TETRA TECH

March 22, 2017

Mr. Heath Smith
EPA On-Scene Coordinator
U.S. Environmental Protection Agency, Region 7
212 Little Bussen Drive
Fenton, Missouri 63026

Subject: **Vapor Intrusion Assessment**
First Quarterly Sampling Event – August 2016
Sporlan Valve Plant #1 Site, Washington, Missouri
EPA SEMS ID: MON000703541
U.S. EPA Region 7 START 4, Contract No. EP-S7-13-06, Task Order No. 0150
Task Monitor: Heath Smith, EPA On-Scene Coordinator

Dear Mr. Smith:

Tetra Tech, Inc. is submitting the enclosed Vapor Intrusion Assessment report regarding the above-referenced site. If you have any questions or comments regarding this submittal, please contact the Project Manager at (314) 517-6798.

Sincerely,

M. David Kinroth

Dave Kinroth, CHMM
START Project Manager

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Enclosures

cc: Debra Dorsey, START Project Officer (cover letter only)

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VAPOR INTRUSION ASSESSMENT
FIRST QUARTERLY SAMPLING EVENT – AUGUST 2016
SPORLAN VALVE PLANT #1 SITE
WASHINGTON, MISSOURI

EPA SEMS ID: MON000703541

Superfund Technical Assessment and Response Team (START)
Contract No. EP-S7-13-06, Task Order 0150

Prepared For:

U.S. Environmental Protection Agency
Region 7
Superfund Division
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March 22, 2017

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1.0 INTRODUCTION

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division, under Contract Number EP-S7-13-06, Task Order 0150, to conduct a vapor intrusion assessment (VIA) of the Sporlan Valve Plant #1 site (the site) in Washington, Missouri.

This VIA accorded with EPA Office of Solid Waste and Emergency Response (OSWER) Publication 9200.2-154 – Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air (EPA 2015). The purpose of this VIA was to determine if volatile organic compounds (VOC) in groundwater, particularly trichloroethene (TCE) and related chlorinated VOCs, may present a threat to human health via vapor intrusion (VI) into residences within the site vicinity. The scope of the VIA included review of information provided by EPA and the Missouri Department of Natural Resources (MDNR), compilation and evaluation of potential targets, and collection of samples for laboratory analysis.

The site was entered into the Superfund Enterprise Management System (SEMS), which contains the same information as the retired Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, as Identification Number MON000703541 (EPA 2017).

2.0 BACKGROUND INFORMATION

The site's location, history, geology/hydrogeology, and relevant previous investigations are discussed below.

2.1 SITE LOCATION AND DESCRIPTION

The site currently consists of an unoccupied 4-acre parcel at 611 E. Seventh Street near downtown Washington, Franklin County, Missouri (see Figure 1 in Appendix A). The site includes a groundwater contamination plume that has migrated beyond the property boundaries. The full extent of this plume has not been delineated, but based on groundwater monitoring results, it is known to extend to the south toward Eighth Street and to the east toward MacArthur Street, beneath residential structures. VI sampling by MDNR in 2015 identified concentrations of TCE that exceeded indoor air screening levels at three residences. Also, sub-slab concentrations of TCE vapors exceeded screening levels at four residences (EPA 2016a).

Approximate geographic coordinates at the center of the site are 38.551900 degrees (°) north latitude and 91.006680° west longitude. The unoccupied parcel is in the northeast quarter of the southeast quarter of Section 22, Township 44 North, Range 1 West, as depicted on the 7.5-minute quadrangle map for Washington West, Franklin County, Missouri (MDNR 2016).

2.2 SITE HISTORY

From 1939 until approximately 2005, the site was the location of the Sporlan Valve Plant #1, where valves for the refrigeration industry were produced. The property is now owned by SV Land LLC and is a vacant 4-acre parcel surrounded by a residential neighborhood. Prior to its demolition in 2011, an 80,000-square-foot brick building on a concrete slab stood at the site. The building was constructed in 1939, with continuous expansion through 1968. Operations at the plant included plating, degreasing, machining, brazing, assembling, and testing. Degreasing operations included use of the chlorinated solvent TCE.

Over the course of the facility's manufacturing history, three aboveground storage tanks (AST), ranging in size from 200 to 2,000 gallons, were used to store TCE for the plant's degreasing processes. The 2,000-gallon AST was north of the former manufacturing building and positioned on a concrete pad with no secondary containment. Three underground storage tanks (UST) used to store fuel oil were also present at the site. The fuel oil USTs ranged in size from 2,000 to 10,000 gallons.

An unknown amount of TCE was released from the former valve factory for an unknown period of time. Existing monitoring well data indicate migration of TCE-contaminated shallow groundwater to the south and east, downgradient of the site (EPA 2016a).

The Sporlan Valve Company was acquired by the Parker Hannifin Corporation of Cleveland, Ohio, via merger in October 2004 (*St. Louis Business Journal* [STLBJ] 2004). The plant continued to operate at the 611 E. Seventh Street location until approximately 2005. Exact date of plant closure is unknown (EPA 2016a).

2.3 GEOLOGY AND HYDROGEOLOGY

According to the U.S. Department of Agriculture (USDA) soil survey of Franklin County, Missouri, soils at the site are characterized as Menfro silt loam, consisting of well-drained, silty/silty-clayey loams formed on loess (USDA 2016).

Information regarding the stratigraphy and hydrogeology of the site was provided by the Missouri Geological Survey (MGS) in a 2014 Geohydrologic Summary report. Depth to bedrock varies from a few feet along the northern property boundary to nearly 50 feet south of Eighth Street. Residuum consists of clay, chert, and sand derived from the weathered sedimentary bedrock. A series of Ordovician and Cambrian-age dolomite formations underlie the residuum in the vicinity of the site, and together form the approximately 1,000-foot-thick Ozark Aquifer (Tetra Tech 2016).

In February 2015, depth to groundwater at the site varied between 7.86 and 15.15 feet below ground surface (bgs) (Environ 2015). Therefore, at times, the groundwater surface may be within a few feet of basements at houses along Seventh Street. Slug test data acquired from monitoring wells at the site in 2007 showed a range of hydraulic conductivity between 1.02×10^{-5} and 3.71×10^{-5} centimeters per second (cm/sec). Hydraulic conductivity of the Ozark Aquifer ranges from 1×10^{-3} to 1×10^{-4} cm/sec. All registered wells within 4 miles of the site (301 wells) are reportedly completed in the Ozark Aquifer. The Ozark Aquifer is underlain by the St. Francois confining unit, a series of alternating shale and dolomite formations that form an effective barrier to downward groundwater movement (MDNR 2016).

No site-specific groundwater flow data regarding the Ozark Aquifer are available. Regional estimates of groundwater flow direction based on well data vary from northwest to the northeast. The Missouri River valley is a hydraulic boundary and discharge zone for the Ozark Aquifer near the site. Groundwater flow direction within this aquifer is likely influenced locally by pumping wells and proximity to the Missouri River (Tetra Tech 2016).

2.4 PREVIOUS INVESTIGATIONS

The following section describes activities and sample results associated with previous investigations at the site, along with relevant data from off-site investigations that detected contamination potentially associated with the site.

Phase I Environmental Site Assessment – 2003

A Phase I Environmental Site Assessment commissioned by Parker Hannifin Corporation was completed by SECOR International, Inc. (SECOR) on August 15, 2003. The Phase I report identified multiple recognized environmental conditions (REC) to the site. Eight ASTs were identified at the site. Five ASTs were associated with the wastewater treatment area, and ranged from 100- to 3,000-gallon capacities. The other three ASTs held TCE for degreasing processes at the facility, and ranged from 200- to 2,000-gallon capacities. The 2,000-gallon TCE AST was outside near the wastewater treatment area, positioned on a concrete pad with no secondary containment (thus posing a REC). The other two TCE ASTs were within the building. Three fuel oil USTs of unknown age and construction were also present; because the USTs lacked leak detection monitoring systems, SECOR also identified this as a REC. Based on these issues and other conditions, SECOR recommended further investigation of the property (SECOR 2003).

Phase II Limited Soil Investigation – 2004

SECOR completed a Phase II Limited Soil Investigation commissioned by Parker Hannifin Corporation in 2004. Nine soil borings were advanced from 8 to 20 feet bgs or to bedrock, whichever was encountered first, along the perimeter of the (now demolished) factory building. The investigation identified TCE concentrations as high as 739 micrograms per kilogram (µg/kg) in soil near the 2,000-gallon TCE AST outside the facility. The Phase II report concluded that soil and groundwater beneath the site appeared to have been impacted by historical site activities (SECOR 2004).

Soil Gas Survey – 2006

W.L. Gore and Associates, Inc. conducted a subsurface vapor survey (soil gas mass level survey) in 2006. Forty passive vapor sampling devices were installed beneath the factory floor in areas where subsurface contamination was suspected. Results of the survey provided information regarding relative mass of TCE and associated breakdown compounds beneath the floor. Chlorinated compounds were detected in soil gas at high mass levels, with TCE and dichloroethene (DCE) most prevalent. Elevated levels of total petroleum hydrocarbons (TPH) were also detected. Source areas and well-defined soil gas plumes were

observed below the former factory. The report recommended additional soil gas sampling, because the survey had not delineated the full extent of the source areas (EPA 2016a).

Phase III Supplemental Investigation – 2012

In 2012, Ramboll Environ US Corporation (Ramboll Environ) completed a Phase III Supplemental Investigation commissioned by the Sporlan Valve Company. Objectives of the Phase III were to investigate potential source areas via soil sampling along a test trench, and to delineate the approximate extent of TCE impacts on soil within the identified source area(s) via sampling of test pits. Laboratory data indicated presence of the following contaminants: TCE, DCE, methylene chloride, tetrachloroethene (PCE), 1,1,2-trichloroethane (TCA), and vinyl chloride (VC). TCE was detected in all surface soil samples at concentrations ranging from 66.2 to 2,710 µg/kg. TCE was detected in all subsurface samples at concentrations ranging from 36.8 to 9,390 µg/kg (EPA 2016a).

Investigations under Oversight of the Missouri Brownfields Voluntary Cleanup Program (BVCP) – 2008 through 2015

The site was accepted into the Missouri BVCP on January 9, 2008. The BVCP oversaw installation of 12 permanent monitoring wells by the potentially responsible party (PRP) ─five on the former Sporlan Valve Company property and seven east and south of the property. Monitoring well depths ranged from 10 to 45 feet bgs. Multiple rounds of groundwater sampling occurred between 2009 and 2015. Maximum TCE concentration detected was 12,100 micrograms per liter (µg/L) in 2009, in a well (MW-3) on the former Sporlan Valve Company property just north of Seventh Street. TCE concentration in the farthest downgradient well (MW-11) increased steadily from 76 µg/L in 2009 to 194 µg/L in 2015.

The BVCP also oversaw installation of sub-slab soil gas monitoring ports at four residences along Seventh Street. By 2015, eight rounds of sub-slab sampling had occurred at each of the four residences. In October 2012, TCE was detected in sub-slab vapors at 760 micrograms per cubic meter (µg/m^3) below one of the homes. No indoor air sampling occurred during these rounds of VI sampling.

In 2011, the valve manufacturing building and foundation slab were demolished, and the site was cleared of most demolition debris.

In 2012, the three heating oil USTs were removed from the site. A release of heating oil was discovered beneath a 10,000-gallon UST, requiring removal and off-site disposal of 67 tons of petroleum-contaminated soil.

In April 2015, the PRP withdrew the site from participation in the BVCP (EPA 2016a).

MDNR Site Inspection/Removal Site Evaluation – 2015

In July 2015, MDNR conducted a Site Inspection (SI)/Removal Site Evaluation (RSE) that included VI sampling. MDNR collected samples of indoor air, crawlspace air or sub-slab soil gas, and sump water at 12 residences downgradient of the site. Analytical data from this sampling, along with previous sub-slab results acquired during enrollment of the site in the BVCP, indicated levels of TCE exceeding health-based screening levels in indoor air and/or sub-slab vapors overlying the TCE-contaminated shallow groundwater. Concentrations of TCE were found to exceed indoor air screening levels at three residential properties. A maximum of 3.9 $\mu g/m^3$ was detected in indoor air at a residence along Seventh Street. Concentrations of TCE were found to exceed sub-slab vapor screening levels at four residential properties. A maximum concentration of 820 $\mu g/m^3$ was detected in sub-slab soil gas at a property north of Eighth Street. (MDNR 2016).

Following MDNR's receipt of VI sampling results, documenting presence of TCE at levels exceeding MDNR's and EPA's health-based screening levels, the site was referred by MDNR to EPA for removal action consideration on August 20, 2015 (EPA 2016a).

EPA Vapor Intrusion Sampling Analysis – 2015

Based on the information provided to EPA from the 2015 MDNR SI/RSE, EPA determined that a complete subsurface VI to indoor air exposure pathway existed at one property. The report acknowledged that periodic monitoring had not occurred at properties assessed for VI; quarterly VI monitoring was recommended at targeted residential properties, along with sampling to enable completion of plume delineation (horizontal and vertical extents).

MDNR's 2015 SI/RSE, along with EPA's review of other available data, resulted in installation of sub-slab depressurization vapor mitigation systems (VMS) at two residences (Property Identifications [ID] 153 and 176) conducted by contractors hired by Ramboll Environ on behalf of the PRP. The full extent of groundwater contamination in this residential area, and possible inhalation exposures resulting from VI from the contaminated shallow groundwater, remained unknown (EPA 2016a).

Enforcement Actions – 2016

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP) both contain provisions that support and encourage early actions to mitigate actual and potential threats to human health associated with VI. According to EPA OSWER Publication 9200.2-154 – Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air (EPA 2015), for sites not on the National Priorities List (NPL), EPA may use its removal authority under CERCLA to undertake early action to mitigate VI threats. Under this authority, EPA issued a Unilateral Administrative Order for Removal Action (UAO, or Order) to SV Land LLC, requiring removal action to abate imminent and substantial endangerment to the public health or welfare or the environment that may be presented by actual or threatened release of hazardous substances at or from the site. Under this Order, SV Land LLC retained the services of an environmental consulting contractor, Ramboll Environ, to oversee installation of VMSs in selected homes within a designated inclusion zone around the site perimeter, for preemptive mitigation of potential for VI into those structures. Initially, this activity was planned to focus on the 11 properties nearest the south site perimeter along East Seventh Street (Property IDs 145 to 155, as indicated on Figure 2 in Appendix A). Performance sampling of indoor air at these properties 30 days after the VMSs had been installed was also required. These activities began in fall 2016.

In conjunction with the enforcement action, EPA tasked Tetra Tech START to conduct VI sampling as part of an Integrated Site Assessment (ISA), to assess additional residences around the site perimeter beyond the PRP's initial property inclusion zone. The remainder of this report discusses these investigative efforts and summarizes the sampling results.

3.0 VAPOR INTRUSION INVESTIGATIVE EFFORTS

Section 3.0 discusses field sampling and associated quality assurance (QA)/quality control (QC) activities at the site during the first quarterly VIA sampling by Tetra Tech START on behalf of EPA Region 7 in August 2016. The general objective of the VIA was to determine whether any threats to human health exist due to inhalation of indoor air contaminants originating from a subsurface source. A site-specific Quality Assurance Project Plan (QAPP) in support of the VIA activities had been prepared previously (by EPA) and had been approved by EPA on October 5, 2015. Field activities were conducted in accordance with the approved QAPP, except where noted in this report. START Members Dave Kinroth, Laura Moore, and Christy Engemann conducted air and sub-slab soil gas sampling activities August 3 through 13, 2016. Field activities included collection of 15 sub-slab soil gas samples, 1 crawlspace air sample, 31 indoor air samples, and 4 outdoor ambient air samples. Photographs documenting site activities are in Appendix B.

Fifteen sub-slab soil gas samples, including one duplicate sample, were collected at residences near the site perimeter during this sampling event. For each sub-slab soil gas sample, a sampling port was installed by drilling a hole through the concrete basement floor or other accessible portion of the foundation by use of a rotary hammer drill and concrete bit. A stainless steel tube with a 0.25-inch-diameter threaded Swagelok® fitting was then connected to disposable, 0.25-inch-diameter polyethylene tubing and lowered into the hole. The annulus around the stainless steel tube was sealed with hydraulic cement, and then a Swagelok® fitting was attached to the top of the tubing to allow connection to an evacuated Summa canister. The hydraulic cement was allowed to cure for a minimum of 24 hours before sampling, and a leak test was performed by use of helium gas and a handheld helium detector (in accordance with EPA Region 7 Standard Operating Procedure [SOP] 2318.07A – Vapor Intrusion Port Installation and Sampling) to ensure that the Summa canister was drawing air only from under the slab and not air from inside the basement. The Summa canister was fitted with a flow regulator to enable collection of sub-slab vapors over a continuous 24-hour period. One property (Property ID 182) had a crawlspace under the home (no basement); at that residence, a Summa canister fitted with a flow regulator was lowered into the crawlspace for collection of a 24-hour sample.

Thirty-one indoor air samples, including two duplicates, were collected at residences within the site vicinity. These samples were collected within active living spaces. For the indoor air sampling, Summa canisters were also fitted with passive flow regulating devices to enable collection of air samples for a continuous 24-hour period. All Summa sampling accorded with EPA Region 7 SOP 4231.1704 – Summa Canister Sampling. In addition, four samples were collected at outdoor (ambient air) locations over a 24-

hour period to assess potential ambient air contribution of site-related contaminants to indoor air samples. Table 1 summarizes the sample locations, which are also shown on Figure 2 in Appendix A.

TABLE 1

SUB-SLAB SOIL GAS, INDOOR AIR, AND AMBIENT AIR SAMPLES
SPORLAN VALVE PLANT #1 SITE, WASHINGTON, MISSOURI

Property ID	Sample No.	Sample Address	Sample Location	Sample Type
117	117-1	704 MacArthur Street	Sub-slab	Soil gas
117	117-2	704 MacArthur Street	Basement	Indoor air
117	117-3	704 MacArthur Street	Kitchen	Indoor air
118	118-1	706 MacArthur Street	Sub-slab	Soil gas
118	118-2	706 MacArthur Street	Basement	Indoor air
118	118-3	706 MacArthur Street	1st Floor	Indoor air
118	118-3D	706 MacArthur Street	1st Floor (duplicate)	Indoor air
124	124-1	606 MacArthur Street	Sub-slab	Soil gas
124	124-2	606 MacArthur Street	Basement	Indoor air
124	124-3	606 MacArthur Street	Kitchen	Indoor air
130	130-1	546 E. 6th Street	Sub-slab	Soil gas
130	130-2	546 E. 6th Street	Basement	Indoor air
130	130-3	546 E. 6th Street	Kitchen	Indoor air
131	131-1	544 E. 6th Street	Sub-slab	Soil gas
131	131-2	544 E. 6th Street	Basement	Indoor air
131	131-3	544 E. 6th Street	Kitchen	Indoor air
131	131-4	544 E. 6th Street	Backyard	Outdoor – ambient air
144	144-1	702 MacArthur Street	Sub-slab	Soil gas
144	144-2	702 MacArthur Street	Basement	Indoor air
144	144-3	702 MacArthur Street	1st Floor	Indoor air
144	144-4	702 MacArthur Street	Backyard	Outdoor – ambient air
175	175-1	613 E. 8th Street	Sub-slab (not collected)*	Soil gas*
175	175-2	613 E. 8th Street	Basement	Indoor air
175	175-3	613 E. 8th Street	1st Floor	Indoor air
177	177-1	617 E. 8th Street	Sub-slab	Soil gas
177	177-2	617 E. 8th Street	Basement	Indoor air
177	177-3	617 E. 8th Street	1st Floor	Indoor air
178	178-1	619 E. 8th Street	Sub-slab	Soil gas
178	178-2	619 E. 8th Street	Basement	Indoor air
178	178-3	619 E. 8th Street	1st Floor	Indoor air
182	182-1	627 E. 8th Street	Crawlspace	Crawlspace
182	182-2	627 E. 8th Street	1st Floor	Indoor air
182	182-3	627 E. 8th Street	Backyard	Outdoor – ambient air
186	186-1	624 E. 8th Street	Sub-slab	Soil gas
186	186-2	624 E. 8th Street	Basement	Indoor air
186	186-2D	624 E. 8th Street	Basement (duplicate)	Indoor air

TABLE 1 (Continued)

SUB-SLAB SOIL GAS, INDOOR AIR, AND AMBIENT AIR SAMPLES
SPORLAN VALVE PLANT #1 SITE, WASHINGTON, MISSOURI

Property ID	Sample No.	Sample Address	Sample Location	Sample Type
186	186-3	624 E. 8th Street	Kitchen	Indoor air
192	192-1	620 E. 8th Street	Sub-slab	Soil gas
192	192-2	620 E. 8th Street	Basement	Indoor air
192	192-3	620 E. 8th Street	1st Floor	Indoor air
193	193-1	616 E. 8th Street	Sub-slab (west)	Soil gas
193	193-2	616 E. 8th Street	Sub-slab (east)	Soil gas
193	193-3	616 E. 8th Street	Basement	Indoor air
193	193-4	616 E. 8th Street	Kitchen	Indoor air
194	194-1	614 E. 8th Street	Sub-slab	Soil gas
194	194-2	614 E. 8th Street	Basement	Indoor air
194	194-3	614 E. 8th Street	1st Floor	Indoor air
194	194-4	614 E. 8th Street	Backyard	Outdoor – ambient air
195	195-1	612 E. 8th Street	Sub-slab	Soil gas
195	195-1D	612 E. 8th Street	Sub-slab (duplicate)	Soil gas
195	195-2	612 E. 8th Street	Basement	Indoor air
195	195-3	612 E. 8th Street	Kitchen	Indoor air

Notes:

* Sample not collected due to saturated soil conditions under the slab

ID Identification

Samples for service request numbers P1603935, P1603961, and P1604058 were delivered to a START-contracted laboratory, [redacted], on August 10, 11, and 18, 2016, respectively. All samples were analyzed for the following chlorinated VOCs: TCE, PCE, 1,1-DCE, *cis*-1,2-DCE, *trans*-1,2-DCE, and VC. In addition, analyses for the VOCs benzene, toluene, ethylbenzene, and xylenes (BTEX) were requested by EPA for this first quarterly round of VIA sampling due to previous presence of at least one leaking fuel oil UST at the site.

