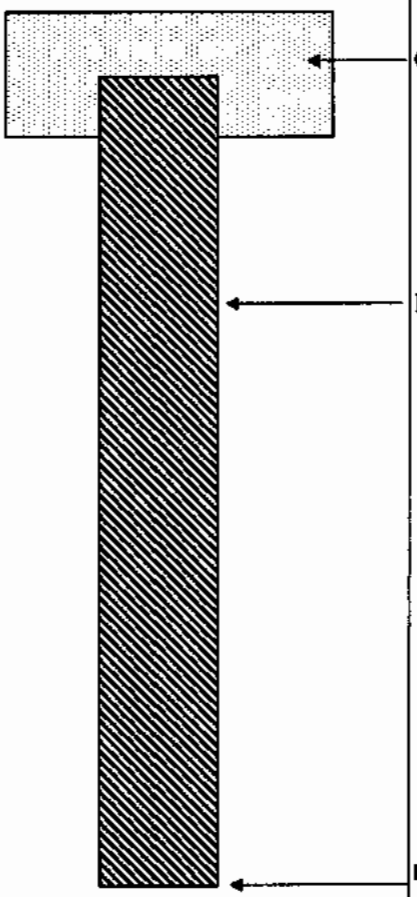
Cased or **Uncased** Diameter 2"/4" Static Level N/A

Work/Decommision Start Date 8-24-17

If trainee, licesned drillers' Signature and License No. _____

Work/Decommision Completed Date 8-24-17

Construction/Design | Well Data 103-17-1400 | Formation Description



CONCRETE SURFACE SEAL — 1 FT

BACKFILL — 14 FT — Bent. Chips

DEPTH OF BORING — 15 FT

0 - 1	FT	Fill
0 1 - 6	FT	Brown Silt
0 6 - 15	FT	Brown Sand & gravels

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev. 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT
Notice of Intent No. SE63364 AE44949

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: **Niklexi LLC**

Site Address: **29805 Pacific Hwy S**

Consulting Firm: **TGE Resources**

City: **Federal Way** County: **King**

EWM

Unique Ecology Well ID

Tag No. _____

Location: 1/4 **NW** 1/4 **SW** Sec **4** TWN **21N** R **4E** WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r: Lat Deg x Lat Min/Sec x Long Deg x Long Min/Sec x

Tax Parcel No.: **0421049157**

[X] Driller [ ] Trainee Name (Print): **Frank Scott**

Driller/Trainee Signature: Frank Scott

Driller/Trainee License No.: **2549**

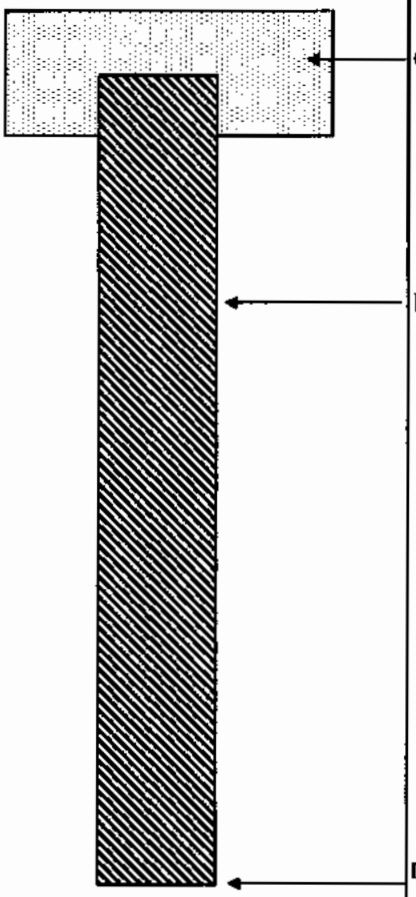
Cased or **Uncased** Diameter: 2¼" Static Level: N/A

Work/Decommision Start Date: 8-24-17

If trainee, licesned drillers' Signature and License No. _____

Work/Decommision Completed Date: 8-24-17

Construction/Design | Well Data 103-17-1400 | Formation Description



CONCRETE SURFACE SEAL — 1 FT

BACKFILL — 17 FT

Bentchips

DEPTH OF BORING — 18 FT

Formation Description	
0 - 1 Fill	FT
0 1 · 5 Brown silt	FT
0 5 · 18 Brown sand & gravels	FT

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev 2/01)

RESOURCE PROTECTION WELL REPORT

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

CURRENT

Notice of Intent No. SE633164 AE44949

Construction/Decommission

[X] Construction

[ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

Type of Well

[X] Resource Protection

[ ] Geotechnical Soil Boring

Property Owner: **Niklexi LLC**

Site Address: **29805 Pacific Hwy S**

Consulting Firm: **TGE Resources**

City: **Federal Way** County: **King**

EWM

Unique Ecology Well ID

Tag No. _____

Location 1/4 **NW** 1/4 **SW** Sec **4** TWN **21N** R **4E** WWM

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s,t,r Lat Deg x Lat Min/Sec x

Long Deg x Long Min/Sec x

Tax Parcel No. **0421049157**

[X] Driller [ ] Trainee Name (Print) **Frank Scott**

Driller/Trainee Signature _____

Driller/Trainee License No. **2549**

Cased or **Uncased** Diameter 2¼"

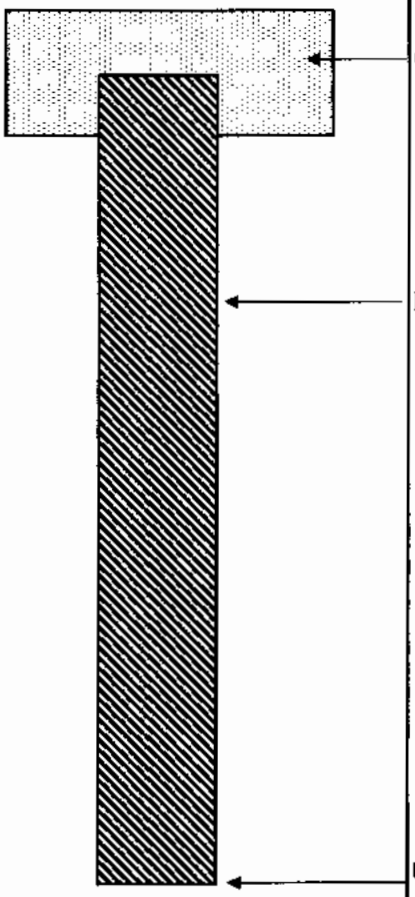
Static Level NA

Work/Decommision Start Date 8-24-17

If trainee, licesned drillers' Signature and License No. _____

Work/Decommision Completed Date 8-24-17

Construction/Design | Well Data 103-17-1400 | Formation Description



CONCRETE SURFACE SEAL — 1 FT

BACKFILL — 19 FT

Bentchips

DEPTH OF BORING — 20 FT

Formation Description:

0 - 17 FT — Fill

0 17-20 FT — Brown Sand & Gravels

0 - FT

Scale 1" = _____

Page _____ of _____

ECY 050-12 (Rev. 2/01)

APPENDIX C

ANALYTICAL REPORT

September 06, 2017

TGE Resources

Sample Delivery Group:	L931900
Samples Received:	08/25/2017
Project Number:	R13411.02
Description:	Future Star Lake Hospital

Report To: Kristi Barnette
8048 Northcourt Road
Houston, TX 77040

Entire Report Reviewed By:

Mark W. Beasley
Technical Service Representative

TABLE OF CONTENTS

SB-1 (5-6) L931900-01 Solid

Collected by: T. Crump | Collected date/time: 08/24/17 12:30 | Received date/time: 08/25/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1013720	1	08/25/17 15:30	08/25/17 15:51	JD
Wet Chemistry by Method 9045D	WG1014303	1	08/28/17 11:24	08/28/17 11:54	TH
Mercury by Method 7471A	WG1014160	1	08/28/17 06:52	08/28/17 10:52	ABL
Metals (ICP) by Method 6010B	WG1013813	1	08/26/17 08:29	08/28/17 00:30	ST
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1013846	1.1	08/24/17 12:30	08/26/17 06:11	LRL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1013822	1	08/24/17 12:30	08/26/17 20:37	ACG
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1013795	1	08/26/17 00:53	08/26/17 18:19	TH

SB-2 (2-3) L931900-02 Solid

Collected by: T. Crump | Collected date/time: 08/24/17 10:30 | Received date/time: 08/25/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1013720	1	08/25/17 15:30	08/25/17 15:51	JD
Mercury by Method 7471A	WG1014160	1	08/28/17 06:52	08/28/17 10:59	ABL
Metals (ICP) by Method 6010B	WG1013813	1	08/26/17 08:29	08/28/17 00:33	ST
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1013846	1.01	08/24/17 10:30	08/26/17 06:33	LRL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1013822	1.05	08/24/17 10:30	08/26/17 20:59	ACG
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1013795	1	08/26/17 00:53	08/26/17 17:27	TH

SB-3 (3-4) L931900-03 Solid

Collected by: T. Crump | Collected date/time: 08/24/17 15:30 | Received date/time: 08/25/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1013720	1	08/25/17 15:30	08/25/17 15:51	JD
Mercury by Method 7471A	WG1014160	1	08/28/17 06:52	08/28/17 11:02	ABL
Metals (ICP) by Method 6010B	WG1013813	1	08/26/17 08:29	08/28/17 00:35	ST
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1013846	1.12	08/24/17 15:30	08/26/17 06:55	LRL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1013822	1.04	08/24/17 15:30	08/26/17 21:20	ACG
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1013795	1	08/26/17 00:53	08/26/17 17:45	TH
Chlorinated Acid Herbicides (GC) by Method 8151	WG1015484	3	09/04/17 08:28	09/06/17 16:00	KLM
OP Pesticides by Method 8141	WG1013831	1	08/26/17 07:38	08/28/17 14:19	HMH
Pesticides (GC) by Method 8081	WG1013809	1	08/26/17 15:23	08/28/17 13:21	VKS

SB-4 (2-3) L931900-04 Solid

Collected by: T. Crump | Collected date/time: 08/24/17 11:30 | Received date/time: 08/25/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1013720	1	08/25/17 15:30	08/25/17 15:51	JD
Mercury by Method 7471A	WG1014160	1	08/28/17 06:52	08/28/17 11:04	ABL
Metals (ICP) by Method 6010B	WG1013813	1	08/26/17 08:29	08/28/17 00:38	ST
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1013846	1	08/24/17 11:30	08/26/17 07:17	LRL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1013822	1	08/24/17 11:30	08/26/17 21:41	ACG
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1013795	1	08/26/17 00:53	08/26/17 18:02	TH

TVMP-1 L931900-05 Air

Collected by: T. Crump | Collected date/time: 08/24/17 14:25 | Received date/time: 08/25/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1013960	2	08/26/17 15:12	08/26/17 15:12	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG1014295	25	08/28/17 14:17	08/28/17 14:17	MBF

TVMP-2 L931900-06 Air

Collected by: T. Crump
Collected date/time: 08/24/17 13:30
Received date/time: 08/25/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1013960	2	08/26/17 15:58	08/26/17 15:58	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG1014295	25	08/28/17 15:03	08/28/17 15:03	MBF

SB-5 (11-12) L931900-07 Solid

Collected by: T. Crump
Collected date/time: 08/24/17 16:45
Received date/time: 08/25/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1013720	1	08/25/17 15:30	08/25/17 15:51	JD
Mercury by Method 7471A	WG1014160	1	08/28/17 06:52	08/28/17 11:07	ABL
Metals (ICP) by Method 6010B	WG1013813	1	08/26/17 08:29	08/28/17 00:40	ST
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1013846	1.23	08/24/17 16:45	08/26/17 07:40	LRL
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1013822	1	08/24/17 16:45	08/26/17 22:02	ACG
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1013795	10	08/26/17 00:53	08/26/17 19:10	TH

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Technical Service Representative

This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

R1 - Field chain-of-custody documentation;

R2 - Sample identification cross-reference;

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

a. Items consistent with NELAC Chapter 5,

b. dilution factors,

c. preparation methods,

d. cleanup methods, and

e. if required for the project, tentatively identified compounds (TICs).

R4 - Surrogate recovery data including:

a. Calculated recovery (%R), and

b. The laboratory's surrogate QC limits.

R5 - Test reports/summary forms for blank samples;

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

a. LCS spiking amounts,

b. Calculated %R for each analyte, and

c. The laboratory's LCS QC limits.

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

a. Samples associated with the MS/MSD clearly identified,

b. MS/MSD spiking amounts,

c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d. Calculated %Rs and relative percent differences (RPDs), and

e. The laboratory's MS/MSD QC limits

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

a. The amount of analyte measured in the duplicate,

b. The calculated RPD, and

c. The laboratory's QC limits for analytical duplicates.