4.0 ANALYTICAL DATA SUMMARY

Section 4.0 summarizes analytical data from samples collected during the August 2016 (first quarterly) VIA sampling event. A summary table of analytical results is in Appendix C. Complete analytical data transmittals from [redacted] and associated data validation reports (DVR) prepared by START chemists are in Appendix D.

4.1 REMOVAL ASSESSMENT CRITERIA

Screening levels and action levels for indoor air were based on EPA Regional Screening Levels (RSL) for residential settings (EPA 2016b), for comparison with analytical data from indoor air samples. The purpose of RSLs is to provide generic (non site-specific) screening values for initial evaluation of sites. These are developed according to risk assessment guidance from the EPA Superfund program. The values are considered protective for humans (including sensitive populations) over a lifetime. Generally, at sites where contaminant concentrations are below the RSLs, no further action or study under Superfund is warranted. Action levels (concentrations at which mitigation or cleanup measures are considered warranted) were determined by EPA Region 7 toxicologists. Sub-slab soil gas screening levels and action levels were derived by EPA Region 7 toxicologists by use of the Vapor Intrusion Screening Level (VISL) Calculator (EPA 2014). Table 2 lists those levels:

TABLE 2

SCREENING AND ACTION LEVELS
SPORLAN VALVE PLANT #1 SITE, WASHINGTON, MISSOURI

Contaminant of Concern	Residential Screening Level[1] (µg/m³)	Residential Action Level[2] (µg/m³)
Indoor Air		
Benzene	0.36	3.6
Ethylbenzene	1.1	NE
1,1-dichloroethene (DCE)	21	210
1,2-DCE	NE	NE
Tetrachloroethene (PCE)	4.2	NE
Toluene	520	NE
Trichloroethene (TCE)	0.20	2.0
Vinyl Chloride (VC)	0.17	1.7
Xylenes, Total	10	NE
Sub-slab Soil Gas[3]		
Benzene	12	120
Ethylbenzene	36.7	NE
1,1-dichloroethene (DCE)	700	7,000
1,2-DCE	NE	NE
Tetrachloroethene (PCE)	140	NE

TABLE 2 (Continued)

SCREENING AND ACTION LEVELS
SPORLAN VALVE PLANT #1 SITE, WASHINGTON, MISSOURI

Contaminant of Concern	Residential Screening Level[1] (µg/m³)	Residential Action Level[2] (µg/m³)
Toluene	17,333	NE
Trichloroethene (TCE)	6.7	67
Vinyl Chloride (VC)	5.7	57
Xylenes, Total	333.3	NE

Notes:

[1] Residential Screening Levels were obtained from EPA's May 2016 Residential Air Regional Screening Levels, based on the lower of a l x 10^{-6} excess lifetime cancer risk or a non-cancer hazard quotient of 0.1.

[2] Residential Action Levels were obtained from EPA's May 2016 Residential Air Regional Screening Levels, based on the lower of a l x 10^{-5} excess lifetime cancer risk or a non-cancer hazard quotient of 1.

[3] Sub-slab soil gas screening and action levels were calculated by use of an attenuation factor of 0.03.

NE Screening level or action level not established for this compound
µg/m³ Micrograms per cubic meter

The OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air (EPA 2015) suggests using multiple lines of evidence to assess the vapor intrusion pathway for a site. Analytical results from the properties sampled by EPA and START during this first quarterly VIA sampling were evaluated according to the following scenario criteria:

Scenario 1 – Results from all sub-slab soil gas and indoor air samples are below recommended action levels. The residential property likely has undergone no VI impact from a release. Recommendation is for quarterly sampling for a minimum of four sampling events. Seven of the properties sampled during the August 2016 VIA sampling event met this criterion (Property IDs 118, 130, 131, 175, 178, 192, and 195).

Scenario 2 – Concentrations of an analyte from all sub-slab soil gas samples are below the recommended action level, and a result for that analyte from an indoor air sample is above the recommended action level. An indoor contaminant source may exist at the residence. Recommendations are that the owner attempt identification (and removal) of indoor sources, and that quarterly sampling continues for a minimum of four sampling events. Six of the properties sampled during the August 2016 VIA sampling event met this criterion (Property IDs 144, 177, 182, 186, 193, and 194).

Scenario 3 – Results from sub-slab soil gas and indoor air samples are both above recommended action levels. This satisfies multiple lines of evidence criteria and indicates a completed VI exposure

pathway; the property is recommended for VMS installation by the PRP's contractor. No properties met this criterion during the August 2016 sampling effort.

Scenario 4 – Concentration of an analyte from a sub-slab soil gas sample is above the recommended action level, and results for that analyte from all indoor air samples are below the recommended action level. Threat of future VI into the residence exists and qualifies the property for removal action. The property is recommended for VMS installation. Two properties met this criterion (Property IDs 117 and 124) during the August 2016 sampling effort.

4.2 PROPERTY-SPECIFIC DATA EVALUATIONS

The following discussion summarizes analytical VI data obtained at each property. Based on the preceding criteria, each property qualifies for either a removal action, which requires installation of a VMS, or continued quarterly sampling**.**

Property ID 117 - The sub-slab soil gas sample exceeded the action level for TCE. TCE was detected at 400 µg/m^3. The action level is 67 µg/m^3. TCE was not detected in the indoor air samples. The basement and kitchen indoor air samples exceeded the action level for benzene, both detected at 23 µg/m^3. The action level for benzene in indoor air is 3.6 µg/m^3. Benzene was not detected in the sub-slab soil gas sample above the screening level. Ethylbenzene was detected in both indoor air samples above the screening level, with the highest concentration of 19 µg/m^3 in the kitchen sample. Both indoor air samples also exceeded the screening level for xylenes, with the highest concentration of 93 µg/m^3 reported in the kitchen sample. Indoor air results indicate a likely indoor source of BTEX. Because the action level for TCE was exceeded in the sub-slab soil gas sample, the property was eligible for preemptive VMS installation by the PRP, which occurred on October 20, 2016. Performance sampling was scheduled to occur approximately 30 days later. No further sampling on behalf of EPA is currently planned.

Property ID 118 - The sub-slab soil gas sample contained TCE at 2.4 µg/m^3, below the screening and action levels. TCE was not detected in the indoor air samples. The basement, first floor, and first floor duplicate indoor air samples exceeded screening levels for benzene and ethylbenzene. The highest concentration of benzene was in the first floor sample, at 2.4 µg/m^3. The highest concentration of ethylbenzene was in the basement sample, at 1.9 µg/m^3. These results indicate a likely indoor source of benzene and ethylbenzene. Because no action level was exceeded in the sub-slab soil gas sample or indoor air samples, the property is recommended for continued quarterly sampling for a minimum of four events.

Property ID 124 - The sub-slab soil gas sample exceeded the action level for TCE. TCE was detected in the sub-slab soil gas sample at 1,000 µg/m^3. TCE was not detected above the screening level in the indoor air samples. The basement and kitchen indoor air samples exceeded the screening level for benzene, with the highest concentration detected in the kitchen sample, at 0.45 µg/m^3. These conditions indicate a likely indoor source of benzene. Because the action level for TCE was exceeded in the sub-slab soil gas sample, the property was eligible for preemptive VMS installation by the PRP, which occurred on October 18, 2016. Performance sampling was scheduled to occur approximately 30 days later. No further sampling on behalf of EPA is currently planned.

Property ID 130 - The sub-slab soil gas sample was non-detect for TCE at < 0.41 µg/m^3, below the screening level. The basement indoor air sample exceeded screening levels for TCE, benzene, and ethylbenzene, at reported concentrations of 0.29, 1.9, and 1.5 µg/m^3, respectively. The kitchen indoor air sample exceeded the screening level for benzene, detected at 1.6 µg/m^3. These results indicate a likely indoor source of TCE, benzene, and ethylbenzene. Because no action level was exceeded in the sub-slab soil gas sample or indoor air samples, the property is recommended for continued quarterly sampling for a minimum of four events.

Property ID 131 - The sub-slab soil gas sample contained TCE at 0.78 µg/m^3, below the screening level. The basement and kitchen indoor air samples exceeded the screening level for ethylbenzene at 13 and 15 µg/m^3, respectively. The basement and kitchen indoor air samples also exceeded the screening levels for PCE, benzene, and xylenes. The kitchen sample contained the highest concentrations, with PCE detected at 31 µg/m^3, benzene at 1.5 µg/m^3, and xylenes at 62 µg/m^3. The outdoor ambient air sample at this property was non-detect for TCE at < 0.15 µg/m^3. Benzene and toluene were detected in the outdoor sample below the screening levels. These results indicate a likely indoor source of PCE and BTEX. Because no action level was exceeded in the sub-slab soil gas sample or indoor air samples, the property is recommended for continued quarterly sampling for a minimum of four events.

Property ID 144 - The sub-slab soil gas sample was non-detect for TCE at < 0.19 µg/m^3. TCE was also non-detect in the indoor air samples. The basement and first floor indoor air samples exceeded the action level for benzene, and exceeded the screening levels for toluene, ethylbenzene, and xylenes. The highest concentrations were in the basement indoor air sample with benzene detected at 300 µg/m^3, toluene at 1,700 µg/m^3, ethylbenzene at 280 µg/m^3, and xylenes at 1,340 µg/m^3. Notably, gasoline-powered lawn equipment and gas cans were stored inside the basement. The outdoor ambient air sample at this property was non-detect for TCE at < 0.17 µg/m^3. Benzene and toluene were detected in the outdoor sample below

the screening levels. Recommendations are that the property owner remove the indoor sources, and that quarterly sampling continues for a minimum of four events.

Property ID 175 - The sub-slab soil gas sample could not be collected during this sampling effort due to saturated soil conditions under the slab. TCE was not detected in the indoor air samples. The basement and first floor indoor air samples exceeded screening levels for benzene and ethylbenzene. The basement indoor air sample contained the highest concentrations, with benzene detected at 0.7 µg/m^3 and ethylbenzene at 1.4 µg/m^3. Because no sub-slab soil gas samples could be collected, recommendations are for follow-up effort to collect a sub-slab sample during a drier weather period, and for continued quarterly sampling for a minimum of four events.

Property ID 177 - The sub-slab soil gas sample was non-detect for TCE at < 0.14 µg/m^3. The basement indoor air sample exceeded the action level for TCE, detected at 2.4 µg/m^3; and screening levels for PCE, benzene, and ethylbenzene were also exceeded, with detections at 4.6, 1.7, and 2.2 µg/m^3, respectively. The first floor indoor air sample also exceeded screening levels for PCE, benzene, and ethylbenzene, with detections at 4.7, 1.5, and 1.8 µg/m^3, respectively. These results indicate a likely indoor source of the compounds detected in the indoor air samples. Recommendations are that the property owner attempt to identify and remove any indoor sources, and that quarterly sampling continues for a minimum of four events.

Property ID 178 - The sub-slab soil gas sample contained TCE at 0.3 µg/m^3, below the screening level. TCE was not detected in the indoor air samples. The basement and first floor indoor air samples exceeded the screening level for benzene. The first floor indoor air sample contained the highest benzene concentration at 1.5 µg/m^3. These results indicate a likely indoor source of benzene. Because no action level was exceeded in the sub-slab soil gas sample or indoor air samples, the property is recommended for continued quarterly sampling for a minimum of four events.

Property ID 182 - The crawlspace sample was non-detect for TCE at < 0.15 µg/m^3. TCE was also not detected in the indoor air sample. The first floor indoor air sample exceeded the action level for benzene, detected at 8 µg/m^3; and screening levels for ethylbenzene and xylenes were also exceeded, with detections at 8.1 and 35.4 µg/m^3, respectively. Based on these results, an indoor source of BTEX is suspected. The outdoor ambient air sample at this property was non-detect for TCE at < 0.16 µg/m^3. Benzene and toluene were detected in the outdoor sample below the screening levels. Because no action level was exceeded in the crawlspace air, recommendations are that the property owner attempt to identify and remove any indoor sources, and that quarterly sampling continues for a minimum of four events.

Property ID 186 - The sub-slab soil gas sample was non-detect for TCE at < 0.13 µg/m^3. The kitchen indoor air sample exceeded the action level for TCE at 11 µg/m^3. The kitchen indoor air sample also exceeded screening levels for benzene, ethylbenzene, and xylenes, detected at 3.2, 2.3, and 11 µg/m^3, respectively. In addition, the basement and basement duplicate indoor air samples exceeded the screening levels for benzene, ethylbenzene, and xylenes. Based on these results, an indoor source of TCE and BTEX is suspected. Recommendations are that the owner attempt to identify and remove any indoor sources, and that quarterly sampling continues for a minimum of four sampling events.

Property ID 192 - The sub-slab soil gas sample contained TCE at 0.4 µg/m^3, below the screening level. TCE was not detected in the indoor air samples. The basement and first floor indoor air samples exceeded screening levels for benzene and ethylbenzene. The highest concentrations were detected in the first floor indoor air sample, at 1 µg/m^3 for benzene and 3.1 µg/m^3 for ethylbenzene. These results indicate a likely indoor source of benzene and ethylbenzene. Because no action level was exceeded in the sub-slab soil gas sample or indoor air samples, the property is recommended for continued quarterly sampling for a minimum of four events.

Property ID 193 - The west sub-slab soil gas sample contained TCE at 0.56 µg/m^3, and the east sub-slab soil gas sample contained TCE at 0.4 µg/m^3, both below the screening level. The basement and kitchen indoor air samples exceeded action levels for TCE, benzene, and ethylbenzene, with the highest TCE concentration detected at 3 µg/m^3 in the basement indoor air sample. The kitchen indoor air sample contained higher levels of benzene and ethylbenzene, at 20 and 19 µg/m^3, respectively. The kitchen indoor air sample also exceeded the screening level for xylenes, detected at 86 µg/m^3. In addition, the basement indoor air sample exceeded the screening levels for VC, detected at 0.18 µg/m^3, and xylenes, detected at 82 µg/m^3. Because the sub-slab soil gas samples were below the screening level for TCE, but the indoor air samples exceeded the action level, an indoor contaminant source is suspected. In addition, an indoor source of BTEX and VC is suspected. Recommendations are that the owner attempt to identify and remove any indoor sources, and that quarterly sampling continues for a minimum of four events.

Property ID 194 - The sub-slab soil gas sample was non-detect for TCE at < 2.5 µg/m^3. TCE was non-detect in the indoor air samples as well. The basement and first floor indoor air samples exceeded the action level for benzene, with the highest concentration of 9.7 µg/m^3 in the basement indoor air sample. Also, the basement and first floor indoor air samples exceeded the screening level for ethylbenzene, with the highest concentration of 3 µg/m^3 in the basement sample. In addition, the basement indoor air sample exceeded the screening level for xylenes, detected at 11.1 µg/m^3. The outdoor ambient air sample at this

property was non-detect for TCE at < 0.16 µg/m^3. PCE, benzene, and toluene were detected in the outdoor sample below the screening levels. Based on these results, an indoor source for BTEX is suspected. Recommendations are that the owner attempt to identify and remove any indoor sources, and that quarterly sampling continues for a minimum of four events.

Property ID 195 - The sub-slab soil gas sample and a duplicate sub-slab soil gas sample were both non-detect for TCE at < 0.15 and < 0.14 µg/m^3, respectively. TCE was detected in the basement indoor air sample above the screening level, at 0.47 µg/m^3. Benzene was detected above the screening level in both indoor air samples, at 0.67 µg/m^3 in the basement and 0.85 µg/m^3 in the kitchen. Ethylbenzene was also detected in the kitchen indoor air sample above the screening level, at 1.3 µg/m^3. These results indicate a likely indoor source of TCE, benzene, and ethylbenzene. Because no action level was exceeded in the sub-slab soil gas sample or indoor air samples, the property is recommended for continued quarterly sampling for a minimum of four events.

5.0 SUMMARY AND CONCLUSIONS

The Sporlan Valve Plant #1 site, at 611 E. Seventh Street, consists of an unoccupied 4-acre parcel near downtown Washington, Franklin County, Missouri. From 1939 until approximately 2005, the site was the location of the Sporlan Valve Plant #1, where valves for the refrigeration industry were produced. Operations at the plant included plating, degreasing, machining, brazing, assembling, and testing. Degreasing operations included use of the chlorinated solvent TCE. The site also includes a TCE-contaminated groundwater plume that has migrated beyond the property boundaries. The property is now owned by SV Land LLC and is surrounded by a residential neighborhood.

The full extent of the TCE plume has not yet been delineated, but based on groundwater monitoring results, it is known to extend to the south toward Eighth Street and to the east toward MacArthur Street, beneath residential structures. VI sampling conducted in 2015 by MDNR as part of an SI/RSE identified concentrations of TCE that exceeded indoor air screening levels at three residential properties. During that sampling event, sub-slab soil gas concentrations of TCE exceeding screening levels were identified at four residential properties. MDNR subsequently referred the site to EPA Region 7 for removal action consideration in August 2015.

EPA reviewed available data from the 2015 MDNR SI/RSE and other sources, and determined that a complete subsurface VI to indoor air exposure pathway existed at one property. The report acknowledged that quarterly monitoring had not occurred at properties assessed for VI, and recommended quarterly VI monitoring at targeted residential properties and completion of plume delineation (horizontal and vertical extents). The review also resulted in installation of sub-slab depressurization VMSs by a PRP contractor at two impacted residences (Property IDs 153 and 176).

In July 2016, under CERCLA authority, EPA issued a UAO to SV Land LLC, requiring removal action to abate real and potential endangerment to the public and environment from release of hazardous substances at the site. Under the Order, SV Land LLC retained the services of Ramboll Environ to oversee installation of VMSs in selected homes around the site perimeter within a Tier 1 inclusion zone. Initially, this activity was planned to focus on the 11 properties nearest to the south site perimeter along East Seventh Street (Property IDs 145 to 155). Performance sampling of indoor air at these properties 30 days after the VMSs had been installed was also required. These activities began in fall 2016.

In conjunction with the enforcement action, EPA tasked Tetra Tech START to conduct quarterly VI sampling as part of an ISA to assess additional residences around the site perimeter, beyond the PRP's

initial Tier 1 inclusion zone. Tetra Tech START conducted the first quarterly VI sampling at selected residences in August 2016. Samples were collected during this effort at 15 residences on East Eighth Street and MacArthur Street. The samples included sub-slab soil gas, crawlspace air, indoor air, and outdoor ambient air; all were analyzed by a subcontracted laboratory for TCE, PCE, 1,1-DCE, *cis*-1,2-DCE, *trans*-1,2-DCE, VC, and BTEX.

TCE was detected above the sub-slab soil gas action level of 67 µg/m^3 at two properties (Property IDs 117 and 124), at 400 and 1,000 µg/m^3, respectively. At those two properties, potentially complete VI exposure pathways for TCE were identified; those properties were deemed eligible for preemptive VMS installation by the PRP. The systems were installed at both properties in October 2016. Ramboll Environ then conducted system performance sampling of indoor air approximately 30 days later. No further sampling on behalf of EPA is planned at these two properties. Based on analytical data from the remaining 13 properties sampled during this effort, all were recommended for continued quarterly sampling for a minimum of four sampling events.

Chlorinated VOCs were also detected in some indoor air samples. At three properties, TCE was detected above the indoor air action level of 2 µg/m^3, but the sub-slab soil gas samples were non-detect for TCE at each of those properties. At these three properties, an indoor contaminant source was suspected, and it was recommended that the owner attempt to identify and remove any indoor sources before resampling, and to continue with quarterly sampling for a minimum of four events. PCE was detected at two properties above the indoor air screening level of 4.2 µg/m^3, ranging from 4.6 to 31 µg/m^3. VC was detected in one indoor air sample above the indoor air screening level of 0.17 µg/m^3, at 0.18 µg/m^3. In each of these cases, the compounds (PCE or VC) were below screening levels in the sub-slab soil gas samples, indicating an indoor contaminant source.

In addition, BTEX was detected in numerous samples. Benzene was detected at or above the indoor air screening level of 0.36 µg/m^3 in 31 samples at all 15 properties, ranging from 0.41 to 300 µg/m^3. Nine samples contained benzene above the indoor air action level of 3.6 µg/m^3. Toluene was detected in two samples at one property above the indoor air screening level of 520 µg/m^3, with the highest concentration at 1,700 µg/m^3. Ethylbenzene was detected in 25 samples at 13 properties above the indoor air screening level of 1.1 µg/m^3, ranging from 1.3 to 280 µg/m^3. Eight samples contained ethylbenzene above the indoor air action level of 11 µg/m^3. Total xylenes were detected at or above the indoor air screening level of 10 µg/m^3 in 13 samples at seven properties, ranging from 10.8 to 1,340 µg/m^3. Two samples contained xylenes above the indoor air action level of 100 µg/m^3. BTEX was not detected above screening levels in

any of the sub-slab samples collected during this sampling effort, indicating an indoor air contaminant source at each of those properties.

The second quarterly VIA sampling event for this site occurred in fall 2016. Information regarding that sampling activity will be summarized in a follow-up report.

6.0 REFERENCES

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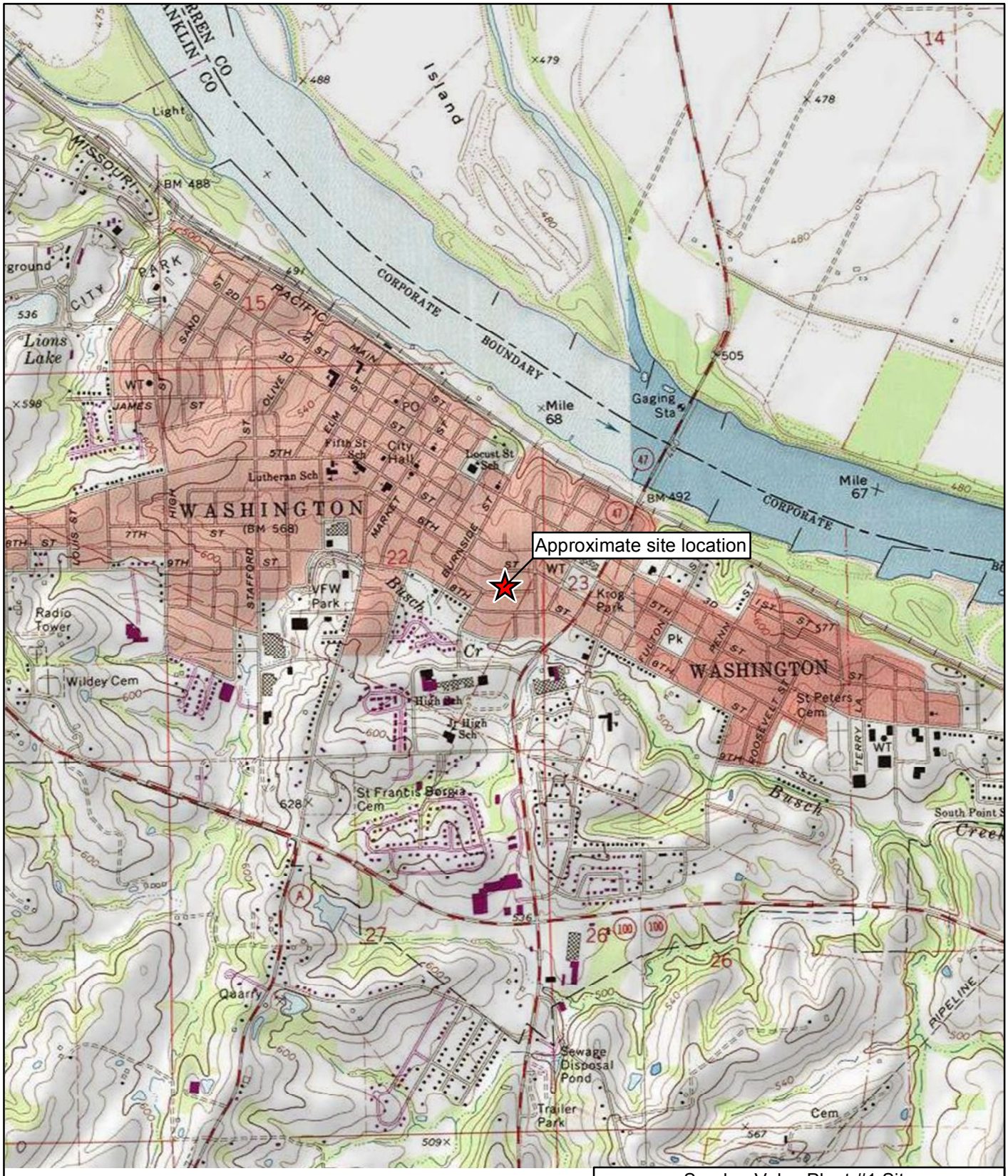
APPENDIX A

FIGURES



Source: USGS 7.5 Minute Topo Quad: Washington East, MO, 1972; Washington West, MO, 1973

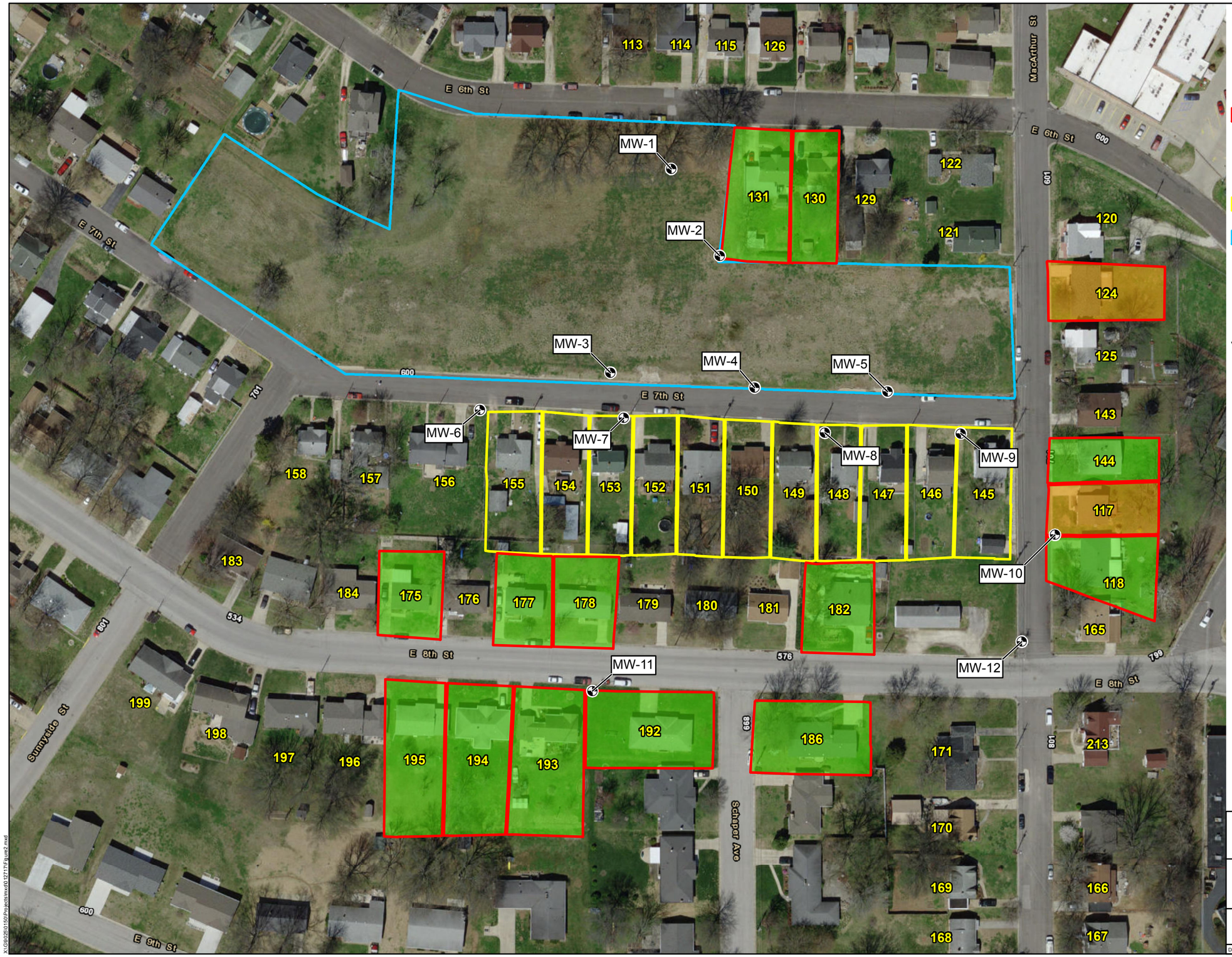
Sporlan Valve Plant #1 Site
611 East Seventh Street
Washington, Missouri

Figure 1
Site Location Map

TETRA TECH

Date: 7/7/2016 Drawn By: Clayton Hayes Project No: X9025.16.0150.000

X:\G\9025\0150\Projects\mxd\Figure 1.mxd



Legend

- Monitoring well location
- Property included in the VI assessment sampling program as of August 2016
- Property sampled August 2016
- Property sampled in August 2016 where sub-slab TCE vapors exceeded the action level, warrenting VMS installation
- Property where VMS has been installed, or is planned to be installed by the PRP
- Sporlan Valve Site property boundary
- 125 Property location identification

PRP Potentially responsible party
TCE Trichloroethene
VI Vapor Intrusion
VMS Vapor mitigation system

N

0 50 100

Feet

Source: ESRI, ArcGIS Online Maps, World Imagery, 2015

Sporlan Valve Plant #1 Site
611 East Seventh Street
Washington, Missouri

Figure 2
Site Layout and Sampling Locations Map
August 2016

TETRA TECH

Date: 1/27/2017 Drawn By: Clayton Hayes Project No: X9025.16.0150.000

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APPENDIX B

PHOTOGRAPHIC LOG

Sporlan Valve Plant #1 Site
Washington, Missouri

TETRA TECH PROJECT NO. X9025.16.0150.000 DIRECTION: Northeast	DESCRIPTION	This photograph shows Superfund Technical Assessment and Response Team (START) personnel performing a leak test on a sub-slab sampling port in a residential basement prior to sampling.	1
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/3/16
	PHOTOGRAPHER	Christy Engemann	

TETRA TECH PROJECT NO. X9025.16.0150.000 DIRECTION: Northeast	DESCRIPTION	This photograph shows a Summa canister collecting a sub-slab soil gas sample in a residential basement.	2
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/3/16
	PHOTOGRAPHER	Christy Engemann	

Sporlan Valve Plant #1 Site
Washington, Missouri

TETRA TECH PROJECT NO. X9025.16.0150.000 DIRECTION: North	DESCRIPTION	This photograph shows collocated Summa canisters collecting duplicate sub-slab soil gas samples at a residential property.	3
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/3/16
	PHOTOGRAPHER	Christy Engemann	

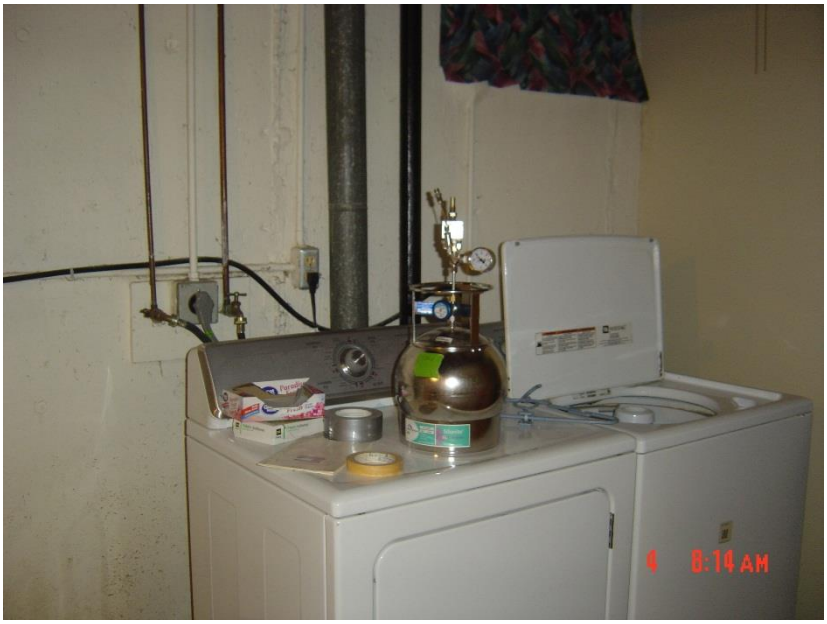
TETRA TECH PROJECT NO. X9025.16.0150.000 DIRECTION: West	DESCRIPTION	This photograph shows a Summa canister collecting a sample in a crawlspace at a residential property.	4
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/3/16
	PHOTOGRAPHER	Christy Engemann	

Sporlan Valve Plant #1 Site
Washington, Missouri

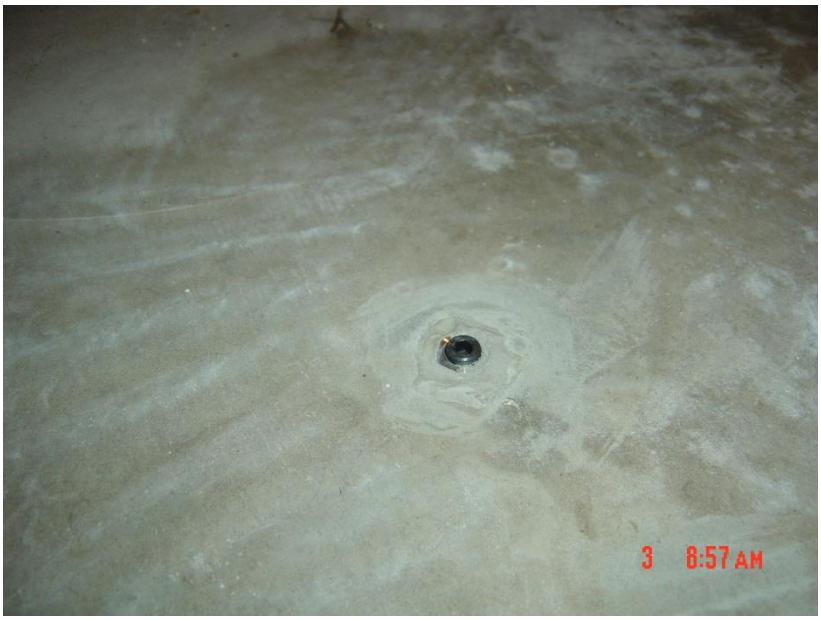
TETRA TECH PROJECT NO. X9025.16.0150.000 DIRECTION: Southwest	DESCRIPTION	This photograph shows a Summa canister collecting an indoor air sample at a residential property.	5
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/3/16
	PHOTOGRAPHER	Christy Engemann	

TETRA TECH PROJECT NO. X9025.16.0150.000 DIRECTION: South	DESCRIPTION	This photograph shows a Summa canister collecting an outdoor ambient air sample in the backyard at a residential property.	6
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/3/16
	PHOTOGRAPHER	Christy Engemann	

Sporlan Valve Plant #1 Site
Washington, Missouri



TETRA TECH PROJECT NO. X9025.16.0150.000 DIRECTION: Northeast	DESCRIPTION	This photograph shows a Summa canister collecting an indoor air sample in the laundry room (basement) at a residential property.	7
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/4/16
	PHOTOGRAPHER	Christy Engemann	



TETRA TECH PROJECT NO. X9025.16.0150.000 DIRECTION: Down	DESCRIPTION	This photograph shows a flush-mounted sub-slab sampling port (capped) after installation at a residential property.	8
	CLIENT	Environmental Protection Agency - Region 7	DATE 8/3/16
	PHOTOGRAPHER	Christy Engemann	

APPENDIX C

SUB-SLAB SOIL GAS, INDOOR AIR, AND AMBIENT AIR SAMPLE RESULTS TABLE

Vapor Intrusion (VI) Assessment Sample Results Summary - Sporlan Valve Plant #1 Site, Washington, MO August 2016 (Page 1 of 5)

Property ID 117 - 704 MacArthur Street											
Sampling Date 08/06/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
117-1	Subslab	400	7.5	< 0.54	< 0.54	< 0.54	< 0.54	2.2	13	4.1	21
117-2	Basement IA	< 0.13	3.4	< 0.13	< 0.13	< 0.13	< 0.13	23	100	18	88
117-3	Kitchen IA	< 0.13	1.4	< 0.13	< 0.13	< 0.13	< 0.13	23	110	19	93
Property ID 118 - 706 MacArthur Street											
Sampling Date 08/06/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
118-1	Subslab	2.4	4.5	< 0.16	< 0.16	< 0.16	< 0.16	0.76	6.6	3.2	17
118-2	Basement IA	< 0.16	0.2	< 0.16	< 0.16	< 0.16	< 0.16	2.1	31	1.9	5.5
118-3	1st Floor IA	< 0.17	0.21	< 0.17	< 0.17	< 0.17	< 0.17	2.4	34	1.8	5.2
118-3D	1st Floor IA Dup	< 0.15	0.21	< 0.15	< 0.15	< 0.15	< 0.15	2.1	32	1.8	5.1
Property ID 124 - 606 MacArthur Street											
Sampling Date 08/05/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
124-1	Subslab	1,000	39	< 0.95	5.1	190	< 0.95	1.1	9.5	5.1	25.9
124-2	Basement IA	0.18	< 0.17	< 0.17	< 0.17	< 0.17	<0.17	0.41	2.8	< 0.86	1.4
124-3	Kitchen IA	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	0.45	2.8	< 0.63	1.2
Subslab Screening Level		6.7	140	700	NE	NE	5.7	12	17,333	36.7	333.3
Subslab Action Level		67	NE	7,000	NE	NE	57	120	NE	NE	NE
Indoor Air Screening Level		0.2	4.2	21	NE	NE	0.17	0.36	520	1.1	10
Indoor Air Action Level		2	NE	210	NE	NE	1.7	3.6	NE	NE	NE

Notes:

Sample result in light blue-shaded cell exceeds the screening level; result in pink-shaded cell exceeds the action level.

Sample result with "<" symbol indicates compound was not present above the minimum detection level (MDL) or non-detect (ND).

Subslab = Soil gas sample from under the basement floor slab

IA = Indoor air sample

Dup = Duplicate sample

TCE = Trichloroethene

PCE = Tetrachloroethene, also known as perchloroethene

DCE = Dichloroethene

VC = Vinyl chloride

NE = Not established

µg/m³ = Micrograms per cubic meter

Vapor Intrusion (VI) Assessment Sample Results Summary - Sporlan Valve Plant #1 Site, Washington, MO August 2016 (Page 2 of 5)

Property ID 130 - 546 East 6th Street											
Sampling Date 08/06/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
130-1	Subslab	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	1.6	20	< 2.0	3.7
130-2	Basement IA	0.29	0.14	< 0.13	< 0.13	< 0.13	< 0.13	1.9	23	1.5	5.3
130-3	Kitchen IA	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	< 0.31	1.6	20	< 1.6	3.6
Property ID 131 - 544 East 6th Street											
Sampling Date 08/04/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
131-1	Subslab	0.78	18	< 0.49	< 0.49	< 0.49	< 0.49	11	54	18	76
131-2	Basement IA	< 0.17	28	0.43	< 0.17	< 0.17	< 0.17	1.4	76	13	55
131-3	Kitchen IA	< 0.18	31	0.58	< 0.18	< 0.18	< 0.18	1.5	73	15	62
131-4	Backyard OA	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	0.45	1.2	< 0.75	< 0.75
Property ID 144 - 702 MacArthur Street											
Sampling Date 08/06/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
144-1	Subslab	< 0.19	0.29	< 0.19	< 0.19	< 0.19	< 0.19	6.4	39	6.7	31.7
144-2	Basement IA	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	300	1,700	280	1,340
144-3	1st Floor IA	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	260	1,500	260	1,300
144-4	Backyard OA	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	0.41	0.97	< 0.87	< 0.87
Subslab Screening Level		6.7	140	700	NE	NE	5.7	12	17,333	36.7	333.3
Subslab Action Level		67	NE	7,000	NE	NE	57	120	NE	NE	NE
Indoor Air Screening Level		0.2	4.2	21	NE	NE	0.17	0.36	520	1.1	10
Indoor Air Action Level		2	NE	210	NE	NE	1.7	3.6	NE	NE	NE

Notes:

Sample result in light blue-shaded cell exceeds the screening level; result in pink-shaded cell exceeds the action level.

Sample result with "<" symbol indicates compound was not present above the minimum detection level (MDL) or non-detect (ND).