R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. 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 in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Mark W. Beasley
Technical Service Representative

Laboratory Review Checklist: Reportable Data

Laboratory Name: ESC Lab Sciences	LRC Date: 09/06/2017 17:39
Project Name: Future Star Lake Hospital	Laboratory Job Number: L931900-01, 02, 03, 04, 05, 06 and 07
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1013846, WG1013813, WG1013822, WG1013720, WG1013795, WG1013809, WG1014160, WG1013960, WG1013831, WG1014295, WG1015484 and WG1014303

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		X			1
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		X			2
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?	X				
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			3
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			4
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?		X			5
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			6
		Were MS/MSD RPDs within laboratory QC limits?		X			7
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

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Laboratory Review Checklist: Supporting Data

Laboratory Name: ESC Lab Sciences	LRC Date: 09/06/2017 17:39
Project Name: Future Star Lake Hospital	Laboratory Job Number: L931900-01, 02, 03, 04, 05, 06 and 07
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1013846, WG1013813, WG1013822, WG1013720, WG1013795, WG1013809, WG1014160, WG1013960, WG1013831, WG1014295, WG1015484 and WG1014303

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?	X				
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				

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Laboratory Review Checklist: Exception Reports

Laboratory Name: ESC Lab Sciences	LRC Date: 09/06/2017 17:39
Project Name: Future Star Lake Hospital	Laboratory Job Number: L931900-01, 02, 03, 04, 05, 06 and 07
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1013846, WG1013813, WG1013822, WG1013720, WG1013795, WG1013809, WG1014160, WG1013960, WG1013831, WG1014295, WG1015484 and WG1014303

ER #[1]	Description
1	9045D / WG1014303 L931900-01 and 3: Prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.
2	WG1015484 R3247236-3 and 2: The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
3	TO-15 WG1013960 1,4-Bromofluorobenzene L931900-05: Percent Recovery is outside of established control limits.
4	8151 WG1015484 MCPA, MCPP: Percent Recovery is outside of established control limits. 8260C WG1013822 Bromobenzene, 4-Chlorotoluene, 1,2-Dichloroethane: Percent Recovery is outside of established control limits.
5	8151 WG1015484 2,4,5-T: Relative Percent Difference is outside of established control limits.
6	NWTPHDX-NO SGT WG1013795 Residual Range Organics (RRO): Percent Recovery is outside of established control limits. 8260C WG1013822 Benzene, Bromobenzene, Bromodichloromethane, Bromoform, n-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Carbon tetrachloride, Chlorobenzene, Chlorodibromomethane, Chloroform, 2-Chlorotoluene, 4-Chlorotoluene, 1,2-Dibromo-3-Chloropropane, 1,2-Dibromoethane, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,1-Dichloropropene, 1,3-Dichloropropane, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, 2,2-Dichloropropane, Di-isopropyl ether, Ethylbenzene, Hexachloro-1,3-butadiene, Isopropylbenzene, p-Isopropyltoluene, Methylene Chloride, Methyl tert-butyl ether, Naphthalene, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Toluene, 1,1,2-Trichlorotrifluoroethane, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethene, Trichlorofluoromethane, 1,2,3-Trichloropropane, 1,2,3-Trimethylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Vinyl chloride, Xylenes, Total: Percent Recovery is outside of established control limits.
7	8260C WG1013822 Acetone, Acrylonitrile, Benzene, Bromobenzene, Bromodichloromethane, Bromoform, Bromomethane, n-Butylbenzene, sec-Butylbenzene, tert-Butylbenzene, Carbon tetrachloride, Chlorobenzene, Chlorodibromomethane, Chloroethane, Chloroform, Chloromethane, 2-Chlorotoluene, 4-Chlorotoluene, 1,2-Dibromo-3-Chloropropane, 1,2-Dibromoethane, Dibromomethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethene, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,1-Dichloropropene, 1,3-Dichloropropane, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, 2,2-Dichloropropane, Di-isopropyl ether, Ethylbenzene, Hexachloro-1,3-butadiene, Isopropylbenzene, p-Isopropyltoluene, 2-Butanone (MEK), Methylene Chloride, 4-Methyl-2-pentanone (MIBK), Methyl tert-butyl ether, Naphthalene, n-Propylbenzene, Styrene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Toluene, 1,1,2-Trichlorotrifluoroethane, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethene, Trichlorofluoromethane, 1,2,3-Trichloropropane, 1,2,3-Trimethylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Vinyl chloride, Xylenes, Total: Relative Percent Difference is outside of established control limits. NWTPHGX WG1013846 Gasoline Range Organics-NWTPH: Relative Percent Difference is outside of established control limits.

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Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.5		1	08/25/2017 15:51	WG1013720

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	3.87	T8	1	08/28/2017 11:54	WG1014303

Sample Narrative:

L931900-01 WG1014303: 3.87 at 20.0c

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.00842	J	0.00293	0.0200	0.0209	1	08/28/2017 10:52	WG1014160

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	1.44	J	0.681	2.00	2.09	1	08/28/2017 00:30	WG1013813
Barium	47.5		0.178	0.500	0.524	1	08/28/2017 00:30	WG1013813
Cadmium	U		0.0733	0.500	0.524	1	08/28/2017 00:30	WG1013813
Chromium	20.7		0.147	1.00	1.05	1	08/28/2017 00:30	WG1013813
Lead	2.45		0.199	0.500	0.524	1	08/28/2017 00:30	WG1013813
Selenium	U		0.775	2.00	2.09	1	08/28/2017 00:30	WG1013813
Silver	U		0.293	1.00	1.05	1	08/28/2017 00:30	WG1013813

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	0.0422	J	0.0391	0.100	0.115	1.1	08/26/2017 06:11	WG1013846
(S) a,a,a-Trifluorotoluene(FID)	*99.5*				*77.0-120*		*08/26/2017 06:11*	WG1013846

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	0.0359	J	0.0105	0.0500	0.0524	1	08/26/2017 20:37	WG1013822
Acrylonitrile	U		0.00187	0.0100	0.0105	1	08/26/2017 20:37	WG1013822
Benzene	U		0.000283	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Bromobenzene	U	J4	0.000297	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Bromodichloromethane	U		0.000266	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Bromoform	U		0.000444	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Bromomethane	U		0.00140	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
n-Butylbenzene	U		0.000270	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
sec-Butylbenzene	U		0.000211	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
tert-Butylbenzene	U		0.000216	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Carbon tetrachloride	U		0.000344	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Chlorobenzene	U		0.000222	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Chlorodibromomethane	U		0.000391	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Chloroethane	U		0.000991	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
Chloroform	U		0.000240	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
Chloromethane	U		0.000393	0.00250	0.00262	1	08/26/2017 20:37	WG1013822
2-Chlorotoluene	U		0.000315	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
4-Chlorotoluene	U	J4	0.000251	0.00100	0.00105	1	08/26/2017 20:37	WG1013822

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,2-Dibromo-3-Chloropropane	U		0.00110	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
1,2-Dibromoethane	U		0.000359	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Dibromomethane	U		0.000400	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,2-Dichlorobenzene	U		0.000319	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,3-Dichlorobenzene	U		0.000250	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,4-Dichlorobenzene	U		0.000237	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Dichlorodifluoromethane	U		0.000747	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
1,1-Dichloroethane	U		0.000208	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,2-Dichloroethane	U	J4	0.000278	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,1-Dichloroethene	U		0.000317	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
cis-1,2-Dichloroethene	U		0.000246	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
trans-1,2-Dichloroethene	U		0.000277	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,2-Dichloropropane	U		0.000375	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,1-Dichloropropene	U		0.000332	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,3-Dichloropropane	U		0.000217	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
cis-1,3-Dichloropropene	U		0.000274	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
trans-1,3-Dichloropropene	U		0.000280	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
2,2-Dichloropropane	U		0.000292	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Di-isopropyl ether	U		0.000260	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Ethylbenzene	U		0.000311	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Hexachloro-1,3-butadiene	U		0.000358	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Isopropylbenzene	U		0.000255	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
p-Isopropyltoluene	U		0.000214	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
2-Butanone (MEK)	0.00640	J	0.00490	0.0100	0.0105	1	08/26/2017 20:37	WG1013822
Methylene Chloride	U		0.00105	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
4-Methyl-2-pentanone (MIBK)	U		0.00197	0.0100	0.0105	1	08/26/2017 20:37	WG1013822
Methyl tert-butyl ether	U		0.000222	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Naphthalene	U		0.00105	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
n-Propylbenzene	U		0.000216	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Styrene	U		0.000245	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,1,1,2-Tetrachloroethane	U		0.000277	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,1,2,2-Tetrachloroethane	U		0.000382	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,1,2-Trichlorotrifluoroethane	U		0.000382	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Tetrachloroethene	U		0.000289	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Toluene	U		0.000455	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
1,2,3-Trichlorobenzene	U		0.000320	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,2,4-Trichlorobenzene	U		0.000406	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,1,1-Trichloroethane	U		0.000300	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,1,2-Trichloroethane	U		0.000290	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Trichloroethene	U		0.000292	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Trichlorofluoromethane	U		0.000400	0.00500	0.00524	1	08/26/2017 20:37	WG1013822
1,2,3-Trichloropropane	U		0.000776	0.00250	0.00262	1	08/26/2017 20:37	WG1013822
1,2,4-Trimethylbenzene	U		0.000221	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,2,3-Trimethylbenzene	U		0.000301	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Vinyl chloride	U		0.000305	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
1,3,5-Trimethylbenzene	U		0.000279	0.00100	0.00105	1	08/26/2017 20:37	WG1013822
Xylenes, Total	U		0.000731	0.00300	0.00314	1	08/26/2017 20:37	WG1013822
(S) Toluene-d8	*93.6*				*80.0-120*		*08/26/2017 20:37*	WG1013822
(S) Dibromofluoromethane	*119*				*74.0-131*		*08/26/2017 20:37*	WG1013822
(S) 4-Bromofluorobenzene	*105*				*64.0-132*		*08/26/2017 20:37*	WG1013822

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	16.9		1.40	4.00	4.19	1	08/26/2017 18:19	WG1013795
Residual Range Organics (RRO)	170	V	3.49	10.0	10.5	1	08/26/2017 18:19	WG1013795

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) o-Terphenyl	*80.0*				*18.0-148*		*08/26/2017 18:19*	WG1013795

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.1		1	08/25/2017 15:51	WG1013720

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.0802		0.00325	0.0200	0.0232	1	08/28/2017 10:59	WG1014160

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	14.0		0.755	2.00	2.32	1	08/28/2017 00:33	WG1013813
Barium	119		0.197	0.500	0.581	1	08/28/2017 00:33	WG1013813
Cadmium	0.317	J	0.0813	0.500	0.581	1	08/28/2017 00:33	WG1013813
Chromium	21.3		0.163	1.00	1.16	1	08/28/2017 00:33	WG1013813
Lead	34.2		0.221	0.500	0.581	1	08/28/2017 00:33	WG1013813
Selenium	U		0.859	2.00	2.32	1	08/28/2017 00:33	WG1013813
Silver	U		0.325	1.00	1.16	1	08/28/2017 00:33	WG1013813

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	0.0439	J	0.0398	0.100	0.117	1.01	08/26/2017 06:33	WG1013846
(S) a,a,a-Trifluorotoluene(FID)	*100*				*77.0-120*		*08/26/2017 06:33*	WG1013846