Subslab = Soil gas sample from under the basement floor slab

IA = Indoor air sample

Dup = Duplicate sample

TCE = Trichloroethene

PCE = Tetrachloroethene, also known as perchloroethene

DCE = Dichloroethene

OA = Outdoor air

VC = Vinyl chloride

NE = Not established

µg/m³ = Micrograms per cubic meter

Vapor Intrusion (VI) Assessment Sample Results Summary - Sporlan Valve Plant #1 Site, Washington, MO August 2016 (Page 3 of 5)

Property ID 175 - 613 East 8th Street											
Sampling Date 08/04/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
175-1*	Subslab	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
175-2	Basement IA	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	0.7	6.9	1.4	4.2
175-3	1st Floor IA	< 0.12	2.6	< 0.12	< 0.12	< 0.12	< 0.12	0.64	6.5	1.3	4.1
Property ID 177 - 617 East 8th Street											
Sampling Date 08/04/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
177-1	Subslab	< 0.14	21	< 0.14	< 0.14	< 0.14	< 0.14	0.74	13	4.6	21.8
177-2	Basement IA	2.4	4.6	0.15	< 0.14	< 0.14	< 0.14	1.7	60	2.2	7.8
177-3	1st Floor IA	< 0.15	4.7	< 0.15	< 0.15	< 0.15	< 0.15	1.5	51	1.8	6
Property ID 178 - 619 East 8th Street											
Sampling Date 08/05/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
178-1	Subslab	0.3	2.7	< 0.18	< 0.18	0.27	< 0.18	0.92	16	8.9	42
178-2	Basement IA	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	1.4	4.3	< 0.78	1.3
178-3	1st Floor IA	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	< 0.18	1.5	4.5	< 0.92	1.3
Subslab Screening Level		6.7	140	700	NE	NE	5.7	12	17,333	36.7	333.3
Subslab Action Level		67	NE	7,000	NE	NE	57	120	NE	NE	NE
Indoor Air Screening Level		0.2	4.2	21	NE	NE	0.17	0.36	520	1.1	10
Indoor Air Action Level		2	NE	210	NE	NE	1.7	3.6	NE	NE	NE

Notes:

* Sample # 175-1 - Subslab sample was not collected during this effort due to saturated soil conditions under the slab.

Sample result in light blue-shaded cell exceeds the screening level; result in pink-shaded cell exceeds the action level.

Sample result with "<" symbol indicates compound was not present above the minimum detection level (MDL) or non-detect (ND).

Subslab = Soil gas sample from under the basement floor slab

IA = Indoor air sample

OA = Outdoor air

Dup = Duplicate sample

TCE = Trichloroethene

PCE = Tetrachloroethene, also known as perchloroethene

DCE = Dichloroethene

NC = Not collected

VC = Vinyl chloride

NE = Not established

µg/m³ = Micrograms per cubic meter

Vapor Intrusion (VI) Assessment Sample Results Summary - Sporlan Valve Plant #1 Site, Washington, MO August 2016 (Page 4 of 5)

Property ID 182 - 627 East 8th Street											
Sampling Date 08/03/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
182-1	Crawlspace	< 0.15	2.4	< 0.15	< 0.15	< 0.15	< 0.15	8.7	50	8.6	38
182-2	1st Floor IA	< 0.12	3	0.13	< 0.12	< 0.12	< 0.12	8	47	8.1	35.4
182-3	Backyard OA	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	0.4	0.9	< 0.79	< 0.79
Property ID 186 - 624 East 8th Street											
Sampling Date 08/06/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
186-1	Subslab	< 0.13	1.3	< 0.13	< 0.13	< 0.13	< 0.13	1.5	9.7	3.5	18.2
186-2	Basement IA	0.18	0.62	< 0.17	< 0.17	0.19	< 0.17	3.2	18	2.4	11.4
186-2D	Basement Dup	< 0.22	0.37	< 0.22	< 0.22	< 0.22	< 0.22	3.3	17	2.4	10.8
186-3	Kitchen IA	11	0.29	< 0.13	< 0.13	0.15	< 0.13	3.2	16	2.3	11
Property ID 192 - 620 East 8th Street											
Sampling Date 08/13/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
192-1	Subslab	0.4	1.3	< 0.12	< 0.12	< 0.12	< 0.12	1.4	16	4.1	21.5
192-2	Basement IA	< 0.16	0.7	< 0.16	< 0.16	< 0.16	< 0.16	0.95	10	1.6	5.3
192-3	1st Floor IA	< 0.16	0.71	< 0.16	< 0.16	< 0.16	< 0.16	1	18	3.1	9.6
Subslab Screening Level		6.7	140	700	NE	NE	5.7	12	17,333	36.7	333.3
Subslab Action Level		67	NE	7,000	NE	NE	57	120	NE	NE	NE
Indoor Air Screening Level		0.2	4.2	21	NE	NE	0.17	0.36	520	1.1	10
Indoor Air Action Level		2	NE	210	NE	NE	1.7	3.6	NE	NE	NE

Notes:

Sample result in light blue-shaded cell exceeds the screening level; result in pink-shaded cell exceeds the action level.

Sample result with "<" symbol indicates compound was not present above the minimum detection level (MDL) or non-detect (ND).

Subslab = Soil gas sample from under the basement floor slab

IA = Indoor air sample

OA = Outdoor Air

Dup = Duplicate sample

TCE = Trichloroethene

PCE = Tetrachloroethene, also known as perchloroethene

DCE = Dichloroethene

VC = Vinyl chloride

NE = Not established

µg/m³ = Micrograms per cubic meter

Vapor Intrusion (VI) Assessment Sample Results Summary - Sporlan Valve Plant #1 Site, Washington, MO August 2016 (Page 5 of 5)

Property ID 193 - 616 East 8th Street											
Sampling Date 08/03/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
193-1	Subslab West	0.56	2.3	< 0.17	< 0.17	< 0.17	< 0.17	2.7	31	8.4	37.8
193-2	Subslab East	0.4	2.9	< 0.16	< 0.16	< 0.16	< 0.16	2.2	28	9.7	42
193-3	Basement IA	3	2.5	0.34	< 0.18	< 0.18	0.18	17	170	18	82
193-4	Kitchen IA	2.4	2.5	0.32	< 0.16	< 0.16	< 0.16	20	170	19	86
Property ID 194 - 614 East 8th Street											
Sampling Date 08/13/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
194-1	Subslab	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 12	< 12	< 12
194-2	Basement IA	< 0.13	0.54	< 0.13	< 0.13	< 0.13	< 0.13	9.7	22	3	11.1
194-3	1st Floor IA	< 0.13	0.52	< 0.13	< 0.13	< 0.13	< 0.13	7.5	19	2.5	9.1
194-4	Backyard OA	< 0.16	0.16	< 0.16	< 0.16	< 0.16	< 0.16	0.43	1.3	< 0.79	< 0.79
Property ID 195 - 612 East 8th Street											
Sampling Date 08/04/2016		Chemical Constituent Concentrations (µg/m³)									
Sample #	Location	TCE	PCE	1,1-DCE	*trans*- 1,2-DCE	*cis*- 1,2-DCE	VC	Benzene	Toluene	Ethylbenzene	Total Xylenes
195-1	Subslab	< 0.15	4.7	< 0.15	< 0.15	< 0.15	< 0.15	0.35	5.7	4.3	20.4
195-1D	Subslab Dup	< 0.14	4.6	< 0.14	< 0.14	< 0.14	< 0.14	0.39	7.5	4.1	19.4
195-2	Basement IA	0.47	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	0.67	3.4	0.94	2.92
195-3	Kitchen IA	0.19	0.18	< 0.13	< 0.13	< 0.13	< 0.13	0.85	4.8	1.3	4.98
Subslab Screening Level		6.7	140	700	NE	NE	5.7	12	17,333	36.7	333.3
Subslab Action Level		67	NE	7,000	NE	NE	57	120	NE	NE	NE
Indoor Air Screening Level		0.2	4.2	21	NE	NE	0.17	0.36	520	1.1	10
Indoor Air Action Level		2	NE	210	NE	NE	1.7	3.6	NE	NE	NE

Notes:

Sample result in light blue-shaded cell exceeds the screening level; result in pink-shaded cell exceeds the action level.

Sample result with "<" symbol indicates compound was not present above the minimum detection level (MDL) or non-detect (ND).

Subslab = Soil gas sample from under the basement floor slab

IA = Indoor air sample

OA = Outdoor air

Dup = duplicate sample

TCE = Trichloroethene

PCE = Tetrachloroethene, also known as perchloroethene

DCE = Dichloroethene

VC = Vinyl chloride

NE = Not established

µg/m³ = Micrograms per cubic meter

APPENDIX D

ANALYTICAL RESULTS AND DATA VALIDATION REPORTS

[redacted]

[redacted]

LABORATORY REPORT

August 24, 2016

Dave Kinroth
Seagull Environmental Technologies, Inc.
415 Oak Street
Kansas City, MO 64106

RE: Sporlan Valve Plant #1 ISA / 0150

Dear Dave:

Enclosed are the results of the samples submitted to our laboratory on August 10, 2016. For your reference, these analyses have been assigned our service request number P1603935.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at [redacted]

Respectfully submitted,

[redacted]

[redacted]

[redacted]

Client: Seagull Environmental Technologies, Inc. Service Request No: P1603935
Project: Sporlan Valve Plant #1 ISA / 0150

CASE NARRATIVE

The samples were received intact under chain of custody on August 10, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation, however it is not part of the AIHA-LAP, LLC accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

[redacted] [redacted]

CERTIFICA [redacted] STRATIONS

Agency	Web Site	Number
AIHA-LAP, LLC	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-003
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-16-7
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272016-6
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

[redacted]

[redacted]

[redacted]

Client: Seagull Environmental Technologies, Inc. Service Request: P1603935
Project ID: Sporlan Valve Plant #1 ISA / 0150

Date Received: 8/10/2016
Time Received: 09:25

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
SVP1-SS-20160803-193-1	P1603935-001	Air	8/3/2016	13:45	SC01569	-4.02	3.65	X
SVP1-SS-20160803-193-2	P1603935-002	Air	8/3/2016	13:49	SC01041	-2.99	3.55	X
SVP1-IA-20160803-193-3	P1603935-003	Air	8/3/2016	13:51	AC02060	-4.55	3.54	X
SVP1-IA-20160803-193-4	P1603935-004	Air	8/3/2016	13:43	AC02161	-3.45	3.59	X
SVP1-CS-20160803-182-1	P1603935-005	Air	8/3/2016	14:49	AC01887	-2.69	3.73	X
SVP1-IA-20160803-182-2	P1603935-006	Air	8/3/2016	14:48	AS01036	0.07	3.56	X
SVP1-OA-20160803-182-3	P1603935-007	Air	8/3/2016	14:50	AS00843	-3.09	3.51	X
SVP1-SS-20160804-177-1	P1603935-008	Air	8/4/2016	07:41	SC00689	-1.09	3.64	X
SVP1-IA-20160804-177-2	P1603935-009	Air	8/4/2016	07:40	AC02023	-1.62	3.63	X
SVP1-IA-20160804-177-3	P1603935-010	Air	8/4/2016	07:39	AC02112	-2.57	3.66	X
SVP1-SS-20160804-195-1	P1603935-011	Air	8/4/2016	10:30	SC02105	-2.43	3.76	X
SVP1-SS-20160804-195-1D	P1603935-012	Air	8/4/2016	10:30	SC01058	-1.49	3.62	X
SVP1-IA-20160804-195-2	P1603935-013	Air	8/4/2016	10:32	AC00642	-2.09	4.05	X
SVP1-IA-20160804-195-3	P1603935-014	Air	8/4/2016	10:34	AC02151	-1.00	3.51	X
SVP1-SS-20160804-131-1	P1603935-015	Air	8/4/2016	14:14	SC01539	-10.81	4.19	X
SVP1-IA-20160804-131-2	P1603935-016	Air	8/4/2016	14:08	AC01850	-3.89	3.89	X
SVP1-IA-20160804-131-3	P1603935-017	Air	8/4/2016	14:07	AC01149	-3.46	5.44	X
SVP1-OA-20160804-131-4	P1603935-018	Air	8/4/2016	14:02	AS00163	-0.78	5.98	X

[redacted] [redacted]

Chain of Custody Record & Analytical Service Request

Page 1 of 2

Requested Turnaround Time in Business Days (Surcharges) please circle:
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No: P1603935

Company Name & Address (Reporting Information)
Tetra Tech Inc.
415 Oak St.
Kansas City, MO 64106

Project Name: Sparlan Valve Plant #1 ISA

Project Number: 0150

Project Manager: Dave Kinroth Emily Fisher

P.O. # / Billing Information

Phone: 314-517-6798 Fax: 314-395-3157

Email Address for Result Reporting: davekinroth@charter.net

Sampler (Print & Sign): Dave Kinroth Dave Kinroth

ALS Contact:

Analysis Method: TCE, PCE, DCE, VC, BTEX

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method	Comments e.g. Actual Preservative or specific instructions
SVP1-SS-20160803-193-1	1	8-3-16	13:45	SC01569	OA02030	-30.01	-8.29		X	
				OA02030						
SVP1-SS-20160803-193-2	2	8-3-16	13:49	SC01041	OA01876	-29.97	-6.03		X	
SVP1-IA-20160803-193-3	3	↓	13:51	AC02060	FCS00021	-30.01	-9.20		↓	
↓ ↓ ↓ -193-4	4	↓	13:43	AC02161	FCS00177	-30.08	-6.84		↓	
SVP1-SS-20160803-182-1	5	8-3-16	14:49	AC01887	FCS00045	-26.89	-5.18		↓	
SVP1-IA-20160803-182-2	6	↓	14:48	AS01036	FCS00286	-30.10	-0.81		↓	
SVP1-OA-20160803-182-3	7	↓	14:50	AS00843	FCS00257	-30.05	-5.92		↓	
SVP1-SS-20160804-177-1	8	8-4-16	7:41	SC00689	OA01178	-29.44	-2.33		↓	
SVP1-IA-20160804-177-2	9	↓	7:40	AC02023	FCS00291	-26.95	-3.52		↓	
SVP1-IA-20160804-177-3	10	↓	7:39	AC02112	FCS00102	-29.98	-5.28		↓	
SVP1-SS-20160804-195-1	11	8-4-16	10:30	SC02105	OA02072	-29.96	-4.86		↓	
SVP1-SS- ↓ -195-D	12	↓	↓	SC00458	OA00754	-29.55	-2.96		↓	
SVP1-IA-20160804-195-2	13	↓	10:32	AC00642	FCS00076	-29.85	-4.25		↓	

Report Tier Levels - please select

Tier I - Results (Default in not specified) ____
Tier II (Results + QC Summaries X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Date Validation Package) 10% Surcharge ____

EDD required (YES) No
Type: EXCEL Units: ug/m3

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)
0.1 ug/m3

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Dave Kinroth	8-4-16	17:45			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: 8/10/16	Time: 0925

Cooler / Blank Temperature ____ °C

[redacted]

Chain of Custody Record & Analytical Service Request

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No PL0803935

Company Name & Address (Reporting Information)	Tetra Tech Inc. 415 Oak St. Kansas City, MO 64106
Project Manager	Dave Kinroth Emily Fisher
Phone / Fax	314 517 6798 / 314-395-3157
Email Address for Result Reporting	davekinroth@charter.net
Project Name	Sparkan Valve Plant #1 ISA
Project Number	0150
P.O. # / Billing Information	
Sampler (Print & Sign)	Dave Kinroth Dave Kinroth
ALS Contact:	

Analysis Method: TCE, PCE, DCE, VC, BTEX

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Analysis Method	Comments e.g. Actual Preservative or specific instructions
SVPI-IA-20160804-195-3	14	8-4-16	10:34	AC02151	FCS00292	-30,01	-1,90		X	
SVPI-SS-20160804-131-1	15	8-4-16	1414	SC01539	OA01603	-30,05	-22,62		↓	
SVPI-IA-20160804-131-2	16	↓	1408	AC01850	FCS00069	-27,45	-8,09		↓	
↓ ↓ ↓ -131-3	17	↓	1407	AC01149	FCS00014	-30,05	-7,24		↓	
SVPI-OA-20160804-131-4	18	↓	1402	AS00163	FCS00290	-30,05	-1,57		↓	

END OF SHIPMENT #1
Dave Kinroth

6 of 33

Report Tier Levels - please select

Tier I - Results (Default in not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries X Tier IV (Date Validation Package) 10% Surcharge ____

EDD required YES / No
Type: E-XCel Units: ug/M3

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP): Old ug/m3

Relinquished by: (Signature) Dave Kinroth	Date: 8-4-16	Time: 17:45	Received by: (Signature)	Date: 8/10/16	Time: 0925	Cooler / Blank Temperature ____°C
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	

[redacted]

Sam [redacted] orm

Client: Seagull Environmental Technologies, Inc Work order: P1603935

Project: Sporlan Valve Plant #1 ISA

Sample(s) received on: 8/10/16 D opened: 8/10/16 by: KKELPE

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1603935-001.01	6.0 L Source Can					
P1603935-002.01	6.0 L Source Can					
P1603935-003.01	6.0 L Ambient Can					
P1603935-004.01	6.0 L Ambient Can					
P1603935-005.01	6.0 L Ambient Can					
P1603935-006.01	6.0 L Silonite Can					
P1603935-007.01	6.0 L Silonite Can					
P1603935-008.01	6.0 L Source Can					
P1603935-009.01	6.0 L Ambient Can					
P1603935-010.01	6.0 L Ambient Can					
P1603935-011.01	6.0 L Source Can					
P1603935-012.01	6.0 L Source Can					
P1603935-013.01	6.0 L Ambient Can					
P1603935-014.01	6.0 L Ambient Can					
P1603935-015.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

Sam [redacted] orm

Client: Seagull Environmental Technologies, Inc Work order: P1603935

Project: Sporlan Valve Plant #1 ISA

Sample(s) received on: 8/10/16 D opened: 8/10/16 by: KKELPE

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1603935-016.01	6.0 L Ambient Can					
P1603935-017.01	6.0 L Ambient Can					
P1603935-018.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160803-193-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01569

D ollected: 8/3/16
Date Received: 8/10/16
Date Analyzed: 8/16/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -4.02 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.17	ND	0.067	
75-35-4	1,1-Dichloroethene	ND	0.17	ND	0.043	
156-60-5	trans-1,2-Dichloroethene	ND	0.17	ND	0.043	
156-59-2	cis-1,2-Dichloroethene	ND	0.17	ND	0.043	
71-43-2	Benzene	**2.7**	0.17	**0.83**	0.054	
79-01-6	Trichloroethene	**0.56**	0.17	**0.10**	0.032	
108-88-3	Toluene	**31**	0.86	**8.3**	0.23	
127-18-4	Tetrachloroethene	**2.3**	0.17	**0.33**	0.025	
100-41-4	Ethylbenzene	**8.4**	0.86	**1.9**	0.20	
179601-23-1	m,p-Xylenes	**28**	0.86	**6.5**	0.20	
95-47-6	o-Xylene	**9.8**	0.86	**2.3**	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160803-193-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]
Project ID: P1603935
Sample ID: P1603935-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01041

Date Collected: 8/3/16
Date Received: 8/10/16
Date Analyzed: 8/16/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.99 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.061	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.039	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.039	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.039	
71-43-2	Benzene	**2.2**	0.16	**0.68**	0.049	
79-01-6	Trichloroethene	**0.40**	0.16	**0.075**	0.029	
108-88-3	Toluene	**28**	0.78	**7.5**	0.21	
127-18-4	Tetrachloroethene	**2.9**	0.16	**0.42**	0.023	
100-41-4	Ethylbenzene	**9.7**	0.78	**2.2**	0.18	
179601-23-1	m,p-Xylenes	**31**	0.78	**7.3**	0.18	
95-47-6	o-Xylene	**11**	0.78	**2.5**	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160803-193-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]
Project ID: P1603935
Sample ID: P1603935-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02060

Date Collected: 8/3/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -4.55 Final Pressure (psig): 3.54

Canister Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	**0.18**	0.18	**0.071**	0.070	
75-35-4	1,1-Dichloroethene	**0.34**	0.18	**0.085**	0.045	
156-60-5	trans-1,2-Dichloroethene	ND	0.18	ND	0.045	
156-59-2	cis-1,2-Dichloroethene	ND	0.18	ND	0.045	
71-43-2	Benzene	**17**	0.18	**5.4**	0.056	
79-01-6	Trichloroethene	**3.0**	0.18	**0.56**	0.034	
108-88-3	Toluene	**170**	0.90	**46**	0.24	
127-18-4	Tetrachloroethene	**2.5**	0.18	**0.37**	0.027	
100-41-4	Ethylbenzene	**18**	0.90	**4.2**	0.21	
179601-23-1	m,p-Xylenes	**62**	0.90	**14**	0.21	
95-47-6	o-Xylene	**20**	0.90	**4.6**	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160803-193-4**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-004

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02161

Date Collected: 8/3/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.45 Final Pressure (psig): 3.59

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.064	
75-35-4	1,1-Dichloroethene	**0.32**	0.16	**0.080**	0.041	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.041	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.041	
71-43-2	Benzene	**20**	0.16	**6.2**	0.051	
79-01-6	Trichloroethene	**2.4**	0.16	**0.45**	0.030	
108-88-3	Toluene	**170**	0.82	**44**	0.22	
127-18-4	Tetrachloroethene	**2.5**	0.16	**0.37**	0.024	
100-41-4	Ethylbenzene	**19**	0.82	**4.4**	0.19	
179601-23-1	m,p-Xylenes	**65**	0.82	**15**	0.19	
95-47-6	o-Xylene	**21**	0.82	**4.9**	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-CS-20160803-182-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]
Project ID: P1603935
Sample ID: P1603935-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01887

Date Collected: 8/3/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.69 Final Pressure (psig): 3.73

Canister Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.060	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.039	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.039	
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.039	
71-43-2	Benzene	**8.7**	0.15	**2.7**	0.048	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
108-88-3	Toluene	**50**	0.77	**13**	0.20	
127-18-4	Tetrachloroethene	**2.4**	0.15	**0.35**	0.023	
100-41-4	Ethylbenzene	**8.6**	0.77	**2.0**	0.18	
179601-23-1	m,p-Xylenes	**28**	0.77	**6.4**	0.18	
95-47-6	o-Xylene	**10**	0.77	**2.3**	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160803-182-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS01036

Date Collected: 8/3/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.07 Final Pressure (psig): 3.56

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.12	ND	0.049	
75-35-4	1,1-Dichloroethene	**0.13**	0.12	**0.033**	0.031	
156-60-5	trans-1,2-Dichloroethene	ND	0.12	ND	0.031	
156-59-2	cis-1,2-Dichloroethene	ND	0.12	ND	0.031	
71-43-2	Benzene	**8.0**	0.12	**2.5**	0.039	
79-01-6	Trichloroethene	ND	0.12	ND	0.023	
108-88-3	Toluene	**47**	0.62	**13**	0.16	
127-18-4	Tetrachloroethene	**3.0**	0.12	**0.44**	0.018	
100-41-4	Ethylbenzene	**8.1**	0.62	**1.9**	0.14	
179601-23-1	m,p-Xylenes	**26**	0.62	**6.0**	0.14	
95-47-6	o-Xylene	**9.4**	0.62	**2.2**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-OA-20160803-182-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]
Project ID: P1603935
Sample ID: P1603935-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00843

Date Collected: 8/3/16
Date Received: 8/10/16
Date Analyzed: 8/16/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.09 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.061	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.040	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.040	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.040	
71-43-2	Benzene	**0.40**	0.16	**0.12**	0.049	
79-01-6	Trichloroethene	ND	0.16	ND	0.029	
108-88-3	Toluene	**0.90**	0.79	**0.24**	0.21	
127-18-4	Tetrachloroethene	ND	0.16	ND	0.023	
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	0.79	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160804-177-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC00689

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.09 Final Pressure (psig): 3.64

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.053	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.034	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.034	
156-59-2	cis-1,2-Dichloroethene	ND	0.14	ND	0.034	
71-43-2	Benzene	**0.74**	0.14	**0.23**	0.042	
79-01-6	Trichloroethene	ND	0.14	ND	0.025	
108-88-3	Toluene	**13**	0.68	**3.5**	0.18	
127-18-4	Tetrachloroethene	**21**	0.14	**3.1**	0.020	
100-41-4	Ethylbenzene	**4.6**	0.68	**1.1**	0.16	
179601-23-1	m,p-Xylenes	**16**	0.68	**3.6**	0.16	
95-47-6	o-Xylene	**5.8**	0.68	**1.3**	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160804-177-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]
Project ID: P1603935
Sample ID: P1603935-009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02023

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/16/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.62 Final Pressure (psig): 3.63

Canister Dilution Factor: 1.40

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.055	
75-35-4	1,1-Dichloroethene	**0.15**	0.14	**0.039**	0.035	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.035	
156-59-2	cis-1,2-Dichloroethene	ND	0.14	ND	0.035	
71-43-2	Benzene	**1.7**	0.14	**0.54**	0.044	
79-01-6	Trichloroethene	**2.4**	0.14	**0.44**	0.026	
108-88-3	Toluene	**60**	0.70	**16**	0.19	
127-18-4	Tetrachloroethene	**4.6**	0.14	**0.67**	0.021	
100-41-4	Ethylbenzene	**2.2**	0.70	**0.50**	0.16	
179601-23-1	m,p-Xylenes	**5.8**	0.70	**1.3**	0.16	
95-47-6	o-Xylene	**2.0**	0.70	**0.46**	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160804-177-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-010

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02112

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/16/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.57 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.059	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.038	
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.038	
71-43-2	Benzene	**1.5**	0.15	**0.48**	0.047	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
108-88-3	Toluene	**51**	0.76	**14**	0.20	
127-18-4	Tetrachloroethene	**4.7**	0.15	**0.70**	0.022	
100-41-4	Ethylbenzene	**1.8**	0.76	**0.42**	0.17	
179601-23-1	m,p-Xylenes	**4.5**	0.76	**1.0**	0.17	
95-47-6	o-Xylene	**1.5**	0.76	**0.34**	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160804-195-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-011

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC02105

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.43 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.50

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.059	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.038	
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.038	
71-43-2	Benzene	**0.35**	0.15	**0.11**	0.047	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
108-88-3	Toluene	**5.7**	0.75	**1.5**	0.20	
127-18-4	Tetrachloroethene	**4.7**	0.15	**0.69**	0.022	
100-41-4	Ethylbenzene	**4.3**	0.75	**0.98**	0.17	
179601-23-1	m,p-Xylenes	**15**	0.75	**3.4**	0.17	
95-47-6	o-Xylene	**5.4**	0.75	**1.2**	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160804-195-1D**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-012

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01058

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.49 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.14	ND	0.054	
75-35-4	1,1-Dichloroethene	ND	0.14	ND	0.035	
156-60-5	trans-1,2-Dichloroethene	ND	0.14	ND	0.035	
156-59-2	cis-1,2-Dichloroethene	ND	0.14	ND	0.035	
71-43-2	Benzene	**0.39**	0.14	**0.12**	0.044	
79-01-6	Trichloroethene	ND	0.14	ND	0.026	
108-88-3	Toluene	**7.5**	0.70	**2.0**	0.18	
127-18-4	Tetrachloroethene	**4.6**	0.14	**0.68**	0.021	
100-41-4	Ethylbenzene	**4.1**	0.70	**0.94**	0.16	
179601-23-1	m,p-Xylenes	**14**	0.70	**3.3**	0.16	
95-47-6	o-Xylene	**5.4**	0.70	**1.2**	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160804-195-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-013

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC00642

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.09 Final Pressure (psig): 4.05

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.038	
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.038	
71-43-2	Benzene	**0.67**	0.15	**0.21**	0.047	
79-01-6	Trichloroethene	**0.47**	0.15	**0.088**	0.028	
108-88-3	Toluene	**3.4**	0.75	**0.91**	0.20	
127-18-4	Tetrachloroethene	ND	0.15	ND	0.022	
100-41-4	Ethylbenzene	**0.94**	0.75	**0.22**	0.17	
179601-23-1	m,p-Xylenes	**2.1**	0.75	**0.49**	0.17	
95-47-6	o-Xylene	**0.82**	0.75	**0.19**	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160804-195-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-014

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02151

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.00 Final Pressure (psig): 3.51

Canister Dilution Factor: 1.33

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.052	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.034	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.034	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.034	
71-43-2	Benzene	**0.85**	0.13	**0.27**	0.042	
79-01-6	Trichloroethene	**0.19**	0.13	**0.036**	0.025	
108-88-3	Toluene	**4.8**	0.67	**1.3**	0.18	
127-18-4	Tetrachloroethene	**0.18**	0.13	**0.026**	0.020	
100-41-4	Ethylbenzene	**1.3**	0.67	**0.30**	0.15	
179601-23-1	m,p-Xylenes	**4.2**	0.67	**0.97**	0.15	
95-47-6	o-Xylene	**0.78**	0.67	**0.18**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160804-131-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-015

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01539

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -10.81 Final Pressure (psig): 4.19

Canister Dilution Factor: 4.86

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.49	ND	0.19	
75-35-4	1,1-Dichloroethene	ND	0.49	ND	0.12	
156-60-5	trans-1,2-Dichloroethene	ND	0.49	ND	0.12	
156-59-2	cis-1,2-Dichloroethene	ND	0.49	ND	0.12	
71-43-2	Benzene	**11**	0.49	**3.3**	0.15	
79-01-6	Trichloroethene	**0.78**	0.49	**0.15**	0.090	
108-88-3	Toluene	**54**	2.4	**14**	0.65	
127-18-4	Tetrachloroethene	**18**	0.49	**2.7**	0.072	
100-41-4	Ethylbenzene	**18**	2.4	**4.0**	0.56	
179601-23-1	m,p-Xylenes	**57**	2.4	**13**	0.56	
95-47-6	o-Xylene	**19**	2.4	**4.5**	0.56	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160804-131-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-016

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01850

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.89 Final Pressure (psig): 3.89

Canister Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.17	ND	0.067	
75-35-4	1,1-Dichloroethene	**0.43**	0.17	**0.11**	0.043	
156-60-5	trans-1,2-Dichloroethene	ND	0.17	ND	0.043	
156-59-2	cis-1,2-Dichloroethene	ND	0.17	ND	0.043	
71-43-2	Benzene	**1.4**	0.17	**0.45**	0.054	
79-01-6	Trichloroethene	ND	0.17	ND	0.032	
108-88-3	Toluene	**76**	0.86	**20**	0.23	
127-18-4	Tetrachloroethene	**28**	0.17	**4.1**	0.025	
100-41-4	Ethylbenzene	**13**	0.86	**3.1**	0.20	
179601-23-1	m,p-Xylenes	**42**	0.86	**9.8**	0.20	
95-47-6	o-Xylene	**13**	0.86	**3.1**	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160804-131-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-017

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01149

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.46 Final Pressure (psig): 5.44

Canister Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.18	ND	0.070	
75-35-4	1,1-Dichloroethene	**0.58**	0.18	**0.15**	0.045	
156-60-5	trans-1,2-Dichloroethene	ND	0.18	ND	0.045	
156-59-2	cis-1,2-Dichloroethene	ND	0.18	ND	0.045	
71-43-2	Benzene	**1.5**	0.18	**0.47**	0.056	
79-01-6	Trichloroethene	ND	0.18	ND	0.033	
108-88-3	Toluene	**73**	0.90	**19**	0.24	
127-18-4	Tetrachloroethene	**31**	0.18	**4.6**	0.026	
100-41-4	Ethylbenzene	**15**	0.90	**3.4**	0.21	
179601-23-1	m,p-Xylenes	**47**	0.90	**11**	0.21	
95-47-6	o-Xylene	**15**	0.90	**3.4**	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-OA-20160804-131-4**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603935
Sample ID: P1603935-018

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00163

Date Collected: 8/4/16
Date Received: 8/10/16
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.78 Final Pressure (psig): 5.98

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.038	
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.038	
71-43-2	Benzene	**0.45**	0.15	**0.14**	0.047	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
108-88-3	Toluene	**1.2**	0.75	**0.31**	0.20	
127-18-4	Tetrachloroethene	ND	0.15	ND	0.022	
100-41-4	Ethylbenzene	ND	0.75	ND	0.17	
179601-23-1	m,p-Xylenes	ND	0.75	ND	0.17	
95-47-6	o-Xylene	ND	0.75	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]

Project ID: P1603935
Sample ID: P160816-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/16/16
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]

Project ID: P1603935
Sample ID: P160817-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/17/16
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]

Project ID: P1603935
Sample ID: P160818-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

SURR[redacted]ULTS

Client: **Seagull Environmental Technologies, Inc.**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150** [redacted] Project ID: P1603935

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 8/3 - 8/4/16
Date(s) Received: 8/10/16
Date(s) Analyzed: 8/16 - 8/18/16

Client Sample ID	[redacted] Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	0816-MB	**92**	**104**	**106**	70-130	
Method Blank	P160817-MB	**90**	**105**	**107**	70-130	
Method Blank	P160818-MB	**88**	**106**	**109**	70-130	
Lab Control Sample	P160816-LCS	**89**	**103**	**109**	70-130	
Lab Control Sample	P160817-LCS	**89**	**104**	**111**	70-130	
Lab Control Sample	P160818-LCS	**87**	**105**	**110**	70-130	
SVP1-SS-20160803-193-1	P1603935-001	**90**	**104**	**111**	70-130	
SVP1-SS-20160803-193-2	P1603935-002	**90**	**103**	**110**	70-130	
SVP1-IA-20160803-193-3	P1603935-003	**89**	**103**	**111**	70-130	
SVP1-IA-20160803-193-4	P1603935-004	**90**	**102**	**107**	70-130	
SVP1-CS-20160803-182-1	P1603935-005	**89**	**104**	**110**	70-130	
SVP1-IA-20160803-182-2	P1603935-006	**90**	**103**	**110**	70-130	
SVP1-OA-20160803-182-3	P1603935-007	**90**	**101**	**111**	70-130	
SVP1-SS-20160804-177-1	P1603935-008	**88**	**102**	**109**	70-130	
SVP1-IA-20160804-177-2	P1603935-009	**89**	**102**	**111**	70-130	
SVP1-IA-20160804-177-3	P1603935-010	**89**	**101**	**111**	70-130	
SVP1-SS-20160804-195-1	P1603935-011	**90**	**103**	**109**	70-130	
SVP1-SS-20160804-195-1D	P1603935-012	**90**	**103**	**110**	70-130	
SVP1-IA-20160804-195-2	P1603935-013	**88**	**103**	**110**	70-130	
SVP1-IA-20160804-195-3	P1603935-014	**89**	**103**	**111**	70-130	
SVP1-SS-20160804-131-1	P1603935-015	**92**	**92**	**118**	70-130	
SVP1-IA-20160804-131-2	P1603935-016	**88**	**101**	**112**	70-130	
SVP1-IA-20160804-131-3	P1603935-017	**89**	**101**	**111**	70-130	
SVP1-OA-20160804-131-4	P1603935-018	**89**	**101**	**110**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

[redacted]MARY

Client: **Seagull Environmenta**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

Project ID: P1603935
Sample ID: P160816-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/16/16
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
75-01-4	Vinyl Chloride	200	**157**	**79**	65-128	
75-35-4	1,1-Dichloroethene	216	**206**	**95**	72-123	
156-60-5	trans-1,2-Dichloroethene	210	**203**	**97**	69-129	
156-59-2	cis-1,2-Dichloroethene	218	**193**	**89**	65-125	
71-43-2	Benzene	226	**187**	**83**	61-110	
79-01-6	Trichloroethene	216	**190**	**88**	71-121	
108-88-3	Toluene	218	**196**	**90**	67-117	
127-18-4	Tetrachloroethene	202	**205**	**101**	65-126	
100-41-4	Ethylbenzene	218	**210**	**96**	69-123	
179601-23-1	m,p-Xylenes	428	**411**	**96**	67-125	
95-47-6	o-Xylene	210	**200**	**95**	67-124	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

[redacted]MARY

Client: **Seagull Environmenta**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

Project ID: P1603935
Sample ID: P160817-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/17/16
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
75-01-4	Vinyl Chloride	200	**158**	**79**	65-128	
75-35-4	1,1-Dichloroethene	216	**207**	**96**	72-123	
156-60-5	trans-1,2-Dichloroethene	210	**205**	**98**	69-129	
156-59-2	cis-1,2-Dichloroethene	218	**195**	**89**	65-125	
71-43-2	Benzene	226	**187**	**83**	61-110	
79-01-6	Trichloroethene	216	**191**	**88**	71-121	
108-88-3	Toluene	218	**202**	**93**	67-117	
127-18-4	Tetrachloroethene	202	**209**	**103**	65-126	
100-41-4	Ethylbenzene	218	**216**	**99**	69-123	
179601-23-1	m,p-Xylenes	428	**419**	**98**	67-125	
95-47-6	o-Xylene	210	**203**	**97**	67-124	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABOR [redacted] MARY

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]

Project ID: P1603935
Sample ID: P160818-LCS

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 8/18/16
Volume(s) Analyzed: 0.125 Liter(s)

CAS #	Compound	Spike Amount µg/m³	**Result µg/m³**	**% Recovery**	ALS Acceptance Limits	**Data Qualifier**
75-01-4	Vinyl Chloride	200	**156**	**78**	65-128	
75-35-4	1,1-Dichloroethene	216	**205**	**95**	72-123	
156-60-5	trans-1,2-Dichloroethene	210	**201**	**96**	69-129	
156-59-2	cis-1,2-Dichloroethene	218	**190**	**87**	65-125	
71-43-2	Benzene	226	**185**	**82**	61-110	
79-01-6	Trichloroethene	216	**189**	**88**	71-121	
108-88-3	Toluene	218	**198**	**91**	67-117	
127-18-4	Tetrachloroethene	202	**205**	**101**	65-126	
100-41-4	Ethylbenzene	218	**211**	**97**	69-123	
179601-23-1	m,p-Xylenes	428	**412**	**96**	67-125	
95-47-6	o-Xylene	210	**200**	**95**	67-124	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

[redacted]

[redacted]

LABORATORY REPORT

August 25, 2016

Dave Kinroth
Seagull Environmental Technologies, Inc.
415 Oak Street
Kansas City, MO 64106

RE: Sporlan Valve Plant #1 ISA / 0150

Dear Dave:

Enclosed are the results of the samples submitted to our laboratory on August 11, 2016. For your reference, these analyses have been assigned our service request number P1603961.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at [redacted]

Respectfully submitted,

[redacted]

[redacted]

Client: Seagull Environmental Technologies, Inc. Service Request No: P1603961
Project: Sporlan Valve Plant #1 ISA / 0150

CASE NARRATIVE

The samples were received intact under chain of custody on August 11, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation, however it is not part of the AIHA-LAP, LLC accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

[redacted]

CERTIFICA[redacted]STRATIONS

Agency	Web Site	Number
AIHA-LAP, LLC	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-003
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-16-7
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272016-6
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

[redacted]

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Client: Seagull Environmental Technologies, Inc. Service Request: P1603961
Project ID: Sporlan Valve Plant #1 ISA / 0150

Date Received: 8/11/2016
Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
SVP1-IA-20160804-175-2	P1603961-001	Air	8/4/2016	16:47	AC01504	0.20	4.25	X
SVP1-IA-20160804-175-3	P1603961-002	Air	8/4/2016	16:47	AS00967	0.07	3.63	X
SVP1-SS-20160805-178-1	P1603961-003	Air	8/5/2016	08:52	SC01902	-4.31	3.54	X
SVP1-IA-20160805-178-2	P1603961-004	Air	8/5/2016	08:56	AS00643	-2.90	3.76	X
SVP1-IA-20160805-178-3	P1603961-005	Air	8/5/2016	08:57	AC02021	-4.40	4.29	X
SVP1-SS-20160805-124-1	P1603961-006	Air	8/5/2016	09:19	SC00291	-2.98	4.24	X
SVP1-IA-20160805-124-2	P1603961-007	Air	8/5/2016	09:11	AS00117	-3.57	4.30	X
SVP1-IA-20160805-124-3	P1603961-008	Air	8/5/2016	09:09	AS00999	0.14	3.87	X
SVP1-SS-20160806-130-1	P1603961-009	Air	8/6/2016	07:02	SC01988	0.31	3.65	X
SVP1-IA-20160806-130-2	P1603961-010	Air	8/6/2016	07:01	AC01826	0.05	4.48	X
SVP1-IA-20160806-130-3	P1603961-011	Air	8/6/2016	07:00	AS01103	0.28	3.97	X
SVP1-SS-20160806-117-1	P1603961-012	Air	8/6/2016	07:22	SSC00069	-0.95	3.84	X
SVP1-IA-20160806-117-2	P1603961-013	Air	8/6/2016	07:20	AC01169	0.16	4.15	X
SVP1-IA-20160806-117-3	P1603961-014	Air	8/6/2016	07:19	AS00676	-0.06	3.76	X
SVP1-SS-20160806-186-1	P1603961-015	Air	8/6/2016	07:43	SSC00247	-0.06	4.43	X
SVP1-IA-20160806-186-2	P1603961-016	Air	8/6/2016	07:43	AS00663	-3.54	4.64	X
SVP1-IA-20160806-186-2D	P1603961-017	Air	8/6/2016	07:43	AS01141	-5.61	5.24	X
SVP1-IA-20160806-186-3	P1603961-018	Air	8/6/2016	07:45	AC01267	0.00	4.81	X
SVP1-SS-20160806-118-1	P1603961-019	Air	8/6/2016	08:00	SC01678	-2.97	3.69	X
SVP1-IA-20160806-118-2	P1603961-020	Air	8/6/2016	08:00	AS00982	-3.33	3.86	X
SVP1-IA-20160806-118-3	P1603961-021	Air	8/6/2016	08:03	AS01146	-2.72	5.15	X
SVP1-IA-20160806-118-3D	P1603961-022	Air	8/6/2016	08:03	AS00940	-1.93	4.30	X
SVP1-SS-20160806-144-1	P1603961-023	Air	8/6/2016	08:20	SSC00180	-4.59	4.60	X
SVP1-IA-20160806-144-2	P1603961-024	Air	8/6/2016	08:20	AC00679	-2.79	4.28	X
SVP1-IA-20160806-144-3	P1603961-025	Air	8/6/2016	08:22	AC01122	-2.54	4.01	X
SVP1-OA-20160806-144-4	P1603961-026	Air	8/6/2016	08:24	AC00580	-3.93	3.95	X
SVP1-TB-20160806-000-0	P1603961-027	Air	8/6/2016	08:24	AC01795	-14.06	3.50	X