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	0.326		0.0122	0.0500	0.0610	1.05	08/26/2017 20:59	WG1013822
Acrylonitrile	U		0.00218	0.0100	0.0122	1.05	08/26/2017 20:59	WG1013822
Benzene	U		0.000329	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Bromobenzene	U	J4	0.000346	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Bromodichloromethane	U		0.000310	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Bromoform	U		0.000517	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Bromomethane	U		0.00163	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
n-Butylbenzene	U		0.000315	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
sec-Butylbenzene	U		0.000245	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
tert-Butylbenzene	U		0.000251	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Carbon tetrachloride	U		0.000400	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Chlorobenzene	U		0.000258	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Chlorodibromomethane	U		0.000455	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Chloroethane	U		0.00115	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
Chloroform	U		0.000279	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
Chloromethane	U		0.000457	0.00250	0.00305	1.05	08/26/2017 20:59	WG1013822
2-Chlorotoluene	U		0.000367	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
4-Chlorotoluene	U	J4	0.000293	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,2-Dibromo-3-Chloropropane	U		0.00128	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
1,2-Dibromoethane	U		0.000418	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Dibromomethane	U		0.000466	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,2-Dichlorobenzene	U		0.000372	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,3-Dichlorobenzene	U		0.000291	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,4-Dichlorobenzene	U		0.000276	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Dichlorodifluoromethane	U		0.000869	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
1,1-Dichloroethane	U		0.000243	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,2-Dichloroethane	U	J4	0.000323	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000369	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
cis-1,2-Dichloroethene	U		0.000286	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
trans-1,2-Dichloroethene	U		0.000322	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,2-Dichloropropane	U		0.000436	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,1-Dichloropropene	U		0.000386	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,3-Dichloropropane	U		0.000252	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
cis-1,3-Dichloropropene	U		0.000319	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
trans-1,3-Dichloropropene	U		0.000325	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
2,2-Dichloropropane	U		0.000340	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Di-isopropyl ether	U		0.000302	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Ethylbenzene	U		0.000362	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Hexachloro-1,3-butadiene	U		0.000417	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Isopropylbenzene	U		0.000296	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
p-Isopropyltoluene	U		0.000249	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
2-Butanone (MEK)	0.0129		0.00571	0.0100	0.0122	1.05	08/26/2017 20:59	WG1013822
Methylene Chloride	U		0.00122	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
4-Methyl-2-pentanone (MIBK)	U		0.00229	0.0100	0.0122	1.05	08/26/2017 20:59	WG1013822
Methyl tert-butyl ether	U		0.000258	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Naphthalene	U		0.00122	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
n-Propylbenzene	U		0.000251	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Styrene	U		0.000285	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,1,1,2-Tetrachloroethane	U		0.000322	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,1,2,2-Tetrachloroethane	U		0.000445	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,1,2-Trichlorotrifluoroethane	U		0.000445	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Tetrachloroethene	U		0.000336	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Toluene	U		0.000529	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
1,2,3-Trichlorobenzene	U		0.000373	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,2,4-Trichlorobenzene	U		0.000473	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,1,1-Trichloroethane	U		0.000349	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,1,2-Trichloroethane	U		0.000338	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Trichloroethene	U		0.000340	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Trichlorofluoromethane	U		0.000466	0.00500	0.00610	1.05	08/26/2017 20:59	WG1013822
1,2,3-Trichloropropane	U		0.000903	0.00250	0.00305	1.05	08/26/2017 20:59	WG1013822
1,2,4-Trimethylbenzene	U		0.000257	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,2,3-Trimethylbenzene	U		0.000350	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Vinyl chloride	U		0.000355	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
1,3,5-Trimethylbenzene	U		0.000324	0.00100	0.00122	1.05	08/26/2017 20:59	WG1013822
Xylenes, Total	U		0.000851	0.00300	0.00366	1.05	08/26/2017 20:59	WG1013822
(S) Toluene-d8	*94.5*				*80.0-120*		*08/26/2017 20:59*	WG1013822
(S) Dibromofluoromethane	*116*				*74.0-131*		*08/26/2017 20:59*	WG1013822
(S) 4-Bromofluorobenzene	*101*				*64.0-132*		*08/26/2017 20:59*	WG1013822

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	6.37		1.55	4.00	4.64	1	08/26/2017 17:27	WG1013795
Residual Range Organics (RRO)	45.1		3.87	10.0	11.6	1	08/26/2017 17:27	WG1013795
(S) o-Terphenyl	*61.1*				*18.0-148*		*08/26/2017 17:27*	WG1013795

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.5		1	08/25/2017 15:51	WG1013720

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.0285		0.00316	0.0200	0.0226	1	08/28/2017 11:02	WG1014160

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	4.40		0.734	2.00	2.26	1	08/28/2017 00:35	WG1013813
Barium	126		0.192	0.500	0.565	1	08/28/2017 00:35	WG1013813
Cadmium	0.132	J	0.0791	0.500	0.565	1	08/28/2017 00:35	WG1013813
Chromium	27.5		0.158	1.00	1.13	1	08/28/2017 00:35	WG1013813
Lead	13.2		0.215	0.500	0.565	1	08/28/2017 00:35	WG1013813
Selenium	U		0.836	2.00	2.26	1	08/28/2017 00:35	WG1013813
Silver	U		0.316	1.00	1.13	1	08/28/2017 00:35	WG1013813

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.0429	0.100	0.127	1.12	08/26/2017 06:55	WG1013846
(S) a,a,a-Trifluorotoluene(FID)	*98.5*				*77.0-120*		*08/26/2017 06:55*	WG1013846

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	0.121		0.0118	0.0500	0.0588	1.04	08/26/2017 21:20	WG1013822
Acrylonitrile	U		0.00210	0.0100	0.0118	1.04	08/26/2017 21:20	WG1013822
Benzene	0.000351	J	0.000317	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Bromobenzene	U	J4	0.000334	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Bromodichloromethane	U		0.000298	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Bromoform	U		0.000498	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Bromomethane	U		0.00157	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
n-Butylbenzene	U		0.000303	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
sec-Butylbenzene	U		0.000236	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
tert-Butylbenzene	U		0.000242	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Carbon tetrachloride	U		0.000385	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Chlorobenzene	U		0.000249	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Chlorodibromomethane	U		0.000438	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Chloroethane	U		0.00111	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
Chloroform	U		0.000269	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
Chloromethane	U		0.000441	0.00250	0.00294	1.04	08/26/2017 21:20	WG1013822
2-Chlorotoluene	U		0.000354	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
4-Chlorotoluene	U	J4	0.000282	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,2-Dibromo-3-Chloropropane	U		0.00123	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
1,2-Dibromoethane	U		0.000403	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Dibromomethane	U		0.000449	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,2-Dichlorobenzene	U		0.000358	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,3-Dichlorobenzene	U		0.000281	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,4-Dichlorobenzene	U		0.000266	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Dichlorodifluoromethane	U		0.000838	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
1,1-Dichloroethane	U		0.000234	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,2-Dichloroethane	U	J4	0.000311	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000356	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
cis-1,2-Dichloroethene	U		0.000276	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
trans-1,2-Dichloroethene	U		0.000310	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,2-Dichloropropane	U		0.000421	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,1-Dichloropropene	U		0.000373	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,3-Dichloropropane	U		0.000243	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
cis-1,3-Dichloropropene	U		0.000308	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
trans-1,3-Dichloropropene	U		0.000314	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
2,2-Dichloropropane	U		0.000328	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Di-isopropyl ether	U		0.000291	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Ethylbenzene	U		0.000349	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Hexachloro-1,3-butadiene	U		0.000402	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Isopropylbenzene	U		0.000286	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
p-Isopropyltoluene	U		0.000240	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
2-Butanone (MEK)	0.0162		0.00550	0.0100	0.0118	1.04	08/26/2017 21:20	WG1013822
Methylene Chloride	U		0.00118	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
4-Methyl-2-pentanone (MIBK)	U		0.00221	0.0100	0.0118	1.04	08/26/2017 21:20	WG1013822
Methyl tert-butyl ether	U		0.000249	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Naphthalene	U		0.00118	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
n-Propylbenzene	U		0.000242	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Styrene	U		0.000275	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,1,1,2-Tetrachloroethane	U		0.000310	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,1,2,2-Tetrachloroethane	U		0.000429	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,1,2-Trichlorotrifluoroethane	U		0.000429	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Tetrachloroethene	U		0.000324	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Toluene	U		0.000510	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
1,2,3-Trichlorobenzene	U		0.000360	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,2,4-Trichlorobenzene	U		0.000456	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,1,1-Trichloroethane	U		0.000336	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,1,2-Trichloroethane	U		0.000326	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Trichloroethene	U		0.000328	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Trichlorofluoromethane	U		0.000449	0.00500	0.00588	1.04	08/26/2017 21:20	WG1013822
1,2,3-Trichloropropane	U		0.000871	0.00250	0.00294	1.04	08/26/2017 21:20	WG1013822
1,2,4-Trimethylbenzene	U		0.000248	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,2,3-Trimethylbenzene	U		0.000337	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Vinyl chloride	U		0.000342	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
1,3,5-Trimethylbenzene	U		0.000313	0.00100	0.00118	1.04	08/26/2017 21:20	WG1013822
Xylenes, Total	U		0.000820	0.00300	0.00353	1.04	08/26/2017 21:20	WG1013822
(S) Toluene-d8	*94.7*				*80.0-120*		*08/26/2017 21:20*	WG1013822
(S) Dibromofluoromethane	*115*				*74.0-131*		*08/26/2017 21:20*	WG1013822
(S) 4-Bromofluorobenzene	*104*				*64.0-132*		*08/26/2017 21:20*	WG1013822

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	11.3		1.51	4.00	4.52	1	08/26/2017 17:45	WG1013795
Residual Range Organics (RRO)	51.1		3.77	10.0	11.3	1	08/26/2017 17:45	WG1013795
(S) o-Terphenyl	*88.6*				*18.0-148*		*08/26/2017 17:45*	WG1013795

Chlorinated Acid Herbicides (GC) by Method 8151

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
2,4-D	U		0.0238	0.0700	0.237	3	09/06/2017 16:00	WG1015484
Dalapon	U		0.0383	0.0700	0.237	3	09/06/2017 16:00	WG1015484
2,4-DB	U		0.101	0.0700	0.237	3	09/06/2017 16:00	WG1015484
Dicamba	U		0.0532	0.0700	0.237	3	09/06/2017 16:00	WG1015484
Dichloroprop	U		0.0830	0.0700	0.237	3	09/06/2017 16:00	WG1015484
Dinoseb	U		0.0236	0.0700	0.237	3	09/06/2017 16:00	WG1015484
MCPA	U	J4	1.50	6.50	22.0	3	09/06/2017 16:00	WG1015484
MCPP	U	J4	1.24	6.50	22.0	3	09/06/2017 16:00	WG1015484
2,4,5-T	U	J3	0.0289	0.0700	0.237	3	09/06/2017 16:00	WG1015484
2,4,5-TP (Silvex)	U		0.0363	0.0700	0.237	3	09/06/2017 16:00	WG1015484
(S) 2,4-Dichlorophenyl Acetic Acid	*83.4*				*22.0-132*		*09/06/2017 16:00*	WG1015484

OP Pesticides by Method 8141

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Azinphos-Methyl	U		0.00427	0.100	0.113	1	08/28/2017 14:19	WG1013831
Bolstar (Sulprofos)	U		0.00626	0.100	0.113	1	08/28/2017 14:19	WG1013831
Chlorpyrifos	U		0.0104	0.100	0.113	1	08/28/2017 14:19	WG1013831
Coumaphos	U		0.00768	0.100	0.113	1	08/28/2017 14:19	WG1013831
Demeton,-O and -S	U		0.00383	0.0700	0.0791	1	08/28/2017 14:19	WG1013831
Diazinon	U		0.00505	0.100	0.113	1	08/28/2017 14:19	WG1013831
Dichlorvos	U		0.0109	0.100	0.113	1	08/28/2017 14:19	WG1013831
Dimethoate	U		0.0224	0.100	0.113	1	08/28/2017 14:19	WG1013831
Disulfoton	U		0.00563	0.100	0.113	1	08/28/2017 14:19	WG1013831
EPN	U		0.00579	0.100	0.113	1	08/28/2017 14:19	WG1013831
Ethoprop	U		0.00525	0.100	0.113	1	08/28/2017 14:19	WG1013831
Ethyl Parathion	U		0.00645	0.100	0.113	1	08/28/2017 14:19	WG1013831
Fensulfothion	U		0.0191	0.100	0.113	1	08/28/2017 14:19	WG1013831
Fenthion	U		0.00687	0.100	0.113	1	08/28/2017 14:19	WG1013831
Malathion	U		0.00791	0.100	0.113	1	08/28/2017 14:19	WG1013831
Merphos	U		0.00609	0.100	0.113	1	08/28/2017 14:19	WG1013831
Methyl parathion	U		0.00756	0.100	0.113	1	08/28/2017 14:19	WG1013831
Mevinphos	U		0.0115	0.100	0.113	1	08/28/2017 14:19	WG1013831
Naled	U		0.00472	0.100	0.113	1	08/28/2017 14:19	WG1013831
Phorate	U		0.00532	0.100	0.113	1	08/28/2017 14:19	WG1013831
Ronnel	U		0.00494	0.100	0.113	1	08/28/2017 14:19	WG1013831
Stirophos	U		0.00607	0.100	0.113	1	08/28/2017 14:19	WG1013831
Sulfotep	U		0.00436	0.100	0.113	1	08/28/2017 14:19	WG1013831
TEPP	U		0.177	1.00	1.13	1	08/28/2017 14:19	WG1013831
Tokuthion (Prothothiofos)	U		0.00682	0.100	0.113	1	08/28/2017 14:19	WG1013831
Trichloronate	U		0.00750	0.100	0.113	1	08/28/2017 14:19	WG1013831
(S) Triphenyl Phosphate	*70.9*				*44.0-120*		*08/28/2017 14:19*	WG1013831

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Aldrin	U		0.00153	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Alpha BHC	U		0.00154	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Beta BHC	U		0.00181	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Delta BHC	U		0.00162	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Gamma BHC	U		0.00164	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Chlordane	U		0.0441	0.200	0.226	1	08/28/2017 13:21	WG1013809
4,4-DDD	U		0.00176	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
4,4-DDE	U		0.00174	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
4,4-DDT	U		0.00226	0.0200	0.0226	1	08/28/2017 13:21	WG1013809

Pesticides (GC) by Method 8081

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Dieldrin	U		0.00172	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Endosulfan I	U		0.00168	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Endosulfan II	U		0.00181	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Endosulfan sulfate	U		0.00171	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Endrin	U		0.00177	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Endrin aldehyde	U		0.00146	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Endrin ketone	U		0.00186	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Hexachlorobenzene	U		0.00140	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Heptachlor	U		0.00174	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Heptachlor epoxide	U		0.00182	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Methoxychlor	U		0.00201	0.0200	0.0226	1	08/28/2017 13:21	WG1013809
Toxaphene	U		0.0407	0.400	0.452	1	08/28/2017 13:21	WG1013809
(S) Decachlorobiphenyl	*80.1*				*10.0-148*		*08/28/2017 13:21*	WG1013809
(S) Tetrachloro-m-xylene	*82.2*				*21.0-146*		*08/28/2017 13:21*	WG1013809

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.6		1	08/25/2017 15:51	WG1013720

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.00903	J	0.00293	0.0200	0.0209	1	08/28/2017 11:04	WG1014160

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	2.68		0.680	2.00	2.09	1	08/28/2017 00:38	WG1013813
Barium	50.2		0.178	0.500	0.523	1	08/28/2017 00:38	WG1013813
Cadmium	U		0.0732	0.500	0.523	1	08/28/2017 00:38	WG1013813
Chromium	22.0		0.146	1.00	1.05	1	08/28/2017 00:38	WG1013813
Lead	2.90		0.199	0.500	0.523	1	08/28/2017 00:38	WG1013813
Selenium	U		0.774	2.00	2.09	1	08/28/2017 00:38	WG1013813
Silver	U		0.293	1.00	1.05	1	08/28/2017 00:38	WG1013813

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.0355	0.100	0.105	1	08/26/2017 07:17	WG1013846
(S) a,a,a-Trifluorotoluene(FID)	*98.7*				*77.0-120*		*08/26/2017 07:17*	WG1013846

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	0.0162	J	0.0105	0.0500	0.0523	1	08/26/2017 21:41	WG1013822
Acrylonitrile	U		0.00187	0.0100	0.0105	1	08/26/2017 21:41	WG1013822
Benzene	U		0.000282	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Bromobenzene	U	J4	0.000297	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Bromodichloromethane	U		0.000266	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Bromoform	U		0.000444	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Bromomethane	U		0.00140	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
n-Butylbenzene	U		0.000270	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
sec-Butylbenzene	U		0.000210	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
tert-Butylbenzene	U		0.000215	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Carbon tetrachloride	U		0.000343	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Chlorobenzene	U		0.000222	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Chlorodibromomethane	U		0.000390	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Chloroethane	U		0.000990	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
Chloroform	U		0.000240	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
Chloromethane	U		0.000392	0.00250	0.00261	1	08/26/2017 21:41	WG1013822
2-Chlorotoluene	U		0.000315	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
4-Chlorotoluene	U	J4	0.000251	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,2-Dibromo-3-Chloropropane	U		0.00110	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
1,2-Dibromoethane	U		0.000359	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Dibromomethane	U		0.000400	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,2-Dichlorobenzene	U		0.000319	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,3-Dichlorobenzene	U		0.000250	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,4-Dichlorobenzene	U		0.000236	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Dichlorodifluoromethane	U		0.000746	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
1,1-Dichloroethane	U		0.000208	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,2-Dichloroethane	U	J4	0.000277	0.00100	0.00105	1	08/26/2017 21:41	WG1013822

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000317	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
cis-1,2-Dichloroethene	U		0.000246	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
trans-1,2-Dichloroethene	U		0.000276	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,2-Dichloropropane	U		0.000374	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,1-Dichloropropene	U		0.000332	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,3-Dichloropropane	U		0.000217	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
cis-1,3-Dichloropropene	U		0.000274	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
trans-1,3-Dichloropropene	U		0.000279	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
2,2-Dichloropropane	U		0.000292	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Di-isopropyl ether	U		0.000259	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Ethylbenzene	U		0.000311	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Hexachloro-1,3-butadiene	U		0.000358	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Isopropylbenzene	U		0.000254	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
p-Isopropyltoluene	U		0.000213	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
2-Butanone (MEK)	U		0.00490	0.0100	0.0105	1	08/26/2017 21:41	WG1013822
Methylene Chloride	U		0.00105	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
4-Methyl-2-pentanone (MIBK)	U		0.00197	0.0100	0.0105	1	08/26/2017 21:41	WG1013822
Methyl tert-butyl ether	U		0.000222	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Naphthalene	U		0.00105	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
n-Propylbenzene	U		0.000215	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Styrene	U		0.000245	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,1,1,2-Tetrachloroethane	U		0.000276	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,1,2,2-Tetrachloroethane	U		0.000382	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,1,2-Trichlorotrifluoroethane	U		0.000382	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Tetrachloroethene	U		0.000289	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Toluene	U		0.000454	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
1,2,3-Trichlorobenzene	U		0.000320	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,2,4-Trichlorobenzene	U		0.000406	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,1,1-Trichloroethane	U		0.000299	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,1,2-Trichloroethane	U		0.000290	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Trichloroethene	U		0.000292	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Trichlorofluoromethane	U		0.000400	0.00500	0.00523	1	08/26/2017 21:41	WG1013822
1,2,3-Trichloropropane	U		0.000775	0.00250	0.00261	1	08/26/2017 21:41	WG1013822
1,2,4-Trimethylbenzene	U		0.000221	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,2,3-Trimethylbenzene	U		0.000300	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Vinyl chloride	U		0.000304	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
1,3,5-Trimethylbenzene	U		0.000278	0.00100	0.00105	1	08/26/2017 21:41	WG1013822
Xylenes, Total	U		0.000730	0.00300	0.00314	1	08/26/2017 21:41	WG1013822
(S) Toluene-d8	*93.6*				*80.0-120*		*08/26/2017 21:41*	WG1013822
(S) Dibromofluoromethane	*118*				*74.0-131*		*08/26/2017 21:41*	WG1013822
(S) 4-Bromofluorobenzene	*101*				*64.0-132*		*08/26/2017 21:41*	WG1013822

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		1.39	4.00	4.18	1	08/26/2017 18:02	WG1013795
Residual Range Organics (RRO)	6.49	J	3.49	10.0	10.5	1	08/26/2017 18:02	WG1013795
(S) o-Terphenyl	*129*				*18.0-148*		*08/26/2017 18:02*	WG1013795

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	49.7	118		2	WG1013960
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1013960
Benzene	71-43-2	78.10	0.400	1.28	8.19	26.2		2	WG1013960
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1013960
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1013960
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1013960
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1013960
1,3-Butadiene	106-99-0	54.10	4.00	8.85	24.7	54.7		2	WG1013960
Carbon disulfide	75-15-0	76.10	0.400	1.24	3.10	9.65		2	WG1013960
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1013960
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1013960
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1013960
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG1013960
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG1013960
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1013960
Cyclohexane	110-82-7	84.20	0.400	1.38	16.1	55.5		2	WG1013960
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1013960
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1013960
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1013960
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	11.9	71.6		2	WG1013960
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1013960
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1013960
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1013960
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1013960
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	0.825	3.27		2	WG1013960
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1013960
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1013960
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1013960
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1013960
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1013960
Ethanol	64-17-5	46.10	1.26	2.38	10.4	19.7		2	WG1013960
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1013960
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1013960
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1013960
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	1.00	4.95		2	WG1013960
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1013960
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1013960
Heptane	142-82-5	100	0.400	1.64	14.2	58.3		2	WG1013960
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1013960
n-Hexane	110-54-3	86.20	0.400	1.41	33.9	120		2	WG1013960
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1013960
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1013960
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1013960
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	8.59	25.3		2	WG1013960
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1013960
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1013960
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1013960
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1013960
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1013960
Propene	115-07-1	42.10	10.0	17.2	653	1120		25	WG1014295
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1013960
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1013960
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1013960
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1013960
Toluene	108-88-3	92.10	0.400	1.51	6.73	25.4		2	WG1013960
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1013960

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1013960
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1013960
Trichloroethylene	79-01-6	131	0.400	2.14	0.524	2.81		2	WG1013960
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	0.699	3.43		2	WG1013960
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1013960
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG1013960
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1013960
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1013960
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1013960
m&p-Xylene	1330-20-7	106	0.800	3.47	1.52	6.58		2	WG1013960
o-Xylene	95-47-6	106	0.400	1.73	0.599	2.60		2	WG1013960
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*122*				WG1014295
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*340*		J1		WG1013960

Sample Narrative:

L931900-05 WG1013960: Surrogate failure due to matrix interference.

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	11.1	26.3		2	WG1013960
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG1013960
Benzene	71-43-2	78.10	0.400	1.28	2.33	7.46		2	WG1013960
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG1013960
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG1013960
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG1013960
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG1013960
1,3-Butadiene	106-99-0	54.10	4.00	8.85	11.1	24.6		2	WG1013960
Carbon disulfide	75-15-0	76.10	0.400	1.24	2.29	7.14		2	WG1013960
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG1013960
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG1013960
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG1013960
Chloroform	67-66-3	119	0.400	1.95	7.92	38.6		2	WG1013960
Chloromethane	74-87-3	50.50	0.400	0.826	0.728	1.50		2	WG1013960
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG1013960
Cyclohexane	110-82-7	84.20	0.400	1.38	1.70	5.85		2	WG1013960
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG1013960
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG1013960
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG1013960
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	1.75	10.5		2	WG1013960
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG1013960
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG1013960
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG1013960
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG1013960
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG1013960
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG1013960
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG1013960
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG1013960
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG1013960
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG1013960
Ethanol	64-17-5	46.10	1.26	2.38	6.03	11.4		2	WG1013960
Ethylbenzene	100-41-4	106	0.400	1.73	ND	ND		2	WG1013960
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG1013960
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG1013960
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG1013960
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG1013960
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG1013960
Heptane	142-82-5	100	0.400	1.64	1.93	7.90		2	WG1013960
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG1013960
n-Hexane	110-54-3	86.20	0.400	1.41	5.22	18.4		2	WG1013960
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG1013960
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG1013960
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG1013960
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG1013960
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG1013960
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG1013960
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG1013960
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG1013960
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG1013960
Propene	115-07-1	42.10	10.0	17.2	147	253		25	WG1014295
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG1013960
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG1013960
Tetrachloroethylene	127-18-4	166	0.400	2.72	ND	ND		2	WG1013960
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	ND	ND		2	WG1013960
Toluene	108-88-3	92.10	0.400	1.51	1.67	6.27		2	WG1013960
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG1013960

1 Cp
2 Tc
3 Ss
4 Cn
5 Tr
6 Sr
7 Qc
8 Gl
9 Al
10 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG1013960
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG1013960
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG1013960
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	ND	ND		2	WG1013960
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG1013960
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	0.766	3.58		2	WG1013960
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG1013960
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG1013960
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG1013960
m&p-Xylene	1330-20-7	106	0.800	3.47	ND	ND		2	WG1013960
o-Xylene	95-47-6	106	0.400	1.73	ND	ND		2	WG1013960
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*102*				WG1013960
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.9*				WG1014295

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.1		1	08/25/2017 15:51	WG1013720

Mercury by Method 7471A

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Mercury	0.00577	J	0.00311	0.0200	0.0222	1	08/28/2017 11:07	WG1014160

Metals (ICP) by Method 6010B

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Arsenic	1.74	J	0.721	2.00	2.22	1	08/28/2017 00:40	WG1013813
Barium	39.1		0.189	0.500	0.555	1	08/28/2017 00:40	WG1013813
Cadmium	U		0.0777	0.500	0.555	1	08/28/2017 00:40	WG1013813
Chromium	22.6		0.155	1.00	1.11	1	08/28/2017 00:40	WG1013813
Lead	2.24		0.211	0.500	0.555	1	08/28/2017 00:40	WG1013813
Selenium	U		0.821	2.00	2.22	1	08/28/2017 00:40	WG1013813
Silver	U		0.311	1.00	1.11	1	08/28/2017 00:40	WG1013813