[redacted]

hain of Custody Record & Analytical Service Request

Page 1 of 2

[redacted]

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

[redacted]

Company Name & Address (Reporting Information)	Tetra Tech Inc. 415 Oak St. Kansas City, MO 64106
Project Name	Sporlan Valve Plant #1 ISA
Project Number	0150
Project Manager	Dave Kinroth, Emily Fisher
P.O. # / Billing Information	
Phone	314-517-6798
Fax	314 395-3157
Email Address for Result Reporting	dave.kinroth@charter.net
Sampler (Print & Sign)	Dave Kinroth Dave Kinroth

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TCE	PCE	DCE	VC	BTEX	Comments e.g. Actual Preservative or specific instructions
SVPI-IA-20160804-175-2	1	8-4-16	16:47	AC01504	FCS00275	-30.00	-0.49		X					
SVPI-IA-20160804-175-3	2	↓	↓	AS00967	FCS00289	-29.98	-0.43							
SVPI-SS-20160805-178-1	3	8-5-16	08:52	SC01902	OA01578	-30.15	-9.17							
SVPI-IA-20160805-178-2	4		08:56	AS00643	FCS00130	-29.98	-6.28							
SVPI-IA-20160805-178-3	5	↓	08:57	AC02021	FCS00035	-30.02	-9.44							
SVPI-SS-20160805-124-1	6	8-5-16	9:19	SC00291	OA01576	-30.02	-6.70							
SVPI-IA-20160805-124-2	7		9:11	AS0117	FCA01037	-29.60	-7.88							
SVPI-IA-20160805-124-3	8	↓	9:09	AS00999	FCA00636	-29.88	-0.16							
SVPI-SS-20160806-130-1	9	8-6-16	7:02	SC01988	OA01147	-29.96	-0.13							
SVPI-IA-20160806-130-2	10		7:01	AC01826	FCA00792	-27.95	-0.13							
SVPI-IA-20160806-130-3	11	↓	7:00	AS01103	FCA00884	-29.48	-0.11							
SVPI-SS-20160806-117-1	12	8-6-16	7:22	SSC00069	OA01501	-29.68	-2.50							
SVPI-IA-20160806-117-2	13		7:20	AC01169	FCS00123	-26.91	-0.15							
SVPI-IA-20160806-117-3	14	↓	7:19	AS00676	FCA00794	-29.92	-0.60		↓					

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Report Tier Levels - please select

Tier I - Results (Default in not specified) ____ Tier III (Results + QC & Calibration Summaries) ____
Tier II (Results + QC Summaries X Tier IV (Date Validation Package) 10% Surcharge ____

EDD required (YES) / No
Type: Excel Units: ug/m3

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP) 0.1 ug/m3

Relinquished by: (Signature) Dave Kinroth	Date: 8-8-16	Time: 14:50	Received by: (Signature)	Date: 8/11/16	Time: 0930	Cooler / Blank Temperature ____ °C
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:	

[redacted] ain of Custody Record & Analytical Service Request

Page 2 of 2

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

[redacted]

Company Name & Address (Reporting Information)
Terra Tech Inc
415 Oak St.
Kansas City MO 64106

Project Name: Sporlan Valve Plant #1 ISA
Project Number: 0150
P.O. # / Billing Information

Project Manager: Dave Kinroth, Emily Fisher
Phone: 314-517-6798
Fax: 314-395-3157
Email Address for Result Reporting: dave.kinroth@charter.net
Sampler (Print & Sign): Dave Kinroth

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	TCE PCE DCE VC BTEX		Comments e.g. Actual Preservative or specific instructions
SVPI-SS-20160806-186-1	15	8-6-16	7:43	SSC00247	OA01440	-29.82	-0.47		X		
SVPI-IA-20160806-186-2	16		7:43	AS00663	FCA01061	-29.82	-7.69				
SVPI-IA-20160806-186-3	17		7:43	S/N 21373	FCA01060	-29.82	-11.99				
SVPI-IA-20160806-186-3	18		7:45	AC01767	FCA01062	-29.41	-6.25				
SVPI-SS-20160806-118-1	19	8-6-16	08:00	SC01678	OA01709	-29.46	-6.72				
SVPI-IA-20160806-118-2	20		08:00	AS00982	FCA00965	-29.83	-7.33				
SVPI-IA-20160806-118-3	21		08:03	AS01146	FCA00986	-29.89	-6.12				
SVPI-IA-20160806-118-3D	22		08:03	AS00940	FCA00959	-29.85	-4.35				
SVPI-SS-20160806-144-1	23	8-6-16	8:20	SSC00180	OA01915	-29.80	-10.02				
SVPI-IA-20160806-144-2	24		8:20	AC00679	FCA00647	-29.63	-6.64				
SVPI-IA-20160806-144-3	25		8:22	AC01122	FCA00481	-29.77	-5.79				
SVPI-OA-20160806-144-4	26		8:24	AC00580	FCA01059	-29.83	-9.08				
SVPI-TB20160806-000-0	27	8-6-16	8:24	AC01795	NA	-27.66	—				
END OF SHIPMENT #2				Dave Kinroth			8-8-16				

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Report Tier Levels - please select
Tier I - Results (Default in not specified) ____
Tier II (Results + QC Summaries X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Date Validation Package) 10% Surcharge ____

EDD required (YES) No
Type: Excel
Units: ug/m3

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)
0.1 ug/m3

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Dave Kinroth	8-8-16	14:50		8/11/16	0930
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____ °C

[redacted]

Sample Acceptance Check Form

Client: Seagull Environmental Technologies, Inc. Work order: P1603961

Project: Sporlan Valve Plant #1 ISA / 0150

Sample(s) received on: 8/11/16 Date opened: 8/11/16 by: KKELPE

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1603961-001.01	6.0 L Ambient Can					
P1603961-002.01	6.0 L Silonite Can					
P1603961-003.01	6.0 L Source Can					
P1603961-004.01	6.0 L Silonite Can					
P1603961-005.01	6.0 L Ambient Can					
P1603961-006.01	6.0 L Source Can					
P1603961-007.01	6.0 L Silonite Can					
P1603961-008.01	6.0 L Silonite Can					
P1603961-009.01	6.0 L Source Can					
P1603961-010.01	6.0 L Ambient Can					
P1603961-011.01	6.0 L Silonite Can					
P1603961-012.01	6.0 L Silonite Can					
P1603961-013.01	6.0 L Ambient Can					
P1603961-014.01	6.0 L Silonite Can					
P1603961-015.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

[redacted]

Sample Acceptance Check Form

Client: Seagull Environmental Technologies, Inc. Work order: P1603961

Project: Sporlan Valve Plant #1 ISA / 0150

Sample(s) received on: 8/11/16 Date opened: 8/11/16 by: KKELPE

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1603961-016.01	6.0 L Silonite Can					
P1603961-017.01	6.0 L Silonite Can					
P1603961-018.01	6.0 L Ambient Can					
P1603961-019.01	6.0 L Source Can					
P1603961-020.01	6.0 L Silonite Can					
P1603961-021.01	6.0 L Silonite Can					
P1603961-022.01	6.0 L Silonite Can					
P1603961-023.01	6.0 L Silonite Can					
P1603961-024.01	6.0 L Ambient Can					
P1603961-025.01	6.0 L Ambient Can					
P1603961-026.01	6.0 L Ambient Can					
P1603961-027.01	6.0 L Ambient Can					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160804-175-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]oject ID: P1603961
[redacted]mple ID: P1603961-001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01504

Collected: 8/4/16
Date Received: 8/11/16
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.20 Final Pressure (psig): 4.25

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.050	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.032	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.032	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.032	
71-43-2	Benzene	**0.70**	0.13	**0.22**	0.040	
79-01-6	Trichloroethene	ND	0.13	ND	0.024	
108-88-3	Toluene	**6.9**	0.64	**1.8**	0.17	
127-18-4	Tetrachloroethene	ND	0.13	ND	0.019	
100-41-4	Ethylbenzene	**1.4**	0.64	**0.32**	0.15	
179601-23-1	m,p-Xylenes	**3.0**	0.64	**0.70**	0.15	
95-47-6	o-Xylene	**1.2**	0.64	**0.28**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160804-175-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
ample ID: P1603961-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00967

e Collected: 8/4/16
Date Received: 8/11/16
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.07 Final Pressure (psig): 3.63

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.12	ND	0.049	
75-35-4	1,1-Dichloroethene	ND	0.12	ND	0.031	
156-60-5	trans-1,2-Dichloroethene	ND	0.12	ND	0.031	
156-59-2	cis-1,2-Dichloroethene	ND	0.12	ND	0.031	
71-43-2	Benzene	**0.64**	0.12	**0.20**	0.039	
79-01-6	Trichloroethene	ND	0.12	ND	0.023	
108-88-3	Toluene	**6.5**	0.62	**1.7**	0.16	
127-18-4	Tetrachloroethene	**2.6**	0.12	**0.38**	0.018	
100-41-4	Ethylbenzene	**1.3**	0.62	**0.30**	0.14	
179601-23-1	m,p-Xylenes	**2.9**	0.62	**0.66**	0.14	
95-47-6	o-Xylene	**1.2**	0.62	**0.27**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160805-178-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
Sample ID: P1603961-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01902

e Collected: 8/5/16
Date Received: 8/11/16
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -4.31 Final Pressure (psig): 3.54

Canister Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.18	ND	0.069	
75-35-4	1,1-Dichloroethene	ND	0.18	ND	0.044	
156-60-5	trans-1,2-Dichloroethene	ND	0.18	ND	0.044	
156-59-2	cis-1,2-Dichloroethene	**0.27**	0.18	**0.068**	0.044	
71-43-2	Benzene	**0.92**	0.18	**0.29**	0.055	
79-01-6	Trichloroethene	**0.30**	0.18	**0.056**	0.033	
108-88-3	Toluene	**16**	0.88	**4.2**	0.23	
127-18-4	Tetrachloroethene	**2.7**	0.18	**0.40**	0.026	
100-41-4	Ethylbenzene	**8.9**	0.88	**2.1**	0.20	
179601-23-1	m,p-Xylenes	**31**	0.88	**7.1**	0.20	
95-47-6	o-Xylene	**11**	0.88	**2.6**	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160805-178-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P1603961-004

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00643

Collected: 8/5/16
Date Received: 8/11/16
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.90 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.061	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.039	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.039	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.039	
71-43-2	Benzene	**1.4**	0.16	**0.45**	0.049	
79-01-6	Trichloroethene	ND	0.16	ND	0.029	
108-88-3	Toluene	**4.3**	0.78	**1.1**	0.21	
127-18-4	Tetrachloroethene	ND	0.16	ND	0.023	
100-41-4	Ethylbenzene	ND	0.78	ND	0.18	
179601-23-1	m,p-Xylenes	**1.3**	0.78	**0.31**	0.18	
95-47-6	o-Xylene	ND	0.78	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160805-178-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
Sample ID: P1603961-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02021

e Collected: 8/5/16
Date Received: 8/11/16
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -4.40 Final Pressure (psig): 4.29

Canister Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.18	ND	0.072	
75-35-4	1,1-Dichloroethene	ND	0.18	ND	0.046	
156-60-5	trans-1,2-Dichloroethene	ND	0.18	ND	0.046	
156-59-2	cis-1,2-Dichloroethene	ND	0.18	ND	0.046	
71-43-2	Benzene	**1.5**	0.18	**0.47**	0.058	
79-01-6	Trichloroethene	ND	0.18	ND	0.034	
108-88-3	Toluene	**4.5**	0.92	**1.2**	0.24	
127-18-4	Tetrachloroethene	ND	0.18	ND	0.027	
100-41-4	Ethylbenzene	ND	0.92	ND	0.21	
179601-23-1	m,p-Xylenes	**1.3**	0.92	**0.30**	0.21	
95-47-6	o-Xylene	ND	0.92	ND	0.21	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160805-124-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
ample ID: P1603961-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC00291

e Collected: 8/5/16
Date Received: 8/11/16
Date Analyzed: 8/18 - 8/19/16
Volume(s) Analyzed: 0.17 Liter(s)
0.085 Liter(s)

Initial Pressure (psig): -2.98 Final Pressure (psig): 4.24

Canister Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.95	ND	0.37	
75-35-4	1,1-Dichloroethene	ND	0.95	ND	0.24	
156-60-5	trans-1,2-Dichloroethene	**5.1**	0.95	**1.3**	0.24	
156-59-2	cis-1,2-Dichloroethene	**190**	0.95	**49**	0.24	
71-43-2	Benzene	**1.1**	0.95	**0.34**	0.30	
79-01-6	Trichloroethene	**1,000**	1.9	**190**	0.35	**D**
108-88-3	Toluene	**9.5**	4.8	**2.5**	1.3	
127-18-4	Tetrachloroethene	**39**	0.95	**5.7**	0.14	
100-41-4	Ethylbenzene	**5.1**	4.8	**1.2**	1.1	
179601-23-1	m,p-Xylenes	**19**	4.8	**4.4**	1.1	
95-47-6	o-Xylene	**6.9**	4.8	**1.6**	1.1	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160805-124-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P1603961-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00117

Collected: 8/5/16
Date Received: 8/11/16
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.57 Final Pressure (psig): 4.30

Canister Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.17	ND	0.067	
75-35-4	1,1-Dichloroethene	ND	0.17	ND	0.043	
156-60-5	trans-1,2-Dichloroethene	ND	0.17	ND	0.043	
156-59-2	cis-1,2-Dichloroethene	ND	0.17	ND	0.043	
71-43-2	Benzene	**0.41**	0.17	**0.13**	0.054	
79-01-6	Trichloroethene	**0.18**	0.17	**0.033**	0.032	
108-88-3	Toluene	**2.8**	0.86	**0.74**	0.23	
127-18-4	Tetrachloroethene	ND	0.17	ND	0.025	
100-41-4	Ethylbenzene	ND	0.86	ND	0.20	
179601-23-1	m,p-Xylenes	**1.4**	0.86	**0.33**	0.20	
95-47-6	o-Xylene	ND	0.86	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160805-124-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
mple ID: P1603961-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00999

Collected: 8/5/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.14 Final Pressure (psig): 3.87

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.049	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.032	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.032	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.032	
71-43-2	Benzene	**0.45**	0.13	**0.14**	0.039	
79-01-6	Trichloroethene	ND	0.13	ND	0.023	
108-88-3	Toluene	**2.8**	0.63	**0.74**	0.17	
127-18-4	Tetrachloroethene	ND	0.13	ND	0.018	
100-41-4	Ethylbenzene	ND	0.63	ND	0.14	
179601-23-1	m,p-Xylenes	**1.2**	0.63	**0.28**	0.14	
95-47-6	o-Xylene	ND	0.63	ND	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160806-130-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
ample ID: P1603961-009

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01988

e Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 0.30 Liter(s)

Initial Pressure (psig): 0.31 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.22

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.41	ND	0.16	
75-35-4	1,1-Dichloroethene	ND	0.41	ND	0.10	
156-60-5	trans-1,2-Dichloroethene	ND	0.41	ND	0.10	
156-59-2	cis-1,2-Dichloroethene	ND	0.41	ND	0.10	
71-43-2	Benzene	**1.6**	0.41	**0.51**	0.13	
79-01-6	Trichloroethene	ND	0.41	ND	0.076	
108-88-3	Toluene	**20**	2.0	**5.3**	0.54	
127-18-4	Tetrachloroethene	ND	0.41	ND	0.060	
100-41-4	Ethylbenzene	ND	2.0	ND	0.47	
179601-23-1	m,p-Xylenes	**3.7**	2.0	**0.85**	0.47	
95-47-6	o-Xylene	ND	2.0	ND	0.47	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-130-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
ample ID: P1603961-010

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01826

e Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.05 Final Pressure (psig): 4.48

Canister Dilution Factor: 1.30

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.051	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.033	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.033	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.033	
71-43-2	Benzene	**1.9**	0.13	**0.58**	0.041	
79-01-6	Trichloroethene	**0.29**	0.13	**0.053**	0.024	
108-88-3	Toluene	**23**	0.65	**6.1**	0.17	
127-18-4	Tetrachloroethene	**0.14**	0.13	**0.020**	0.019	
100-41-4	Ethylbenzene	**1.5**	0.65	**0.34**	0.15	
179601-23-1	m,p-Xylenes	**3.8**	0.65	**0.88**	0.15	
95-47-6	o-Xylene	**1.5**	0.65	**0.35**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-130-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
Sample ID: P1603961-011

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS01103

e Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 0.40 Liter(s)

Initial Pressure (psig): 0.28 Final Pressure (psig): 3.97

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.31	ND	0.12	
75-35-4	1,1-Dichloroethene	ND	0.31	ND	0.079	
156-60-5	trans-1,2-Dichloroethene	ND	0.31	ND	0.079	
156-59-2	cis-1,2-Dichloroethene	ND	0.31	ND	0.079	
71-43-2	Benzene	**1.6**	0.31	**0.51**	0.098	
79-01-6	Trichloroethene	ND	0.31	ND	0.058	
108-88-3	Toluene	**20**	1.6	**5.4**	0.41	
127-18-4	Tetrachloroethene	ND	0.31	ND	0.046	
100-41-4	Ethylbenzene	ND	1.6	ND	0.36	
179601-23-1	m,p-Xylenes	**3.6**	1.6	**0.83**	0.36	
95-47-6	o-Xylene	ND	1.6	ND	0.36	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160806-117-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
ample ID: P1603961-012

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: SSC00069

e Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 0.25 Liter(s)

Initial Pressure (psig): -0.95 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.35

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.54	ND	0.21	
75-35-4	1,1-Dichloroethene	ND	0.54	ND	0.14	
156-60-5	trans-1,2-Dichloroethene	ND	0.54	ND	0.14	
156-59-2	cis-1,2-Dichloroethene	ND	0.54	ND	0.14	
71-43-2	Benzene	**2.2**	0.54	**0.70**	0.17	
79-01-6	Trichloroethene	**400**	0.54	**75**	0.10	
108-88-3	Toluene	**13**	2.7	**3.4**	0.72	
127-18-4	Tetrachloroethene	**7.5**	0.54	**1.1**	0.080	
100-41-4	Ethylbenzene	**4.1**	2.7	**0.95**	0.62	
179601-23-1	m,p-Xylenes	**15**	2.7	**3.6**	0.62	
95-47-6	o-Xylene	**6.0**	2.7	**1.4**	0.62	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-117-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
mple ID: P1603961-013

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01169

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.16 Final Pressure (psig): 4.15

Canister Dilution Factor: 1.27

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.050	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.032	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.032	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.032	
71-43-2	Benzene	**23**	0.13	**7.1**	0.040	
79-01-6	Trichloroethene	ND	0.13	ND	0.024	
108-88-3	Toluene	**100**	0.64	**27**	0.17	
127-18-4	Tetrachloroethene	**3.4**	0.13	**0.50**	0.019	
100-41-4	Ethylbenzene	**18**	0.64	**4.2**	0.15	
179601-23-1	m,p-Xylenes	**66**	0.64	**15**	0.15	
95-47-6	o-Xylene	**22**	0.64	**5.0**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-117-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
Sample ID: P1603961-014

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00676

e Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 3.76

Canister Dilution Factor: 1.26

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.049	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.032	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.032	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.032	
71-43-2	Benzene	**23**	0.13	**7.3**	0.039	
79-01-6	Trichloroethene	ND	0.13	ND	0.023	
108-88-3	Toluene	**110**	0.63	**29**	0.17	
127-18-4	Tetrachloroethene	**1.4**	0.13	**0.20**	0.019	
100-41-4	Ethylbenzene	**19**	0.63	**4.5**	0.15	
179601-23-1	m,p-Xylenes	**70**	0.63	**16**	0.15	
95-47-6	o-Xylene	**23**	0.63	**5.4**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160806-186-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]roject ID: P1603961
[redacted]ample ID: P1603961-015

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: SSC00247

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.06 Final Pressure (psig): 4.43

Canister Dilution Factor: 1.31

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.051	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.033	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.033	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.033	
71-43-2	Benzene	**1.5**	0.13	**0.48**	0.041	
79-01-6	Trichloroethene	ND	0.13	ND	0.024	
108-88-3	Toluene	**9.7**	0.66	**2.6**	0.17	
127-18-4	Tetrachloroethene	**1.3**	0.13	**0.19**	0.019	
100-41-4	Ethylbenzene	**3.5**	0.66	**0.81**	0.15	
179601-23-1	m,p-Xylenes	**13**	0.66	**2.9**	0.15	
95-47-6	o-Xylene	**5.2**	0.66	**1.2**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-186-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P1603961-016

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00663

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.54 Final Pressure (psig): 4.64

Canister Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.17	ND	0.068	
75-35-4	1,1-Dichloroethene	ND	0.17	ND	0.044	
156-60-5	trans-1,2-Dichloroethene	ND	0.17	ND	0.044	
156-59-2	cis-1,2-Dichloroethene	**0.19**	0.17	**0.047**	0.044	
71-43-2	Benzene	**3.2**	0.17	**1.0**	0.054	
79-01-6	Trichloroethene	**0.18**	0.17	**0.033**	0.032	
108-88-3	Toluene	**18**	0.87	**4.6**	0.23	
127-18-4	Tetrachloroethene	**0.62**	0.17	**0.092**	0.026	
100-41-4	Ethylbenzene	**2.4**	0.87	**0.56**	0.20	
179601-23-1	m,p-Xylenes	**8.6**	0.87	**2.0**	0.20	
95-47-6	o-Xylene	**2.8**	0.87	**0.66**	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-186-2D**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P1603961-017