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.0463	0.100	0.137	1.23	08/26/2017 07:40	WG1013846
(S) a,a,a-Trifluorotoluene(FID)	*99.4*				*77.0-120*		*08/26/2017 07:40*	WG1013846

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	SDL (dry)	Unadj. MQL	MQL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg	mg/kg		date / time	
Acetone	0.0143	J	0.0111	0.0500	0.0555	1	08/26/2017 22:02	WG1013822
Acrylonitrile	U		0.00199	0.0100	0.0111	1	08/26/2017 22:02	WG1013822
Benzene	U		0.000300	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Bromobenzene	U	J4	0.000315	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Bromodichloromethane	U		0.000282	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Bromoform	U		0.000471	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Bromomethane	U		0.00149	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
n-Butylbenzene	U		0.000286	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
sec-Butylbenzene	U		0.000223	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
tert-Butylbenzene	U		0.000229	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Carbon tetrachloride	U		0.000364	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Chlorobenzene	U		0.000235	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Chlorodibromomethane	U		0.000414	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Chloroethane	U		0.00105	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
Chloroform	U		0.000254	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
Chloromethane	U		0.000416	0.00250	0.00277	1	08/26/2017 22:02	WG1013822
2-Chlorotoluene	U		0.000334	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
4-Chlorotoluene	U	J4	0.000266	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,2-Dibromo-3-Chloropropane	U		0.00117	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
1,2-Dibromoethane	U		0.000381	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Dibromomethane	U		0.000424	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,2-Dichlorobenzene	U		0.000339	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,3-Dichlorobenzene	U		0.000265	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,4-Dichlorobenzene	U		0.000251	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Dichlorodifluoromethane	U		0.000791	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
1,1-Dichloroethane	U		0.000221	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,2-Dichloroethane	U	J4	0.000294	0.00100	0.00111	1	08/26/2017 22:02	WG1013822

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,1-Dichloroethene	U		0.000336	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
cis-1,2-Dichloroethene	U		0.000261	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
trans-1,2-Dichloroethene	U		0.000293	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,2-Dichloropropane	U		0.000397	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,1-Dichloropropene	U		0.000352	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,3-Dichloropropane	U		0.000230	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
cis-1,3-Dichloropropene	U		0.000291	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
trans-1,3-Dichloropropene	U		0.000296	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
2,2-Dichloropropane	U		0.000310	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Di-isopropyl ether	U		0.000275	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Ethylbenzene	U		0.000330	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Hexachloro-1,3-butadiene	U		0.000380	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Isopropylbenzene	U		0.000270	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
p-Isopropyltoluene	U		0.000226	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
2-Butanone (MEK)	U		0.00519	0.0100	0.0111	1	08/26/2017 22:02	WG1013822
Methylene Chloride	U		0.00111	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
4-Methyl-2-pentanone (MIBK)	U		0.00209	0.0100	0.0111	1	08/26/2017 22:02	WG1013822
Methyl tert-butyl ether	U		0.000235	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Naphthalene	U		0.00111	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
n-Propylbenzene	U		0.000229	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Styrene	U		0.000260	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,1,1,2-Tetrachloroethane	U		0.000293	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,1,2,2-Tetrachloroethane	U		0.000405	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,1,2-Trichlorotrifluoroethane	U		0.000405	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Tetrachloroethene	U		0.000306	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Toluene	U		0.000482	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
1,2,3-Trichlorobenzene	U		0.000340	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,2,4-Trichlorobenzene	U		0.000431	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,1,1-Trichloroethane	U		0.000317	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,1,2-Trichloroethane	U		0.000307	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Trichloroethene	U		0.000310	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Trichlorofluoromethane	U		0.000424	0.00500	0.00555	1	08/26/2017 22:02	WG1013822
1,2,3-Trichloropropane	U		0.000822	0.00250	0.00277	1	08/26/2017 22:02	WG1013822
1,2,4-Trimethylbenzene	U		0.000234	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,2,3-Trimethylbenzene	U		0.000319	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Vinyl chloride	U		0.000323	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
1,3,5-Trimethylbenzene	U		0.000295	0.00100	0.00111	1	08/26/2017 22:02	WG1013822
Xylenes, Total	U		0.000775	0.00300	0.00333	1	08/26/2017 22:02	WG1013822
(S) Toluene-d8	*92.3*				*80.0-120*		*08/26/2017 22:02*	WG1013822
(S) Dibromofluoromethane	*117*				*74.0-131*		*08/26/2017 22:02*	WG1013822
(S) 4-Bromofluorobenzene	*107*				*64.0-132*		*08/26/2017 22:02*	WG1013822

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	SDL (dry) mg/kg	Unadj. MQL mg/kg	MQL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	23.1	J	14.8	4.00	44.4	10	08/26/2017 19:10	WG1013795
Residual Range Organics (RRO)	201		37.0	10.0	111	10	08/26/2017 19:10	WG1013795
(S) o-Terphenyl	*125*				*18.0-148*		*08/26/2017 19:10*	WG1013795

Method Blank (MB)

(MB) R3244904-1 08/25/17 15:51

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000800			

L931226-01 Original Sample (OS) • Duplicate (DUP)

(OS) L931226-01 08/25/17 15:51 • (DUP) R3244904-3 08/25/17 15:51

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	88.9	88.7	1	0.165		5

Laboratory Control Sample (LCS)

(LCS) R3244904-2 08/25/17 15:51

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

L931900-01 Original Sample (OS) • Duplicate (DUP)

(OS) L931900-01 08/28/17 11:54 • (DUP) WG1014303-3 08/28/17 11:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	3.87	3.87	1	0.000	T8	1

Sample Narrative:

OS: 3.87 at 20.0c

DUP: 3.87 at 20.2c

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) WG1014303-1 08/28/17 11:54 • (LCSD) WG1014303-2 08/28/17 11:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	su	su	su	%	%	%			%	%
pH	10.0	10.0	10.0	100	100	98.4-102			0.000	1

Sample Narrative:

LCS: 10.00 at 19.9c

LCSD: 10.01 at 19.8c

Method Blank (MB)

(MB) R3244993-1 08/28/17 10:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Mercury	U		0.0028	0.0200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244993-2 08/28/17 10:48 • (LCSD) R3244993-3 08/28/17 10:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.242	0.240	81	80	80-120			1	20

L931900-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L931900-01 08/28/17 10:52 • (MS) R3244993-4 08/28/17 10:55 • (MSD) R3244993-5 08/28/17 10:57

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.314	0.00842	0.25	0.244	77	75	1	75-125			2	20

Method Blank (MB)

(MB) R3244804-1 08/27/17 23:30

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.65	2.00
Barium	U		0.17	0.500
Cadmium	U		0.07	0.500
Chromium	U		0.14	1.00
Lead	U		0.19	0.500
Selenium	U		0.74	2.00
Silver	U		0.28	1.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244804-2 08/27/17 23:32 • (LCSD) R3244804-3 08/27/17 23:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	95.3	97.4	95	97	80-120			2	20
Barium	100	99.9	102	100	102	80-120			2	20
Cadmium	100	95.4	97.4	95	97	80-120			2	20
Chromium	100	97.4	100	97	100	80-120			3	20
Lead	100	96.3	98.6	96	99	80-120			2	20
Selenium	100	95.7	97.4	96	97	80-120			2	20
Silver	20.0	17.1	17.4	85	87	80-120			2	20

L930880-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L930880-01 08/27/17 23:37 • (MS) R3244804-6 08/27/17 23:45 • (MSD) R3244804-7 08/27/17 23:47

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	127	2.29	118	115	92	89	1	75-125			3	20
Barium	127	129	266	257	108	101	1	75-125			3	20
Cadmium	127	U	117	114	93	90	1	75-125			3	20
Chromium	127	14.9	130	126	91	88	1	75-125			3	20
Lead	127	11.4	135	131	98	94	1	75-125			3	20
Selenium	127	U	116	114	92	90	1	75-125			2	20
Silver	25.3	U	20.7	20.2	82	80	1	75-125			3	20

Method Blank (MB)

(MB) R3245006-3 08/26/17 08:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3245006-3 08/26/17 08:35

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*94.5*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3245006-1 08/26/17 07:02 • (LCSD) R3245006-2 08/26/17 07:47

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.48	3.46	92.9	92.2	52.0-158			0.780	25
Dichlorodifluoromethane	3.75	3.70	3.61	98.8	96.3	69.0-143			2.57	25
1,2-Dichlorotetrafluoroethane	3.75	3.92	3.91	105	104	70.0-130			0.470	25
Chloromethane	3.75	3.89	3.75	104	99.9	70.0-130			3.75	25
Vinyl chloride	3.75	3.72	3.66	99.2	97.7	70.0-130			1.55	25
1,3-Butadiene	3.75	3.63	3.57	96.9	95.1	70.0-130			1.80	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3245006-1 08/26/17 07:02 • (LCSD) R3245006-2 08/26/17 07:47

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromomethane	3.75	3.55	3.57	94.8	95.1	70.0-130			0.350	25
Chloroethane	3.75	3.56	3.89	95.0	104	70.0-130			8.69	25
Trichlorofluoromethane	3.75	3.93	3.88	105	103	70.0-130			1.33	25
1,1,2-Trichlorotrifluoroethane	3.75	3.90	3.90	104	104	70.0-130			0.0400	25
1,1-Dichloroethene	3.75	3.85	3.89	103	104	70.0-130			1.17	25
1,1-Dichloroethane	3.75	3.81	3.83	102	102	70.0-130			0.690	25
Acetone	3.75	3.75	3.69	100	98.5	70.0-130			1.52	25
2-Propanol	3.75	3.84	3.81	102	102	66.0-150			0.730	25
Carbon disulfide	3.75	3.88	3.89	103	104	70.0-130			0.170	25
Methylene Chloride	3.75	3.74	3.75	99.7	99.9	70.0-130			0.230	25
MTBE	3.75	3.86	3.90	103	104	70.0-130			1.19	25
trans-1,2-Dichloroethene	3.75	3.88	3.88	103	103	70.0-130			0.0600	25
n-Hexane	3.75	3.83	3.85	102	103	70.0-130			0.610	25
Vinyl acetate	3.75	3.96	4.02	106	107	70.0-130			1.54	25
Methyl Ethyl Ketone	3.75	3.85	3.84	103	103	70.0-130			0.170	25
cis-1,2-Dichloroethene	3.75	3.84	3.84	102	102	70.0-130			0.0400	25
Chloroform	3.75	3.83	3.84	102	102	70.0-130			0.230	25
Cyclohexane	3.75	3.84	3.89	102	104	70.0-130			1.28	25
1,1,1-Trichloroethane	3.75	3.85	3.87	103	103	70.0-130			0.460	25
Carbon tetrachloride	3.75	3.87	3.89	103	104	70.0-130			0.510	25
Benzene	3.75	3.85	3.87	103	103	70.0-130			0.540	25
1,2-Dichloroethane	3.75	3.84	3.84	102	102	70.0-130			0.0200	25
Heptane	3.75	3.88	3.94	103	105	70.0-130			1.54	25
Trichloroethylene	3.75	3.85	3.87	103	103	70.0-130			0.590	25
1,2-Dichloropropane	3.75	3.82	3.86	102	103	70.0-130			0.840	25
1,4-Dioxane	3.75	3.76	3.85	100	103	70.0-152			2.14	25
Bromodichloromethane	3.75	3.91	3.92	104	105	70.0-130			0.300	25
cis-1,3-Dichloropropene	3.75	3.93	3.96	105	106	70.0-130			0.670	25
4-Methyl-2-pentanone (MIBK)	3.75	3.98	4.01	106	107	70.0-142			0.920	25
Toluene	3.75	3.93	3.96	105	106	70.0-130			0.750	25
trans-1,3-Dichloropropene	3.75	3.97	3.99	106	106	70.0-130			0.570	25
1,1,2-Trichloroethane	3.75	3.86	3.88	103	104	70.0-130			0.540	25
Tetrachloroethylene	3.75	3.90	3.92	104	105	70.0-130			0.600	25
Methyl Butyl Ketone	3.75	4.12	4.13	110	110	70.0-150			0.260	25
Dibromochloromethane	3.75	3.95	3.96	105	106	70.0-130			0.200	25
1,2-Dibromoethane	3.75	3.91	3.92	104	104	70.0-130			0.200	25
Chlorobenzene	3.75	3.87	3.88	103	103	70.0-130			0.130	25
Ethylbenzene	3.75	4.03	4.03	107	108	70.0-130			0.220	25
m&p-Xylene	7.50	8.04	8.06	107	107	70.0-130			0.210	25
o-Xylene	3.75	4.03	4.03	107	107	70.0-130			0.0200	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3245006-1 08/26/17 07:02 • (LCSD) R3245006-2 08/26/17 07:47

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Styrene	3.75	4.22	4.24	113	113	70.0-130			0.460	25
Bromoform	3.75	4.20	4.20	112	112	70.0-130			0.0700	25
1,1,2,2-Tetrachloroethane	3.75	4.01	4.05	107	108	70.0-130			0.920	25
4-Ethyltoluene	3.75	4.26	4.29	113	114	70.0-130			0.780	25
1,3,5-Trimethylbenzene	3.75	4.13	4.17	110	111	70.0-130			0.950	25
1,2,4-Trimethylbenzene	3.75	4.17	4.19	111	112	70.0-130			0.460	25
1,3-Dichlorobenzene	3.75	4.35	4.37	116	117	70.0-130			0.610	25
1,4-Dichlorobenzene	3.75	4.60	4.64	123	124	70.0-130			0.770	25
Benzyl Chloride	3.75	4.72	4.75	126	127	70.0-144			0.740	25
1,2-Dichlorobenzene	3.75	4.24	4.26	113	114	70.0-130			0.490	25
1,2,4-Trichlorobenzene	3.75	4.44	4.50	119	120	70.0-155			1.17	25
Hexachloro-1,3-butadiene	3.75	4.21	4.26	112	114	70.0-145			1.20	25
Naphthalene	3.75	4.62	4.66	123	124	70.0-155			0.830	25
Allyl Chloride	3.75	3.78	3.81	101	102	70.0-130			0.820	25
2-Chlorotoluene	3.75	4.11	4.13	110	110	70.0-130			0.600	25
Methyl Methacrylate	3.75	3.89	3.90	104	104	70.0-130			0.200	25
Tetrahydrofuran	3.75	3.79	3.85	101	103	70.0-140			1.44	25
2,2,4-Trimethylpentane	3.75	3.88	3.91	104	104	70.0-130			0.710	25
Vinyl Bromide	3.75	3.80	3.86	101	103	70.0-130			1.50	25
Isopropylbenzene	3.75	4.05	4.07	108	108	70.0-130			0.320	25
(S) 1,4-Bromofluorobenzene				*102*	*102*	*60.0-140*				

Method Blank (MB)

(MB) R3245089-3 08/28/17 09:36

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Propene	U		0.0932	0.400
(S) 1,4-Bromofluorobenzene	*95.2*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3245089-1 08/28/17 08:02 • (LCSD) R3245089-2 08/28/17 08:48

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Propene	3.75	3.99	3.99	106	106	54.0-155			0.0200	25
(S) 1,4-Bromofluorobenzene				*102*	*101*	*60.0-140*				

Method Blank (MB)

(MB) R3244718-3 08/26/17 01:21

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	U		0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244718-1 08/26/17 00:14 • (LCSD) R3244718-2 08/26/17 00:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5.50	5.04	5.39	91.6	97.9	70.0-133			6.62	20
(S) a,a,a-Trifluorotoluene(FID)				*102*	*103*	*77.0-120*				

L931282-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L931282-07 08/26/17 08:02 • (MS) R3244718-4 08/26/17 08:24 • (MSD) R3244718-5 08/26/17 08:46

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	6.55	ND	1.92	0.989	28.4	14.2	1	10.0-146		J3	63.8	30
(S) a,a,a-Trifluorotoluene(FID)					*98.4*	*91.4*		*77.0-120*				

Method Blank (MB)

(MB) R3244836-2 08/26/17 12:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0100	0.0500
Acrylonitrile	U		0.00179	0.0100
Benzene	U		0.000270	0.00100
Bromobenzene	U		0.000284	0.00100
Bromodichloromethane	U		0.000254	0.00100
Bromoform	U		0.000424	0.00100
Bromomethane	U		0.00134	0.00500
n-Butylbenzene	U		0.000258	0.00100
sec-Butylbenzene	U		0.000201	0.00100
tert-Butylbenzene	U		0.000206	0.00100
Carbon tetrachloride	U		0.000328	0.00100
Chlorobenzene	U		0.000212	0.00100
Chlorodibromomethane	U		0.000373	0.00100
Chloroethane	U		0.000946	0.00500
Chloroform	U		0.000229	0.00500
Chloromethane	U		0.000375	0.00250
2-Chlorotoluene	U		0.000301	0.00100
4-Chlorotoluene	U		0.000240	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00105	0.00500
1,2-Dibromoethane	U		0.000343	0.00100
Dibromomethane	U		0.000382	0.00100
1,2-Dichlorobenzene	U		0.000305	0.00100
1,3-Dichlorobenzene	U		0.000239	0.00100
1,4-Dichlorobenzene	U		0.000226	0.00100
Dichlorodifluoromethane	U		0.000713	0.00500
1,1-Dichloroethane	U		0.000199	0.00100
1,2-Dichloroethane	U		0.000265	0.00100
1,1-Dichloroethene	U		0.000303	0.00100
cis-1,2-Dichloroethene	U		0.000235	0.00100
trans-1,2-Dichloroethene	U		0.000264	0.00100
1,2-Dichloropropane	U		0.000358	0.00100
1,1-Dichloropropene	U		0.000317	0.00100
1,3-Dichloropropane	U		0.000207	0.00100
cis-1,3-Dichloropropene	U		0.000262	0.00100
trans-1,3-Dichloropropene	U		0.000267	0.00100
2,2-Dichloropropane	U		0.000279	0.00100
Di-isopropyl ether	U		0.000248	0.00100
Ethylbenzene	U		0.000297	0.00100
Hexachloro-1,3-butadiene	U		0.000342	0.00100
Isopropylbenzene	U		0.000243	0.00100

Method Blank (MB)

(MB) R3244836-2 08/26/17 12:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.000204	0.00100
2-Butanone (MEK)	U		0.00468	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00188	0.0100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000206	0.00100
Styrene	U		0.000234	0.00100
1,1,1,2-Tetrachloroethane	U		0.000264	0.00100
1,1,2,2-Tetrachloroethane	U		0.000365	0.00100
Tetrachloroethene	U		0.000276	0.00100
Toluene	U		0.000434	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000365	0.00100
1,2,3-Trichlorobenzene	U		0.000306	0.00100
1,2,4-Trichlorobenzene	U		0.000388	0.00100
1,1,1-Trichloroethane	U		0.000286	0.00100
1,1,2-Trichloroethane	U		0.000277	0.00100
Trichloroethene	U		0.000279	0.00100
Trichlorofluoromethane	U		0.000382	0.00500
1,2,3-Trichloropropane	U		0.000741	0.00250
1,2,3-Trimethylbenzene	U		0.000287	0.00100
1,2,4-Trimethylbenzene	U		0.000211	0.00100
1,3,5-Trimethylbenzene	U		0.000266	0.00100
Vinyl chloride	U		0.000291	0.00100
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*101*			*80.0-120*
(S) Dibromofluoromethane	*106*			*74.0-131*
(S) 4-Bromofluorobenzene	*102*			*64.0-132*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244836-1 08/26/17 11:12 • (LCSD) R3244836-3 08/26/17 13:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.183	0.159	146	128	11.0-160			13.5	23
Acrylonitrile	0.125	0.177	0.155	142	124	61.0-143			12.9	20
Benzene	0.0250	0.0297	0.0298	119	119	71.0-124			0.370	20
Bromobenzene	0.0250	0.0290	0.0302	116	121	78.0-120		J4	4.24	20
Bromodichloromethane	0.0250	0.0282	0.0277	113	111	75.0-120			1.76	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244836-1 08/26/17 11:12 • (LCSD) R3244836-3 08/26/17 13:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	0.0250	0.0302	0.0296	121	118	65.0-133			2.21	20
Bromomethane	0.0250	0.0252	0.0266	101	107	26.0-160			5.50	20
n-Butylbenzene	0.0250	0.0237	0.0234	95.0	93.4	73.0-126			1.61	20
sec-Butylbenzene	0.0250	0.0240	0.0246	96.1	98.6	75.0-121			2.59	20
tert-Butylbenzene	0.0250	0.0247	0.0252	98.9	101	74.0-122			1.99	20
Carbon tetrachloride	0.0250	0.0278	0.0285	111	114	66.0-123			2.30	20
Chlorobenzene	0.0250	0.0238	0.0245	95.2	97.9	79.0-121			2.71	20
Chlorodibromomethane	0.0250	0.0254	0.0247	101	98.8	74.0-128			2.71	20
Chloroethane	0.0250	0.0284	0.0288	113	115	51.0-147			1.50	20
Chloroform	0.0250	0.0292	0.0296	117	118	73.0-123			1.51	20
Chloromethane	0.0250	0.0318	0.0332	127	133	51.0-138			4.19	20
2-Chlorotoluene	0.0250	0.0279	0.0295	112	118	72.0-124			5.74	20
4-Chlorotoluene	0.0250	0.0283	0.0302	113	121	78.0-120		J4	6.50	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0293	0.0252	117	101	65.0-126			15.1	20
1,2-Dibromoethane	0.0250	0.0254	0.0240	102	95.9	78.0-122			5.86	20
Dibromomethane	0.0250	0.0285	0.0275	114	110	79.0-120			3.50	20
1,2-Dichlorobenzene	0.0250	0.0265	0.0262	106	105	80.0-120			1.34	20
1,3-Dichlorobenzene	0.0250	0.0252	0.0255	101	102	72.0-123			1.12	20
1,4-Dichlorobenzene	0.0250	0.0255	0.0259	102	103	77.0-120			1.40	20
Dichlorodifluoromethane	0.0250	0.0309	0.0314	124	126	49.0-155			1.63	20
1,1-Dichloroethane	0.0250	0.0312	0.0317	125	127	70.0-128			1.77	20
1,2-Dichloroethane	0.0250	0.0325	0.0316	130	127	69.0-128	J4		2.67	20
1,1-Dichloroethene	0.0250	0.0273	0.0274	109	110	63.0-131			0.520	20
cis-1,2-Dichloroethene	0.0250	0.0291	0.0298	117	119	74.0-123			2.31	20
trans-1,2-Dichloroethene	0.0250	0.0285	0.0287	114	115	72.0-122			0.870	20
1,2-Dichloropropane	0.0250	0.0295	0.0302	118	121	75.0-126			2.47	20
1,1-Dichloropropene	0.0250	0.0317	0.0316	127	126	72.0-130			0.440	20
1,3-Dichloropropane	0.0250	0.0260	0.0253	104	101	80.0-121			2.85	20
cis-1,3-Dichloropropene	0.0250	0.0276	0.0272	110	109	80.0-125			1.48	20
trans-1,3-Dichloropropene	0.0250	0.0265	0.0259	106	104	75.0-129			2.16	20
2,2-Dichloropropane	0.0250	0.0279	0.0292	112	117	60.0-129			4.38	20
Di-isopropyl ether	0.0250	0.0327	0.0323	131	129	62.0-133			1.50	20
Ethylbenzene	0.0250	0.0236	0.0238	94.2	95.0	77.0-120			0.850	20
Hexachloro-1,3-butadiene	0.0250	0.0172	0.0183	68.8	73.1	68.0-128			6.05	20
Isopropylbenzene	0.0250	0.0264	0.0277	106	111	75.0-120			4.84	20
p-Isopropyltoluene	0.0250	0.0240	0.0240	96.1	96.1	74.0-125			0.000	20
2-Butanone (MEK)	0.125	0.152	0.127	122	101	37.0-159			18.0	20
Methylene Chloride	0.0250	0.0244	0.0242	97.4	96.7	67.0-123			0.750	20
4-Methyl-2-pentanone (MIBK)	0.125	0.148	0.126	118	101	60.0-144			16.1	20
Methyl tert-butyl ether	0.0250	0.0307	0.0286	123	114	66.0-125			7.04	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244836-1 08/26/17 11:12 • (LCSD) R3244836-3 08/26/17 13:19