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS01141

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -5.61 Final Pressure (psig): 5.24

Canister Dilution Factor: 2.19

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.22	ND	0.086	
75-35-4	1,1-Dichloroethene	ND	0.22	ND	0.055	
156-60-5	trans-1,2-Dichloroethene	ND	0.22	ND	0.055	
156-59-2	cis-1,2-Dichloroethene	ND	0.22	ND	0.055	
71-43-2	Benzene	**3.3**	0.22	**1.0**	0.069	
79-01-6	Trichloroethene	ND	0.22	ND	0.041	
108-88-3	Toluene	**17**	1.1	**4.5**	0.29	
127-18-4	Tetrachloroethene	**0.37**	0.22	**0.054**	0.032	
100-41-4	Ethylbenzene	**2.4**	1.1	**0.55**	0.25	
179601-23-1	m,p-Xylenes	**8.1**	1.1	**1.9**	0.25	
95-47-6	o-Xylene	**2.7**	1.1	**0.62**	0.25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-186-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]roject ID: P1603961
[redacted]ample ID: P1603961-018

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01267

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.0 Final Pressure (psig): 4.81

Canister Dilution Factor: 1.33

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.052	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.034	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.034	
156-59-2	cis-1,2-Dichloroethene	**0.15**	0.13	**0.039**	0.034	
71-43-2	Benzene	**3.2**	0.13	**0.99**	0.042	
79-01-6	Trichloroethene	**11**	0.13	**2.0**	0.025	
108-88-3	Toluene	**16**	0.67	**4.4**	0.18	
127-18-4	Tetrachloroethene	**0.29**	0.13	**0.042**	0.020	
100-41-4	Ethylbenzene	**2.3**	0.67	**0.54**	0.15	
179601-23-1	m,p-Xylenes	**8.3**	0.67	**1.9**	0.15	
95-47-6	o-Xylene	**2.7**	0.67	**0.63**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160806-118-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
ample ID: P1603961-019

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01678

e Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.97 Final Pressure (psig): 3.69

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.061	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.040	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.040	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.040	
71-43-2	Benzene	**0.76**	0.16	**0.24**	0.049	
79-01-6	Trichloroethene	**2.4**	0.16	**0.45**	0.029	
108-88-3	Toluene	**6.6**	0.79	**1.7**	0.21	
127-18-4	Tetrachloroethene	**4.5**	0.16	**0.66**	0.023	
100-41-4	Ethylbenzene	**3.2**	0.79	**0.75**	0.18	
179601-23-1	m,p-Xylenes	**12**	0.79	**2.8**	0.18	
95-47-6	o-Xylene	**5.0**	0.79	**1.1**	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-118-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P1603961-020

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00982

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.33 Final Pressure (psig): 3.86

Canister Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.064	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.041	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.041	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.041	
71-43-2	Benzene	**2.1**	0.16	**0.64**	0.051	
79-01-6	Trichloroethene	ND	0.16	ND	0.030	
108-88-3	Toluene	**31**	0.82	**8.3**	0.22	
127-18-4	Tetrachloroethene	**0.20**	0.16	**0.029**	0.024	
100-41-4	Ethylbenzene	**1.9**	0.82	**0.43**	0.19	
179601-23-1	m,p-Xylenes	**3.9**	0.82	**0.89**	0.19	
95-47-6	o-Xylene	**1.6**	0.82	**0.36**	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-118-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P1603961-021

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS01146

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.72 Final Pressure (psig): 5.15

Canister Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.17	ND	0.065	
75-35-4	1,1-Dichloroethene	ND	0.17	ND	0.042	
156-60-5	trans-1,2-Dichloroethene	ND	0.17	ND	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.17	ND	0.042	
71-43-2	Benzene	**2.4**	0.17	**0.74**	0.052	
79-01-6	Trichloroethene	ND	0.17	ND	0.031	
108-88-3	Toluene	**34**	0.83	**8.9**	0.22	
127-18-4	Tetrachloroethene	**0.21**	0.17	**0.031**	0.024	
100-41-4	Ethylbenzene	**1.8**	0.83	**0.41**	0.19	
179601-23-1	m,p-Xylenes	**3.7**	0.83	**0.85**	0.19	
95-47-6	o-Xylene	**1.5**	0.83	**0.34**	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-118-3D**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P1603961-022

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: AS00940

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -1.93 Final Pressure (psig): 4.30

Canister Dilution Factor: 1.49

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.15	ND	0.058	
75-35-4	1,1-Dichloroethene	ND	0.15	ND	0.038	
156-60-5	trans-1,2-Dichloroethene	ND	0.15	ND	0.038	
156-59-2	cis-1,2-Dichloroethene	ND	0.15	ND	0.038	
71-43-2	Benzene	**2.1**	0.15	**0.67**	0.047	
79-01-6	Trichloroethene	ND	0.15	ND	0.028	
108-88-3	Toluene	**32**	0.75	**8.6**	0.20	
127-18-4	Tetrachloroethene	**0.21**	0.15	**0.031**	0.022	
100-41-4	Ethylbenzene	**1.8**	0.75	**0.41**	0.17	
179601-23-1	m,p-Xylenes	**3.6**	0.75	**0.83**	0.17	
95-47-6	o-Xylene	**1.5**	0.75	**0.34**	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160806-144-1**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P1603961-023

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: SSC00180

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -4.59 Final Pressure (psig): 4.60

Canister Dilution Factor: 1.91

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.19	ND	0.075	
75-35-4	1,1-Dichloroethene	ND	0.19	ND	0.048	
156-60-5	trans-1,2-Dichloroethene	ND	0.19	ND	0.048	
156-59-2	cis-1,2-Dichloroethene	ND	0.19	ND	0.048	
71-43-2	Benzene	**6.4**	0.19	**2.0**	0.060	
79-01-6	Trichloroethene	ND	0.19	ND	0.036	
108-88-3	Toluene	**39**	0.96	**10**	0.25	
127-18-4	Tetrachloroethene	**0.29**	0.19	**0.042**	0.028	
100-41-4	Ethylbenzene	**6.7**	0.96	**1.5**	0.22	
179601-23-1	m,p-Xylenes	**23**	0.96	**5.3**	0.22	
95-47-6	o-Xylene	**8.7**	0.96	**2.0**	0.22	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-144-2**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
mple ID: P1603961-024

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC00679

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 0.090 Liter(s)

Initial Pressure (psig): -2.79 Final Pressure (psig): 4.28

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	1.8	ND	0.69	
75-35-4	1,1-Dichloroethene	ND	1.8	ND	0.45	
156-60-5	trans-1,2-Dichloroethene	ND	1.8	ND	0.45	
156-59-2	cis-1,2-Dichloroethene	ND	1.8	ND	0.45	
71-43-2	Benzene	**300**	1.8	**93**	0.55	
79-01-6	Trichloroethene	ND	1.8	ND	0.33	
108-88-3	Toluene	**1,700**	8.8	**460**	2.3	
127-18-4	Tetrachloroethene	ND	1.8	ND	0.26	
100-41-4	Ethylbenzene	**280**	8.8	**65**	2.0	
179601-23-1	m,p-Xylenes	**1,000**	8.8	**240**	2.0	
95-47-6	o-Xylene	**340**	8.8	**79**	2.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-IA-20160806-144-3**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] Project ID: P1603961
Sample ID: P1603961-025

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01122

e Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 0.10 Liter(s)

Initial Pressure (psig): -2.54 Final Pressure (psig): 4.01

Canister Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	1.5	ND	0.60	
75-35-4	1,1-Dichloroethene	ND	1.5	ND	0.39	
156-60-5	trans-1,2-Dichloroethene	ND	1.5	ND	0.39	
156-59-2	cis-1,2-Dichloroethene	ND	1.5	ND	0.39	
71-43-2	Benzene	**260**	1.5	**82**	0.48	
79-01-6	Trichloroethene	ND	1.5	ND	0.29	
108-88-3	Toluene	**1,500**	7.7	**390**	2.0	
127-18-4	Tetrachloroethene	ND	1.5	ND	0.23	
100-41-4	Ethylbenzene	**260**	7.7	**61**	1.8	
179601-23-1	m,p-Xylenes	**980**	7.7	**220**	1.8	
95-47-6	o-Xylene	**320**	7.7	**75**	1.8	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-OA-20160806-144-4**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]roject ID: P1603961
mple ID: P1603961-026

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC00580

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.93 Final Pressure (psig): 3.95

Canister Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.17	ND	0.068	
75-35-4	1,1-Dichloroethene	ND	0.17	ND	0.044	
156-60-5	trans-1,2-Dichloroethene	ND	0.17	ND	0.044	
156-59-2	cis-1,2-Dichloroethene	ND	0.17	ND	0.044	
71-43-2	Benzene	**0.41**	0.17	**0.13**	0.054	
79-01-6	Trichloroethene	ND	0.17	ND	0.032	
108-88-3	Toluene	**0.97**	0.87	**0.26**	0.23	
127-18-4	Tetrachloroethene	ND	0.17	ND	0.026	
100-41-4	Ethylbenzene	ND	0.87	ND	0.20	
179601-23-1	m,p-Xylenes	ND	0.87	ND	0.20	
95-47-6	o-Xylene	ND	0.87	ND	0.20	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-TB-20160806-000-0**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
mple ID: P1603961-027

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01795

Collected: 8/6/16
Date Received: 8/11/16
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
71-43-2	Benzene	**0.13**	0.10	**0.041**	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
108-88-3	Toluene	**0.54**	0.50	**0.14**	0.13	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted]oject ID: P1603961
[redacted]mple ID: P160818-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:

Collected: NA
Date Received: NA
Date Analyzed: 8/18/16
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150**

[redacted] roject ID: P1603961
ample ID: P160819-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:

Collected: NA
Date Received: NA
Date Analyzed: 8/19/16
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]LTS

Client: **Seagull Environmental Techn**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150** [redacted]Project ID: P1603961

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 8/4 - 8/6/16
Date(s) Received: 8/11/16
Date(s) Analyzed: 8/18 - 8/19/16

Client Sample ID	[redacted]ample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	818-MB	**100**	**106**	**93**	70-130	
Method Blank	P160819-MB	**103**	**103**	**92**	70-130	
Lab Control Sample	P160818-LCS	**98**	**106**	**94**	70-130	
Lab Control Sample	P160819-LCS	**98**	**102**	**95**	70-130	
SVP1-IA-20160804-175-2	P1603961-001	**103**	**103**	**94**	70-130	
SVP1-IA-20160804-175-3	P1603961-002	**98**	**103**	**94**	70-130	
SVP1-SS-20160805-178-1	P1603961-003	**102**	**104**	**93**	70-130	
SVP1-IA-20160805-178-2	P1603961-004	**102**	**103**	**93**	70-130	
SVP1-IA-20160805-178-3	P1603961-005	**109**	**100**	**89**	70-130	
SVP1-SS-20160805-124-1	P1603961-006	**100**	**103**	**93**	70-130	
SVP1-IA-20160805-124-2	P1603961-007	**101**	**103**	**95**	70-130	
SVP1-IA-20160805-124-3	P1603961-008	**100**	**103**	**93**	70-130	
SVP1-SS-20160806-130-1	P1603961-009	**100**	**103**	**94**	70-130	
SVP1-IA-20160806-130-2	P1603961-010	**97**	**102**	**96**	70-130	
SVP1-IA-20160806-130-3	P1603961-011	**98**	**103**	**94**	70-130	
SVP1-SS-20160806-117-1	P1603961-012	**105**	**100**	**91**	70-130	
SVP1-SS-20160806-117-1	P1603961-012DUP	**101**	**105**	**94**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

[redacted]

Client: **Seagull Environmental Techn**
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150** [redacted]roject ID: P1603961

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 8/4 - 8/6/16
Date(s) Received: 8/11/16
Date(s) Analyzed: 8/18 - 8/19/16

Client Sample ID	[redacted] Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
SVP1-IA-20160806-117-2	03961-013	**103**	**101**	**96**	70-130	
SVP1-IA-20160806-117-3	P1603961-014	**106**	**101**	**92**	70-130	
SVP1-SS-20160806-186-1	P1603961-015	**103**	**102**	**95**	70-130	
SVP1-SS-20160806-186-1	P1603961-015DUP	**103**	**102**	**95**	70-130	
SVP1-IA-20160806-186-2	P1603961-016	**102**	**102**	**95**	70-130	
SVP1-IA-20160806-186-2D	P1603961-017	**109**	**102**	**95**	70-130	
SVP1-IA-20160806-186-3	P1603961-018	**103**	**102**	**95**	70-130	
SVP1-SS-20160806-118-1	P1603961-019	**110**	**101**	**101**	70-130	
SVP1-IA-20160806-118-2	P1603961-020	**100**	**102**	**96**	70-130	
SVP1-IA-20160806-118-3	P1603961-021	**101**	**102**	**97**	70-130	
SVP1-IA-20160806-118-3D	P1603961-022	**101**	**101**	**98**	70-130	
SVP1-SS-20160806-144-1	P1603961-023	**110**	**91**	**96**	70-130	
SVP1-IA-20160806-144-2	P1603961-024	**107**	**104**	**94**	70-130	
SVP1-IA-20160806-144-3	P1603961-025	**99**	**99**	**96**	70-130	
SVP1-OA-20160806-144-4	P1603961-026	**91**	**110**	**107**	70-130	
SVP1-TB-20160806-000-0	P1603961-027	**100**	**101**	**97**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

LABOR [redacted] MARY

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Lab Control Sample** roject ID: P1603961
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150** ample ID: P160818-LCS

Test Code: EPA TO-15 Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Evelyn Alvarez Date Analyzed: 8/18/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

[redacted]

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	r
75-01-4	Vinyl Chloride	200	**237**	**119**	65-128
75-35-4	1,1-Dichloroethene	216	**229**	**106**	72-123
156-60-5	trans-1,2-Dichloroethene	210	**256**	**122**	69-129
156-59-2	cis-1,2-Dichloroethene	218	**250**	**115**	65-125
71-43-2	Benzene	226	**233**	**103**	61-110
79-01-6	Trichloroethene	216	**226**	**105**	71-121
108-88-3	Toluene	218	**230**	**106**	67-117
127-18-4	Tetrachloroethene	202	**232**	**115**	65-126
100-41-4	Ethylbenzene	218	**257**	**118**	69-123
179601-23-1	m,p-Xylenes	428	**512**	**120**	67-125
95-47-6	o-Xylene	210	**238**	**113**	67-124

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABOR [redacted] MARY

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Lab Control Sample** Project ID: P1603961
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150** Sample ID: P160819-LCS

Test Code: EPA TO-15 e Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Evelyn Alvarez Date Analyzed: 8/19/16
Sample Type: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	A
75-01-4	Vinyl Chloride	200	**228**	**114**	65-128
75-35-4	1,1-Dichloroethene	216	**219**	**101**	72-123
156-60-5	trans-1,2-Dichloroethene	210	**252**	**120**	69-129
156-59-2	cis-1,2-Dichloroethene	218	**248**	**114**	65-125
71-43-2	Benzene	226	**226**	**100**	61-110
79-01-6	Trichloroethene	216	**228**	**106**	71-121
108-88-3	Toluene	218	**222**	**102**	67-117
127-18-4	Tetrachloroethene	202	**222**	**110**	65-126
100-41-4	Ethylbenzene	218	**248**	**114**	69-123
179601-23-1	m,p-Xylenes	428	**494**	**115**	67-125
95-47-6	o-Xylene	210	**254**	**121**	67-124

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

[redacted]

LABORAT[redacted] RESULTS

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160806-117-1** roject ID: P1603961
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150** ample ID: P1603961-012DUP

Test Code: EPA TO-15 Collected: 8/6/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 8/11/16
Analyst: Evelyn Alvarez Date Analyzed: 8/19/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.25 Liter(s)
Test Notes:
Container ID: SSC00069

Initial Pressure (psig): -0.95 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.35

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Benzene	2.24	0.700	2.41	0.756	2.325	**7**	25	
Trichloroethene	403	75.0	395	73.5	399	**2**	25	
Toluene	12.8	3.39	14.0	3.71	13.4	**9**	25	
Tetrachloroethene	7.53	1.11	8.35	1.23	7.94	**10**	25	
Ethylbenzene	4.13	0.951	4.38	1.01	4.255	**6**	25	
m,p-Xylenes	15.4	3.55	16.0	3.69	15.7	**4**	25	
o-Xylene	5.97	1.38	6.29	1.45	6.13	**5**	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

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LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVP1-SS-20160806-186-1** Project ID: P1603961
Client Project ID: **Sporlan Valve Plant #1 ISA / 0150** ample ID: P1603961-015DUP

Test Code: EPA TO-15 e Collected: 8/6/16
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 8/11/16
Analyst: Evelyn Alvarez Date Analyzed: 8/19/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:
Container ID: SSC00247

Initial Pressure (psig): -0.06 Final Pressure (psig): 4.43

Canister Dilution Factor: 1.31

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Vinyl Chloride	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
Benzene	1.52	0.476	1.48	0.464	1.5	**3**	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
Toluene	9.67	2.57	9.56	2.54	9.615	**1**	25	
Tetrachloroethene	1.28	0.189	1.25	0.185	1.265	**2**	25	
Ethylbenzene	3.50	0.807	3.46	0.797	3.48	**1**	25	
m,p-Xylenes	12.7	2.92	12.6	2.90	12.65	**0.8**	25	
o-Xylene	5.20	1.20	5.12	1.18	5.16	**2**	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

[redacted]

[redacted]

LABORATORY REPORT

September 1, 2016

Dave Kinroth
Seagull Environmental Technologies, Inc.
415 Oak Street
Kansas City, MO 64106

RE: Sporlan Value Plant #1 ISA / 0150

Dear Dave:

Enclosed are the results of the samples submitted to our laboratory on August 18, 2016. For your reference, these analyses have been assigned our service request number P1604058.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at [redacted]

Respectfully submitted,

[redacted]

[redacted]

Client: Seagull Environmental Technologies, Inc. Service Request No: P1604058
Project: Sporlan Value Plant #1 ISA / 0150

CASE NARRATIVE

The samples were received intact under chain of custody on August 18, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds in accordance with EPA Method TO 15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation, however it is not part of the AIHA-LAP, LLC accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

Sample SVPI-SS-20160813-1941 (P1604058-001) required a dilution due to the presence of elevated levels of non-target background components. The reporting limits have been adjusted to reflect the dilution.