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Naphthalene	0.0250	0.0222	0.0202	89.0	80.8	64.0-125			9.58	20
n-Propylbenzene	0.0250	0.0282	0.0293	113	117	78.0-120			3.63	20
Styrene	0.0250	0.0262	0.0278	105	111	78.0-124			6.02	20
1,1,1,2-Tetrachloroethane	0.0250	0.0232	0.0230	93.0	92.0	74.0-124			1.11	20
1,1,2,2-Tetrachloroethane	0.0250	0.0296	0.0288	118	115	73.0-120			2.91	20
Tetrachloroethene	0.0250	0.0222	0.0222	88.7	88.8	70.0-127			0.0500	20
Toluene	0.0250	0.0229	0.0234	91.6	93.8	77.0-120			2.34	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0288	0.0295	115	118	64.0-135			2.63	20
1,2,3-Trichlorobenzene	0.0250	0.0188	0.0183	75.4	73.1	68.0-126			3.09	20
1,2,4-Trichlorobenzene	0.0250	0.0194	0.0199	77.7	79.6	70.0-127			2.47	20
1,1,1-Trichloroethane	0.0250	0.0292	0.0296	117	118	69.0-125			1.33	20
1,1,2-Trichloroethane	0.0250	0.0239	0.0227	95.5	90.9	78.0-120			4.88	20
Trichloroethene	0.0250	0.0263	0.0264	105	105	79.0-120			0.0800	20
Trichlorofluoromethane	0.0250	0.0279	0.0282	112	113	59.0-136			1.24	20
1,2,3-Trichloropropane	0.0250	0.0283	0.0262	113	105	73.0-124			7.41	20
1,2,3-Trimethylbenzene	0.0250	0.0248	0.0249	99.1	99.4	76.0-120			0.400	20
1,2,4-Trimethylbenzene	0.0250	0.0261	0.0266	104	106	75.0-120			2.15	20
1,3,5-Trimethylbenzene	0.0250	0.0255	0.0261	102	105	75.0-120			2.53	20
Vinyl chloride	0.0250	0.0310	0.0313	124	125	63.0-134			0.940	20
Xylenes, Total	0.0750	0.0702	0.0712	93.6	94.9	77.0-120			1.41	20
(S) Toluene-d8				*96.0*	*97.4*	*80.0-120*				
(S) Dibromofluoromethane				*115*	*112*	*74.0-131*				
(S) 4-Bromofluorobenzene				*104*	*108*	*64.0-132*				

Method Blank (MB)

(MB) R3244932-1 08/26/17 10:22

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	*128*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244932-2 08/26/17 10:38 • (LCSD) R3244932-3 08/26/17 10:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	30.0	25.6	26.6	85.3	88.8	50.0-150			4.10	20
Residual Range Organics (RRO)	30.0	19.6	19.2	65.4	64.2	50.0-150			1.88	20
(S) o-Terphenyl				*94.8*	*95.0*	*18.0-148*				

L931900-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L931900-01 08/26/17 18:19 • (MS) R3244932-4 08/26/17 18:36 • (MSD) R3244932-5 08/26/17 18:53

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	31.4	16.9	37.3	37.1	65.1	64.4	1	50.0-150			0.600	20
Residual Range Organics (RRO)	31.4	170	127	120	0.000	0.000	1	50.0-150	V	V	6.41	20
(S) o-Terphenyl					*80.5*	*75.6*		*18.0-148*				

Method Blank (MB)

(MB) R3247236-1 09/06/17 15:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,4-D	U		0.00702	0.0700
Dalapon	U		0.0113	0.0700
2,4-DB	U		0.0297	0.0700
Dicamba	U		0.0157	0.0700
Dichloroprop	U		0.0245	0.0700
Dinoseb	U		0.00697	0.0700
MCPA	U		0.443	6.50
MCPP	U		0.367	6.50
2,4,5-T	U		0.00852	0.0700
2,4,5-TP (Silvex)	U		0.0107	0.0700
(S) 2,4-Dichlorophenyl Acetic Acid	*84.5*			*22.0-132*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3247236-2 09/06/17 15:33 • (LCSD) R3247236-3 09/06/17 15:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4-D	0.167	0.146	0.143	87.6	85.6	40.0-120			2.27	20
Dalapon	0.167	0.122	0.124	73.1	74.1	15.0-120			1.29	24
2,4-DB	0.167	0.128	0.124	76.9	74.4	25.0-143			3.33	24
Dicamba	0.167	0.134	0.132	80.5	79.3	43.0-120			1.45	20
Dichloroprop	0.167	0.130	0.127	77.9	76.4	32.0-129			1.87	20
Dinoseb	0.167	0.0598	0.0541	35.9	32.4	10.0-120			10.2	37
MCPA	1.67	6.33	6.18	380	371	31.0-121	E J4	E J4	2.48	21
MCPP	1.67	6.54	6.83	393	410	28.0-133	E J4	E J4	4.31	25
2,4,5-T	0.167	0.112	0.140	67.2	84.3	41.0-120		J3	22.5	21
2,4,5-TP (Silvex)	0.167	0.117	0.112	70.2	67.0	42.0-120			4.74	20
(S) 2,4-Dichlorophenyl Acetic Acid				*82.6*	*81.8*	*22.0-132*				

Method Blank (MB)

(MB) R3245028-1 08/28/17 12:44

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Azinphos-Methyl	U		0.00378	0.100
Bolstar (Sulprofos)	U		0.00554	0.100
Chlorpyrifos	U		0.00923	0.100
Coumaphos	U		0.00680	0.100
Demeton,-O and -S	U		0.00339	0.0700
Diazinon	U		0.00447	0.100
Dichlorvos	U		0.00969	0.100
Dimethoate	U		0.0198	0.100
Disulfoton	U		0.00498	0.100
EPN	U		0.00512	0.100
Ethoprop	U		0.00465	0.100
Ethyl Parathion	U		0.00571	0.100
Fensulfothion	U		0.0169	0.100
Fenthion	U		0.00608	0.100
Malathion	U		0.00700	0.100
Merphos	U		0.00539	0.100
Methyl parathion	U		0.00669	0.100
Mevinphos	U		0.0102	0.100
Naled	U		0.00418	0.100
Phorate	U		0.00471	0.100
Ronnel	U		0.00437	0.100
Stirophos	U		0.00537	0.100
Sulfotep	U		0.00386	0.100
TEPP	U		0.157	1.00
Tokuthion (Prothothiofos)	U		0.00604	0.100
Trichloronate	U		0.00664	0.100
(S) Triphenyl Phosphate	*97.3*			*44.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3245028-2 08/28/17 13:16 • (LCSD) R3245028-3 08/28/17 13:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Azinphos-Methyl	0.334	0.356	0.365	107	109	58.0-125			2.43	20
Bolstar (Sulprofos)	0.334	0.341	0.347	102	104	64.0-120			1.75	20
Chlorpyrifos	0.334	0.342	0.347	103	104	62.0-120			1.40	20
Coumaphos	0.334	0.356	0.362	107	108	60.0-120			1.64	20
Demeton,-O and -S	0.167	0.156	0.154	93.4	92.5	59.0-120			0.880	20
Diazinon	0.334	0.342	0.329	103	98.7	49.0-120			3.84	22

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3245028-2 08/28/17 13:16 • (LCSD) R3245028-3 08/28/17 13:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dichlorvos	0.334	0.268	0.251	80.4	75.3	37.0-120			6.59	21
Dimethoate	0.334	0.284	0.261	85.3	78.2	46.0-127			8.66	21
Disulfoton	0.334	0.326	0.328	97.7	98.5	60.0-121			0.790	20
EPN	0.334	0.370	0.377	111	113	60.0-121			1.70	20
Ethoprop	0.334	0.342	0.337	102	101	59.0-120			1.43	20
Ethyl Parathion	0.334	0.355	0.356	106	107	62.0-120			0.200	20
Fensulfothion	0.334	0.325	0.297	97.3	89.1	58.0-123			8.80	21
Fenthion	0.334	0.354	0.356	106	107	61.0-121			0.640	20
Malathion	0.334	0.320	0.334	96.0	100	59.0-120			4.13	20
Merphos	0.334	0.319	0.318	95.5	95.2	59.0-120			0.350	20
Methyl parathion	0.334	0.359	0.362	108	109	63.0-120			0.830	20
Mevinphos	0.334	0.280	0.267	84.1	80.0	50.0-120			4.95	20
Naled	0.334	0.201	0.202	60.3	60.6	10.0-125			0.350	35
Phorate	0.334	0.335	0.321	100	96.2	60.0-120			4.25	20
Ronnel	0.334	0.337	0.339	101	102	62.0-120			0.600	20
Stirophos	0.334	0.330	0.331	99.0	99.2	62.0-120			0.160	20
Sulfotep	0.334	0.354	0.351	106	105	62.0-122			0.850	20
TEPP	3.34	0.180	0.238	5.39	7.15	1.00-135			28.0	38
Tokuthion (Prothothiofos)	0.334	0.344	0.343	103	103	63.0-120			0.450	20
Trichloronate	0.334	0.359	0.353	108	106	62.0-120			1.93	20
(S) Triphenyl Phosphate				*98.9*	*99.7*	*44.0-120*				

L931760-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L931760-01 08/28/17 14:51 • (MS) R3245028-4 08/28/17 15:22 • (MSD) R3245028-5 08/28/17 15:54

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Azinphos-Methyl	0.395	ND	0.416	0.421	105	107	1	35.0-132			1.32	20
Bolstar (Sulprofos)	0.395	ND	0.367	0.370	93.0	93.7	1	45.0-120			0.730	20
Chlorpyrifos	0.395	ND	0.389	0.399	98.5	101	1	50.0-120			2.66	20
Coumaphos	0.395	ND	0.362	0.364	91.7	92.2	1	30.0-137			0.580	20
Demeton,-O and -S	0.198	ND	0.184	0.189	92.9	95.7	1	31.0-134			2.90	24
Diazinon	0.395	ND	0.402	0.414	102	105	1	45.0-120			2.90	20
Dichlorvos	0.395	ND	0.397	0.423	100	107	1	26.0-159			6.39	20
Dimethoate	0.395	ND	0.402	0.403	102	102	1	19.0-138			0.150	22
Disulfoton	0.395	ND	0.374	0.387	94.6	98.1	1	49.0-123			3.61	20
EPN	0.395	ND	0.394	0.398	99.7	101	1	44.0-122			0.990	20
Ethoprop	0.395	ND	0.408	0.417	103	106	1	47.0-120			2.20	20
Ethyl Parathion	0.395	ND	0.403	0.408	102	103	1	42.0-120			1.28	20

L931760-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L931760-01 08/28/17 14:51 • (MS) R3245028-4 08/28/17 15:22 • (MSD) R3245028-5 08/28/17 15:54

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Fensulfothion	0.395	ND	0.416	0.419	105	106	1	32.0-133			0.720	20
Fenthion	0.395	ND	0.388	0.398	98.2	101	1	48.0-120			2.65	20
Malathion	0.395	ND	0.355	0.368	89.8	93.1	1	45.0-120			3.71	20
Merphos	0.395	ND	0.354	0.351	89.7	88.8	1	28.0-120			1.01	20
Methyl parathion	0.395	ND	0.421	0.435	107	110	1	45.0-120			3.11	20
Mevinphos	0.395	ND	0.391	0.401	99.1	102	1	30.0-135			2.49	20
Naled	0.395	ND	0.186	0.153	47.1	38.8	1	10.0-122			19.5	34
Phorate	0.395	ND	0.384	0.400	97.1	101	1	50.0-120			4.24	20
Ronnel	0.395	ND	0.387	0.399	98.0	101	1	48.0-120			2.97	20
Stirophos	0.395	ND	0.377	0.376	95.5	95.1	1	39.0-120			0.410	20
Sulfotep	0.395	ND	0.399	0.409	101	104	1	51.0-120			2.65	20
TEPP	3.95	ND	3.56	3.52	90.1	89.1	1	1.00-143			1.15	34
Tokuthion (Prothothiofos)	0.395	ND	0.382	0.387	96.7	98.0	1	50.0-120			1.25	20
Trichloronate	0.395	ND	0.407	0.402	103	102	1	49.0-120			1.26	20
(S) Triphenyl Phosphate					*93.7*	*93.7*		*44.0-120*				

Method Blank (MB)

(MB) R3244970-3 08/28/17 11:54

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Aldrin	U		0.00135	0.0200
Alpha BHC	U		0.00136	0.0200
Beta BHC	U		0.00160	0.0200
Delta BHC	U		0.00143	0.0200
Gamma BHC	U		0.00145	0.0200
4,4-DDD	U		0.00156	0.0200
4,4-DDE	U		0.00154	0.0200
4,4-DDT	U		0.00200	0.0200
Dieldrin	U		0.00152	0.0200
Endosulfan I	U		0.00149	0.0200
Endosulfan II	U		0.00160	0.0200
Endosulfan sulfate	U		0.00151	0.0200
Endrin	U		0.00157	0.0200
Endrin aldehyde	U		0.00129	0.0200
Endrin ketone	U		0.00165	0.0200
Heptachlor	U		0.00154	0.0200
Heptachlor epoxide	U		0.00161	0.0200
Hexachlorobenzene	U		0.00124	0.0200
Methoxychlor	U		0.00178	0.0200
Chlordane	U		0.0390	0.200
Toxaphene	U		0.0360	0.400
(S) Decachlorobiphenyl	*85.3*			*10.0-148*
(S) Tetrachloro-m-xylene	*84.1*			*21.0-146*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244970-1 08/28/17 11:29 • (LCSD) R3244970-2 08/28/17 11:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0667	0.0663	0.0685	99.3	103	55.0-137			3.26	29
Alpha BHC	0.0667	0.0694	0.0719	104	108	55.0-136			3.56	28
Beta BHC	0.0667	0.0642	0.0671	96.3	101	53.0-133			4.40	28
Delta BHC	0.0667	0.0642	0.0680	96.2	102	53.0-139			5.82	29
Gamma BHC	0.0667	0.0692	0.0719	104	108	54.0-136			3.87	29
4,4-DDD	0.0667	0.0626	0.0669	93.8	100	51.0-141			6.73	29
4,4-DDE	0.0667	0.0620	0.0661	93.0	99.1	53.0-142			6.30	30
4,4-DDT	0.0667	0.0621	0.0688	93.1	103	47.0-143			10.3	30
Dieldrin	0.0667	0.0657	0.0684	98.4	103	54.0-141			4.08	29
Endosulfan I	0.0667	0.0645	0.0670	96.7	101	54.0-141			3.88	29

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3244970-1 08/28/17 11:29 • (LCSD) R3244970-2 08/28/17 11:41

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Endosulfan II	0.0667	0.0618	0.0647	92.6	97.0	53.0-140			4.61	28
Endosulfan sulfate	0.0667	0.0613	0.0651	91.9	97.5	52.0-141			5.93	29
Endrin	0.0667	0.0694	0.0745	104	112	52.0-137			7.13	29
Endrin aldehyde	0.0667	0.0564	0.0599	84.5	89.9	30.0-127			6.14	31
Endrin ketone	0.0667	0.0713	0.0752	107	113	51.0-139			5.25	28
Heptachlor	0.0667	0.0697	0.0733	104	110	53.0-144			5.05	29
Heptachlor epoxide	0.0667	0.0646	0.0672	96.8	101	54.0-137			4.04	28
Hexachlorobenzene	0.0667	0.0615	0.0633	92.2	94.8	50.0-135			2.86	28
Methoxychlor	0.0667	0.0656	0.0704	98.3	106	49.0-145			7.16	29
(S) Decachlorobiphenyl				*83.8*	*86.5*	*10.0-148*				
(S) Tetrachloro-m-xylene				*86.3*	*87.1*	*21.0-146*				

L931760-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L931760-04 08/28/17 15:14 • (MS) R3244970-4 08/28/17 15:27 • (MSD) R3244970-5 08/28/17 15:39

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aldrin	0.0796	ND	0.0784	0.0812	98.4	102	1	19.0-152			3.50	24
Alpha BHC	0.0796	ND	0.0832	0.0861	104	108	1	39.0-152			3.46	21
Beta BHC	0.0796	ND	0.0795	0.0821	99.9	103	1	38.0-150			3.17	20
Delta BHC	0.0796	ND	0.0710	0.0735	89.1	92.3	1	34.0-155			3.51	21
Gamma BHC	0.0796	ND	0.0826	0.0855	104	107	1	38.0-153			3.46	21
4,4-DDD	0.0796	ND	0.0793	0.0836	99.6	105	1	22.0-160			5.23	25
4,4-DDE	0.0796	ND	0.0754	0.0804	94.7	101	1	10.0-160			6.49	27
4,4-DDT	0.0796	ND	0.0787	0.0816	98.8	103	1	10.0-160			3.69	28
Dieldrin	0.0796	ND	0.0789	0.0834	99.1	105	1	30.0-158			5.54	25
Endosulfan I	0.0796	ND	0.0764	0.0796	96.0	100	1	31.0-155			4.07	25
Endosulfan II	0.0796	ND	0.0734	0.0759	92.2	95.3	1	32.0-156			3.24	25
Endosulfan sulfate	0.0796	ND	0.0744	0.0730	93.4	91.7	1	31.0-158			1.93	24
Endrin	0.0796	ND	0.0863	0.0908	108	114	1	30.0-149			5.03	25
Endrin aldehyde	0.0796	ND	0.0687	0.0701	86.2	88.1	1	20.0-157			2.08	26
Endrin ketone	0.0796	ND	0.0862	0.0876	108	110	1	32.0-154			1.69	23
Heptachlor	0.0796	ND	0.0824	0.0856	104	108	1	18.0-160			3.81	23
Heptachlor epoxide	0.0796	ND	0.0741	0.0761	93.0	95.6	1	31.0-154			2.71	25
Hexachlorobenzene	0.0796	ND	0.0725	0.0755	91.1	94.8	1	26.0-146			4.01	21
Methoxychlor	0.0796	ND	0.0842	0.0860	106	108	1	10.0-160			2.04	27
(S) Decachlorobiphenyl					*83.3*	*84.5*		*10.0-148*				
(S) Tetrachloro-m-xylene					*83.1*	*86.1*		*21.0-146*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MQL (dry)	Method Quantitation Limit.
MQL	Method Quantitation Limit.
ND	Not detected at the Sample Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
SDL (dry)	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**

***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**

TGE Resources

8048 Northcourt Road
Houston, TX 77040

Billing Information:
Accounts Payable
8048 Northcourt Road
Houston, TX 77040

Pres Chk

Report to: Kristi Barnette

Email To: kristib@tgeresources.com, tecrump@tgeresources.com

Project Description: Future Star Lake Hospital

City/State Collected:

Phone: 713-744-5800
Fax: 713-744-5888

Client Project # R13411.02

Lab Project # TGERESHTX-R13411

Collected by (print): T. Crump

Site/Facility ID #

P.O. # 7648

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
X Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	MRCRA8 4ozClr-NoPres	NWTPHDXNOSGT, TS 4ozClr-NoPres	SV8081,SV8141,SV8151 4ozClr-NoPres	TCLP TX12 Metals 4ozClr-NoPres	TO-15 Summa	V8260, Gx 40ml/NaHS04/Syr/MeOH	pH 4ozClr-NoPres	Remarks	Sample # (lab only)
SB-1 (5-6)	Grab	SS	5-6	08/24/17	1230	6	X	X				X	X		-01
SB-1 (9-10)	Grab	SS	9-10	08/24/17	1235	6								Hold	
SB-1 (14-15)	Grab	SS	14-15	08/24/17	1240	6								Hold	
SB-2 (2-3)	Grab	SS	2-3	08/24/17	1030	6	X	X				X			-02
SB-2 (7-8)	Grab	SS	7-8	08/24/17	1040	6								Hold	
SB-2 (13-14)	Grab	SS	13-14	08/24/17	1035	6								Hold	
SB-3 (3-4)	Grab	SS	3-4	08/24/17	1530	7	X	X	X			X			-03
SB-3 ( )	Grab	SS		08/24/17	1545	7								Hold	
SB-3 (17-18)	Grab	SS	17-18	08/24/17	1550	7								Hold	
SB-4 (2-3)	Grab	SS	2-3	08/24/17	1130	6	X	X				X			-04

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:****Log as two day with R2 factor****

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 7466 1462 2792

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	08/24/17	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
1xTB HCL / MeoH TBR

Temp: 15 °C Bottles Received: 114

Date: 8/25/17 Time: 0845

If preservation required by Login: Date/Time

Condition: NCF / OK TO

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Chain of Custody Page 1 of 2

ESC

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 931900

C036

Acctnum: TGERESHTX
Template: T126970
Prelogin: P614664
TSR: 134 - Mark W. Beasley
PB:
Shipped Via:

8-162

TGE Resources

8048 Northcourt Road
Houston, TX 77040

Billing Information:
Accounts Payable
8048 Northcourt Road
Houston, TX 77040

Pres Chk

Report to: Kristi Barnette

Email To: kristib@tgeresources.com, tecrump@tgeresources.com

Project Description: Future Star Lake Hospital

City/State Collected:

Phone: 713-744-5800
Fax: 713-744-5888

Client Project # R13411.02

Lab Project # TGERESHTX-R13411

Collected by (print): T. CRUMP

Site/Facility ID #

P.O. # 7648

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	MRCRA8 4ozClr-NoPres	NWTPHDXNOSGT, TS 4ozClr-NoPres	SV8081,SV8141,SV8151 4ozClr-NoPres	TCLP TX12 Metals 4ozClr-NoPres	TO-15 Summa	V8260, Gx 40ml/NaHS04/Syr/MeOH	pH 4ozClr-NoPres	Remarks	Sample # (lab only)
SB-4 (10-11)	Grab	SS	10-11	08/24/17	1150	6								Hold	
SB-4 (11-12)	Grab	SS	11-12	08/24/17	1210	6								Hold	
SB-5 (4-5)	Grab	SS	4-5	08/24/17	1650	6								Hold	
TVMP-1	Grab	Air	7-8	08/24/17	1425	1					X				-05
TVMP-2	Grab	Air	7-8	08/24/17	1330	1					X				-06
		Air													
SB-5 (11-12)	Grab	SS	11-12	08/24/17	1645	6	X	X				X			
SB-5 (19-20)	Grab	SS	19-20	08/24/17	1700	6									-07
TVMP-1 (5-6)	Grab	SS	5-6	08/24/17	1210	6								Hold	
TVMP-1 (7-8)	Grab	SS	7-8	08/24/17	1405	6								Hold	
														Hold	

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:**Log as two day with R2 factor******

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 7466 1462 2792

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.5 °C Bottles Received: 114

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	08/24/17	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Date: 8/25/17 Time: 0845

Sample Receipt Checklist
COC Seal Present/Intact: __NP / Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Chain of Custody Page 2 of 2

ESC LAB SCIENCES
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 193190

Table #

Acctnum: TGERESHTX
Template: T126970
Prelogin: P614664
TSR: 134 - Mark W. Beasley
PB:

Shipped Via:

TG E Resources

8048 Northcourt Road
Houston, TX 77040

Billing Information:
Accounts Payable
8048 Northcourt Road
Houston, TX 77040

Pres Chk

Report to: Kristi Barnette

Email To: kristib@tgeresources.com, tecrump@tgeresources.com

Project Description: Future Star Lake Hospital

City/State Collected:

Phone: 713-744-5800
Fax: 713-744-5888

Client Project # R13411.02

Lab Project # TGERESHTX-R13411

Collected by (print): T. CRUMP

Site/Facility ID #

P.O. # 7648

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	MRCRA8 4ozClr-NoPres	NWTPHDXNOSGT, TS 4ozClr-NoPres	SV8081,SV8141,SV8151 4ozClr-NoPres	TCLP TX12 Metals 4ozClr-NoPres	TO-15 Summa	V8260, Gx 40ml/NaHS04/Syr/MeOH	pH 4ozClr-NoPres				Remarks	Sample # (lab only)
TRMP-2 (x6)	Grab	SS	5-6	08/24/17	1310	6											Hold	
		SS																

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

ESC LABORATORIES

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L931900

Table #

Acctnum: TGERESHTX
Template: T126970
Prelogin: P614664
TSR: 134 - Mark W. Beasley
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: ****Log as two day with R2 factor****

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 7466 1462 2792

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: X Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	8/24/17	1800	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.5 °C Bottles Received: 114

Date: 8/25/17 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Troy Dunlap

ESC Lab Sciences
Non-Conformance Form

Login #: L931900	Client: TGERESHTX	Date: 8/25/17	Evaluated by: Troy Dunlap

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	X	Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Couri
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
X	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: One 40ml-bi sulfate vial broken for TVMP-1 (7-8). One bi sulfate remains.

Client informed by:		Call		Email		Voice Mail		Date: 8/25/17	Time: 1145
TSR Initials: MB	Client Contact:								

Login Instructions:

Run from unbroken vial

APPENDIX D

Robin D. Franks, P.G. - President

Ms. Franks holds dual BS degrees in Geology and Biology; and a MS in Geology. She is a TX- Licensed PG (TX 875), a CHMM (3725) with multiple other credentials and qualifications all in good standing. Her experience spans more than twenty-five years in assessment of commercial real estate; as well as characterization, clean-up and closure within the commercial, industrial, oil and gas and healthcare industries, to name a few. Her experience encompasses compliance auditing, oil and gas real estate assessment and remediation, underground storage tank project management, asbestos consulting, lead-based paint management and industrial hygiene/indoor environmental quality consulting including mold/fungus assessment, testing and remediation. Additional expertise includes litigation support and client representation with regard to environmental matters.

***Tim E Crump, CPG, P.G.* – Senior Project Manager**

Mr. Crump holds BS degree in Geological Sciences and a MS in Environmental Management. He is a WA- Licensed PG (WA 3210) with multiple other credentials and qualifications all in good standing. His experience spans more than twenty years in assessment of commercial real estate; as well as characterization, clean-up and closure within the commercial, industrial, oil and gas and healthcare industries, to name a few. His experience encompasses compliance auditing, oil and gas real estate assessment and remediation, underground storage tank project management, asbestos consulting, lead-based paint management and industrial hygiene/indoor environmental quality consulting including mold/fungus assessment, testing and remediation.