Please note that the trip blank sample "SVPI-TB-20160813-0004" (P1604058-008) was not received back in the laboratory with full initial vacuum, so there may be ambient air contamination in the sample. No further action could be performed.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

[redacted]

[redacted]

CERTIFICAT [redacted] GISTRATIONS

Agency	Web Site	Number
AIHA-LAP, LLC	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-003
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-16-7
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272016-6
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

[redacted]

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[redacted]

Client: Seagull Environmental Technologies, Inc. Service Request: P1604058
Project ID: Sporlan Value Plant #1 ISA / 0150

Date Received: 8/18/2016
Time Received: 09:25

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
SVPI-SS-20160813-194-1	P1604058-001	Air	8/13/2016	09:42	SSC00209	-7.29	3.69	X
SVPI-IA-20160813-194-2	P1604058-002	Air	8/13/2016	09:45	AC01250	0.23	3.98	X
SVPI-IA-20160813-194-3	P1604058-003	Air	8/13/2016	09:47	AC01578	-0.17	3.90	X
SVPI-OA-20160813-194-4	P1604058-004	Air	8/13/2016	09:54	SC00929	-2.92	3.84	X
SVPI-SS-20160813-192-1	P1604058-005	Air	8/13/2016	10:31	SC01723	0.06	3.63	X
SVPI-IA-20160813-192-2	P1604058-006	Air	8/13/2016	10:33	AC02073	-3.08	3.80	X
SVPI-IA-20160813-192-3	P1604058-007	Air	8/13/2016	10:34	AC02100	-3.17	3.79	X
SVPI-FB-20160813-000-0	P1604058-008	Air	8/13/2016	10:34	SC00403	-13.25	3.68	X

[redacted]

ain of Custody Record & Analytical Service Request

Page 1 of 1

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No: R1604058

ALS Contact:

Company Name & Address (Reporting Information)
Tetra Tech Inc.
415 Oak St.
Kansas City, MO 64106

Project Name: Sparlan Value Plant #1 ISA

Project Number: 01500

Project Manager: Dave Kinroth, Emily Fisher

P.O. # / Billing Information

Phone: 314-5176798 Fax: 314-395-3157

Email Address for Result Reporting: davekinroth@charter.net

Sampler (Print & Sign): Dave Kinroth Dave Kinroth

Analysis Method: TCE, PCE, DCE, VC, BTEX

Comments e.g. Actual Preservative or specific instructions: See canister notes moisture was observed in tube

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	BTEX
SVP1-SS-20160813-194-1	1	8-13-16	9:42	SC00209	0A00135	-29.49	-15.61		X
SVP1-IA-20160813-194-2	2		9:45	AC01250	FCA0071B	-29.86	+0.40		
SVP1-IA-20160813-194-3	3		9:47	AC01578	FCA00012	-29.79	-5.69		
SVP1-DA-20160813-194-4	4		9:54	SC00929	0A00598	-29.83	-6.29		
SVP1-SS-20160813-192-1	6	8-13-16	10:31	SC01723	0A01341	-29.96	+0.21		
SVP1-IA-20160813-192-2	5		10:33	AC02073	FCA00458	-29.99	-6.54		
SVP1-IA-20160813-192-3	7		10:34	AC02100	FCA00874	-29.94	-6.64		
SVP1-FB-20160813-0000	8	8-13-16	10:34	SC00403	NA	-28.00	—		

END OF SHIPMENT 3
Dave Kinroth
8-15-16

Report Tier Levels - please select
Tier I - Results (Default in not specified) ____
Tier II (Results + QC Summaries X
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Date Validation Package) 10% Surcharge ____

EDD required (YES) / No
Type: Excel Units: ug/m3

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP): 0.1 ug/m3

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Dave Kinroth	8-15-16	13:00			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
				8/18/16	0925

Cooler / Blank Temperature ____ °C

[redacted] rm

Client: Seagull Environmental Technologies, Inc Work order: P1604058

Project: Sporlan Value Plant #1 ISA / 0150

Sample(s) received on: 8/18/16 D ed: 8/18/16 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1604058-001.01	6.0 L Silonite Can					
P1604058-002.01	6.0 L Ambient Can					
P1604058-003.01	6.0 L Ambient Can					
P1604058-004.01	6.0 L Source Can					
P1604058-005.01	6.0 L Source Can					
P1604058-006.01	6.0 L Ambient Can					
P1604058-007.01	6.0 L Ambient Can					
P1604058-008.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVPI-SS-20160813-194-1**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150**

[redacted] Project ID: P1604058
Sample ID: P1604058-001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Silonite Canister
Test Notes:
Container ID: SSC00209

te Collected: 8/13/16
Date Received: 8/18/16
Date Analyzed: 8/22/16
Volume(s) Analyzed: 0.10 Liter(s)

Initial Pressure (psig): -7.29 Final Pressure (psig): 3.69

Canister Dilution Factor: 2.48

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	2.5	ND	0.97	
75-35-4	1,1-Dichloroethene	ND	2.5	ND	0.63	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	ND	0.63	
156-59-2	cis-1,2-Dichloroethene	ND	2.5	ND	0.63	
71-43-2	Benzene	ND	2.5	ND	0.78	
79-01-6	Trichloroethene	ND	2.5	ND	0.46	
108-88-3	Toluene	ND	12	ND	3.3	
127-18-4	Tetrachloroethene	ND	2.5	ND	0.37	
100-41-4	Ethylbenzene	ND	12	ND	2.9	
179601-23-1	m,p-Xylenes	ND	12	ND	2.9	
95-47-6	o-Xylene	ND	12	ND	2.9	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVPI-IA-20160813-194-2**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150**

[redacted] Project ID: P1604058
Sample ID: P1604058-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01250

te Collected: 8/13/16
Date Received: 8/18/16
Date Analyzed: 8/22/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.23 Final Pressure (psig): 3.98

Canister Dilution Factor: 1.25

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.049	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.032	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.032	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.032	
71-43-2	Benzene	**9.7**	0.13	**3.0**	0.039	
79-01-6	Trichloroethene	ND	0.13	ND	0.023	
108-88-3	Toluene	**22**	0.63	**5.8**	0.17	
127-18-4	Tetrachloroethene	**0.54**	0.13	**0.079**	0.018	
100-41-4	Ethylbenzene	**3.0**	0.63	**0.70**	0.14	
179601-23-1	m,p-Xylenes	**8.9**	0.63	**2.1**	0.14	
95-47-6	o-Xylene	**2.2**	0.63	**0.50**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVPI-IA-20160813-194-3**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150**

[redacted] Project ID: P1604058
[redacted] Sample ID: P1604058-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC01578

Date Collected: 8/13/16
Date Received: 8/18/16
Date Analyzed: 8/22/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -0.17 Final Pressure (psig): 3.90

Canister Dilution Factor: 1.28

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.13	ND	0.050	
75-35-4	1,1-Dichloroethene	ND	0.13	ND	0.032	
156-60-5	trans-1,2-Dichloroethene	ND	0.13	ND	0.032	
156-59-2	cis-1,2-Dichloroethene	ND	0.13	ND	0.032	
71-43-2	Benzene	**7.5**	0.13	**2.4**	0.040	
79-01-6	Trichloroethene	ND	0.13	ND	0.024	
108-88-3	Toluene	**19**	0.64	**5.0**	0.17	
127-18-4	Tetrachloroethene	**0.52**	0.13	**0.077**	0.019	
100-41-4	Ethylbenzene	**2.5**	0.64	**0.58**	0.15	
179601-23-1	m,p-Xylenes	**7.3**	0.64	**1.7**	0.15	
95-47-6	o-Xylene	**1.8**	0.64	**0.41**	0.15	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVPI-OA-20160813-194-4**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150**

[redacted] Project ID: P1604058
[redacted] Sample ID: P1604058-004

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC00929

te Collected: 8/13/16
Date Received: 8/18/16
Date Analyzed: 8/22/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -2.92 Final Pressure (psig): 3.84

Canister Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.061	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.040	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.040	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.040	
71-43-2	Benzene	**0.43**	0.16	**0.14**	0.049	
79-01-6	Trichloroethene	ND	0.16	ND	0.029	
108-88-3	Toluene	**1.3**	0.79	**0.35**	0.21	
127-18-4	Tetrachloroethene	**0.16**	0.16	**0.024**	0.023	
100-41-4	Ethylbenzene	ND	0.79	ND	0.18	
179601-23-1	m,p-Xylenes	ND	0.79	ND	0.18	
95-47-6	o-Xylene	ND	0.79	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVPI-SS-20160813-192-1**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150**

[redacted] Project ID: P1604058
Sample ID: P1604058-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01723

te Collected: 8/13/16
Date Received: 8/18/16
Date Analyzed: 8/22/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): 0.06 Final Pressure (psig): 3.63

Canister Dilution Factor: 1.24

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.12	ND	0.049	
75-35-4	1,1-Dichloroethene	ND	0.12	ND	0.031	
156-60-5	trans-1,2-Dichloroethene	ND	0.12	ND	0.031	
156-59-2	cis-1,2-Dichloroethene	ND	0.12	ND	0.031	
71-43-2	Benzene	**1.4**	0.12	**0.44**	0.039	
79-01-6	Trichloroethene	**0.40**	0.12	**0.074**	0.023	
108-88-3	Toluene	**16**	0.62	**4.2**	0.16	
127-18-4	Tetrachloroethene	**1.3**	0.12	**0.19**	0.018	
100-41-4	Ethylbenzene	**4.1**	0.62	**0.94**	0.14	
179601-23-1	m,p-Xylenes	**15**	0.62	**3.5**	0.14	
95-47-6	o-Xylene	**6.5**	0.62	**1.5**	0.14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVPI-IA-20160813-192-2**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150**

[redacted] Project ID: P1604058
Sample ID: P1604058-006

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02073

ate Collected: 8/13/16
Date Received: 8/18/16
Date Analyzed: 8/22/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.08 Final Pressure (psig): 3.80

Canister Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.062	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.040	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.040	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.040	
71-43-2	Benzene	**0.95**	0.16	**0.30**	0.050	
79-01-6	Trichloroethene	ND	0.16	ND	0.030	
108-88-3	Toluene	**10**	0.80	**2.8**	0.21	
127-18-4	Tetrachloroethene	**0.70**	0.16	**0.10**	0.023	
100-41-4	Ethylbenzene	**1.6**	0.80	**0.38**	0.18	
179601-23-1	m,p-Xylenes	**4.0**	0.80	**0.92**	0.18	
95-47-6	o-Xylene	**1.3**	0.80	**0.30**	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVPI-IA-20160813-192-3**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150**

[redacted] Project ID: P1604058
[redacted] ample ID: P1604058-007

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: AC02100

e Collected: 8/13/16
Date Received: 8/18/16
Date Analyzed: 8/22/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -3.17 Final Pressure (psig): 3.79

Canister Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.16	ND	0.063	
75-35-4	1,1-Dichloroethene	ND	0.16	ND	0.040	
156-60-5	trans-1,2-Dichloroethene	ND	0.16	ND	0.040	
156-59-2	cis-1,2-Dichloroethene	ND	0.16	ND	0.040	
71-43-2	Benzene	**1.0**	0.16	**0.33**	0.050	
79-01-6	Trichloroethene	ND	0.16	ND	0.030	
108-88-3	Toluene	**18**	0.80	**4.8**	0.21	
127-18-4	Tetrachloroethene	**0.71**	0.16	**0.10**	0.024	
100-41-4	Ethylbenzene	**3.1**	0.80	**0.72**	0.18	
179601-23-1	m,p-Xylenes	**7.3**	0.80	**1.7**	0.18	
95-47-6	o-Xylene	**2.3**	0.80	**0.53**	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **SVPI-FB-20160813-000-0**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150**

[redacted] Project ID: P1604058
ample ID: P1604058-008

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Evelyn Alvarez
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC00403

e Collected: 8/13/16
Date Received: 8/18/16
Date Analyzed: 8/22/16
Volume(s) Analyzed: 1.00 Liter(s)

Initial Pressure (psig): -13.25 Final Pressure (psig): 3.68

Canister Dilution Factor: 12.68

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	1.3	ND	0.50	
75-35-4	1,1-Dichloroethene	ND	1.3	ND	0.32	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	ND	0.32	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	ND	0.32	
71-43-2	Benzene	**3.3**	1.3	**1.0**	0.40	
79-01-6	Trichloroethene	**19**	1.3	**3.5**	0.24	
108-88-3	Toluene	**27**	6.3	**7.1**	1.7	
127-18-4	Tetrachloroethene	ND	1.3	ND	0.19	
100-41-4	Ethylbenzene	ND	6.3	ND	1.5	
179601-23-1	m,p-Xylenes	ND	6.3	ND	1.5	
95-47-6	o-Xylene	ND	6.3	ND	1.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

[redacted]

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Method Blank** [redacted] Project ID: P1604058
Client Project ID: **Sporlan Value Plant #1 ISA / 0150** ample ID: P160822-MB

Test Code: EPA TO-15 e Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Evelyn Alvarez Date Analyzed: 8/22/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
75-01-4	Vinyl Chloride	ND	0.10	ND	0.039	
75-35-4	1,1-Dichloroethene	ND	0.10	ND	0.025	
156-60-5	trans-1,2-Dichloroethene	ND	0.10	ND	0.025	
156-59-2	cis-1,2-Dichloroethene	ND	0.10	ND	0.025	
71-43-2	Benzene	ND	0.10	ND	0.031	
79-01-6	Trichloroethene	ND	0.10	ND	0.019	
108-88-3	Toluene	ND	0.50	ND	0.13	
127-18-4	Tetrachloroethene	ND	0.10	ND	0.015	
100-41-4	Ethylbenzene	ND	0.50	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.50	ND	0.12	
95-47-6	o-Xylene	ND	0.50	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

SURR[redacted]ULTS

Client: **Seagull Environmental Technologies, Inc.**
Client Project ID: **Sporlan Value Plant #1 ISA / 0150** [redacted] Project ID: P1604058

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 8/13/16
Analyst: Evelyn Alvarez Date(s) Received: 8/18/16
Sample Type: 6.0 L Silonite Canister(s) Date(s) Analyzed: 8/22/16
Test Notes:

Client Sample ID	[redacted] Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	0822-MB	**106**	**106**	**113**	70-130	
Lab Control Sample	P160822-LCS	**85**	**99**	**106**	70-130	
SVPI-SS-20160813-194-1	P1604058-001	**99**	**102**	**98**	70-130	
SVPI-IA-20160813-194-2	P1604058-002	**92**	**104**	**109**	70-130	
SVPI-IA-20160813-194-3	P1604058-003	**93**	**103**	**107**	70-130	
SVPI-OA-20160813-194-4	P1604058-004	**102**	**100**	**96**	70-130	
SVPI-SS-20160813-192-1	P1604058-005	**102**	**102**	**98**	70-130	
SVPI-IA-20160813-192-2	P1604058-006	**100**	**101**	**98**	70-130	
SVPI-IA-20160813-192-3	P1604058-007	**99**	**101**	**98**	70-130	
SVPI-FB-20160813-000-0	P1604058-008	**100**	**101**	**97**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

LABOR [redacted] MARY

Client: **Seagull Environmental Technologies, Inc.**
Client Sample ID: **Lab Control Sample** Project ID: P1604058
Client Project ID: **Sporlan Value Plant #1 ISA / 0150** Sample ID: P160822-LCS

Test Code: EPA TO-15 e Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Evelyn Alvarez Date Analyzed: 8/22/16
Sample Type: 6.0 L Silonite Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	A l
75-01-4	Vinyl Chloride	200	**238**	**119**	65-128
75-35-4	1,1-Dichloroethene	216	**243**	**113**	72-123
156-60-5	trans-1,2-Dichloroethene	210	**263**	**125**	69-129
156-59-2	cis-1,2-Dichloroethene	218	**256**	**117**	65-125
71-43-2	Benzene	226	**215**	**95**	61-110
79-01-6	Trichloroethene	216	**235**	**109**	71-121
108-88-3	Toluene	218	**213**	**98**	67-117
127-18-4	Tetrachloroethene	202	**234**	**116**	65-126
100-41-4	Ethylbenzene	218	**248**	**114**	69-123
179601-23-1	m,p-Xylenes	428	**486**	**114**	67-125
95-47-6	o-Xylene	210	**229**	**109**	67-124

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Tetra Tech, Inc.
DATA VALIDATION REPORT
LEVEL II

Site:	Sporlan Valve Plant No. 1 Superfund Site
Laboratory:	[redacted]
Data Reviewer:	
Review Date	September 15, 2016
Sample Delivery Group (SDG):	P1603935
Sample Numbers:	SVP1-SS-20160803-193-1, SVP1-SS-20160803-193-2, SVP1-IA-20160803-193-3, SVP1-IA-20160803-193-4, SVP1-CS-20160803-182-1, SVP1-IA-20160803-182-2, SVP1-OA-20160803-182-9, SVP1-SS-20160804-177-1, SVP1-IA-20160804-177-2, SVP1-IA-20160804-177-3, SVP1-SS-20160804-195-1, SVP1-SS-20160804-195-1D, SVP1-IA-20160804-195-2, SVP1-IA-20160804-195-3, SVP1-SS-20160804-131-1, SVP1-IA-20160804-131-2, SVP1-IA-20160804-131-3, and SVP1-OA-20160804-131-4
Matrix / Number of Samples:	18 Air Samples

The data were qualified according to the U.S. Environmental Protection Agency (EPA) entitled "Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review" and CLP NFG for Inorganic Superfund Data Review", both dated August 2014. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

15 September 2016

Certified by Harry Ellis, Chemist — Date

DATA VALIDATION QUALIFIERS4

U	—	The analyte was not detected above the reported sample quantitation limit.
J	—	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	—	The analyte was not detected above the reported sample quantitation limit, which is estimated.
R	—	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.

DATA ASSESSMENT

Sample delivery group (SDG) P1603935 included seventeen (17) environmental air samples and one (1) QC sample (a field duplicate). The samples were analyzed for volatile organic compounds (VOC) by EPA Air Method TO-15. The following summarizes the data validation that was performed.

VOLATILE ORGANIC COMPOUNDS ANALYSES

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air samples.

III. Blanks

No analytes were detected in the blanks.

IV. Laboratory Control Sample (LCS)

All LCS results were within QC limits.

V. Surrogate Recoveries

All surrogate recoveries were within QC limits.

VI. Comments

[redacted] did not report detected results below the sample reporting limits.

. Overall Assessment of Data

Overall data quality is acceptable, with no qualifications applied. All data are usable as reported for their intended purposes.

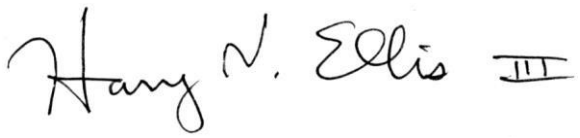
Tetra Tech, Inc.
DATA VALIDATION REPORT
LEVEL II

Site:	Sporlan Valve Plant No. 1 Superfund Site
Laboratory:	[redacted]
Data Reviewer:	t t
Review Date	September 19, 2016
Sample Delivery Group (SDG):	P1603935
Sample Numbers:	SVP1-IA-20160804-175-2, SVP1-IA-20160804-175-3, SVP1-SS-20160805-178-1, SVP1-IA-20160805-178-2, SVP1-IA-20160805-178-3, SVP1-IA-20160805-124-1, SVP1-IA-20160805-124-2, SVP1-IA-20160805-124-3, SVP1-SS-20160806-130-1, SVP1-IA-20160806-130-3, SVP1-IA-20160806-130-3, SVP1-SS-20160806-117-1, SVP1-IA-20160806-117-2, SVP1-IA-20160806-117-3, SVP1-SS-20160806-186-1, SVP1-IA-20160806-186-2, SVP1-IA-20160806-186-2D, SVP1-IA-20160806-186-3, SVP1-SS-20160806-118-1, SVP1-IA-20160806-118-2, SVP1-IA-20160806-118-3, SVP1-IA-20160806-118-3D, SVP1-SS-20160806-144-1, SVP1-IA-20160806-144-2, SVP1-IA-20160806-144-3, SVP1-OA-20160806-144-4, and SVP1-TB-20160806-000-0
Matrix / Number of Samples:	27 Air Samples

The data were qualified according to the U.S. Environmental Protection Agency (EPA) entitled "Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review" and CLP NFG for Inorganic Superfund Data Review", both dated August 2014. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.



19 September 2016

Certified by Harry Ellis, Chemist — Date

DATA VALIDATION QUALIFIERS4

U	—	The analyte was not detected above the reported sample quantitation limit.
J	—	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	—	The analyte was not detected above the reported sample quantitation limit, which is estimated.
R	—	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.

DATA ASSESSMENT

Sample delivery group (SDG) P1603961 included twenty-four (24) environmental air samples and three (3) QC samples (2 field duplicates and 1 trip blank). The samples were analyzed for volatile organic compounds (VOC) by EPA Air Method TO-15. The following summarizes the data validation that was performed.

VOLATILE ORGANIC COMPOUNDS ANALYSES

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air samples.

III. Blanks

No analytes were detected in the laboratory blanks, but the field blank yielded low concentrations of benzene and toluene. The similar concentrations of benzene and toluene in sample SVP1-OA-20160806-144-4 were qualified as handling artifacts and flagged "U".

IV. Laboratory Control Sample (LCS)

All LCS results were within QC limits.

V. Surrogate Recoveries

All surrogate recoveries were within QC limits.

VI. Comments

[redacted] did not report detected results below the sample reporting limits.

. Overall Assessment of Data

Overall data quality is acceptable, with few qualifications applied. All data are usable as qualified for their intended purposes.

Tetra Tech, Inc.
DATA VALIDATION REPORT
LEVEL II

Site:	Sporlan Valve Plant No. 1 Superfund Site
Laboratory:	[redacted]
Data Reviewer:	
Review Date	September 15, 2016
Sample Delivery Group (SDG):	P1604058
Sample Numbers:	SVP1-SS-20160816-194-1, SVP1-IA-20160816-194-2, SVP1-IA-20160816-194-3, SVP1-OA-20160816-194-4, SVP1-SS-20160816-192-1, SVP1-IA-20160816-192-2, SVP1-IA-20160816-192-3, and SVP1-FB-20160816-000-0
Matrix / Number of Samples:	Eight Air Samples

The data were qualified according to the U.S. Environmental Protection Agency (EPA) entitled "Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review" and CLP NFG for Inorganic Superfund Data Review", both dated August 2014. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

19 September 2016

Certified by Harry Ellis, Chemist — Date

DATA VALIDATION QUALIFIERS4

U	—	The analyte was not detected above the reported sample quantitation limit.
J	—	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	—	The analyte was not detected above the reported sample quantitation limit, which is estimated.
R	—	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.

DATA ASSESSMENT

Sample delivery group (SDG) P1604058 included seven (7) environmental air samples and one (1) QC sample (a field blank). The samples were analyzed for volatile organic compounds (VOC) by EPA Air Method TO-15. The following summarizes the data validation that was performed.

VOLATILE ORGANIC COMPOUNDS ANALYSES

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air samples.

III. Blanks

No analytes were detected in the laboratory blank, but the field blank yielded moderate concentrations of benzene, trichloroethene, and toluene. The reported concentrations of benzene, trichloroethene, and toluene in the other field samples (most of which were lower than the field blank concentrations) were qualified as handling artifacts and flagged "U".

IV. Laboratory Control Sample (LCS)

All LCS results were within QC limits.

V. Surrogate Recoveries

All surrogate recoveries were within QC limits.

VI. Comments

[redacted]did not report detected results below the sample reporting limits.

Overall Assessment of Data

Overall data quality is acceptable, with few qualifications applied. All data are usable as qualified for their intended purposes.