BUENA VISTA APARTMENTS

85 RIVERDALE AVENUE

YONKERS, NEW YORK 10701

Remedial Investigation Report

NYS DEC BCP Number: C360181

Prepared for:

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REMEDIAL INVESTIGATION REPORT

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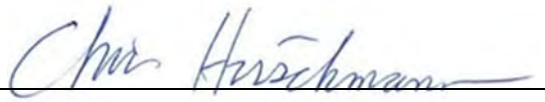
LIST OF ACRONYMS

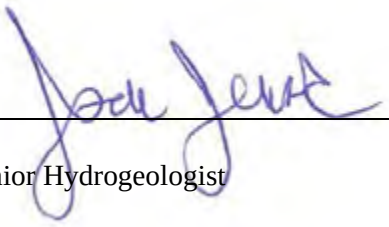
Acronym	Definition
AWQSGV	NYS Ambient Water Quality Standards and Guidance Values
AOC	Area of Concern
BCP/BCA	Brownfield Cleanup Program/Brownfield Cleanup Agreement
CAMP	Community Air Monitoring Plan
COPC	Contaminant of Potential Concern
CPP	Citizen Participation Plan
CSM	Conceptual Site Model
DER-10	New York State Department of Environmental Conservation
EPC	Exposure Point Concentration
FID	Flame Ionization Detector
GPS	Global Positioning System
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
IRM	Interim Remedial Measure
NAPL	Non-aqueous Phase Liquid
NYS DOH	New York State Department of Health
NYS DOH	New York State Department of Health Environmental Laboratory
NYS DEC	New York State Department of Environmental Conservation
OSHA	Occupational Safety and Health Administration
PFAS	Per- and polyfluoroalkyl substances
PID	Photoionization Detector
QEP	Qualified Environmental Professional
RI	Remedial Investigation
RIR	Remedial Investigation Report
SCO	Soil Cleanup Objective
SPEED	Searchable Property Environmental Electronic Database
SSDS	Sub-Slab Depressurization System

CERTIFICATION

Chris Hirschmann and Jack Jemsek, Ph.D., P.G., certify that we are currently Qualified Environmental Professionals, as defined in DER-10 Technical Guidance for Site Investigation and Remediation. We have primary direct responsibility for the implementation of the Remedial Investigation for the Buena Vista Apartments Site, (NYSDEC BCP No. C360181) and are responsible for the content of this Remedial Investigation Report (RIR). We have reviewed its contents and certify that this RIR is accurate to the best of our knowledge and contains all pertinent environmental information and data regarding the property.



Environmental Services Director



Senior Hydrogeologist

EXECUTIVE SUMMARY

Background

This Remedial Investigation Report (RIR) for 85 Riverdale Avenue in Yonkers, New York was prepared by HK Engineering and Geology, D.P.C. (Hillmann) on behalf of Buena Vista Associates, LP, a designated Volunteer participating in New York State's Brownfield Cleanup Program (BCP). The New York State Department of Environmental Conservation (NYSDEC) references the 4.457-acre Site as C360181 within the Brownfield Cleanup Agreement (BCA) dated July 2019. The RIR provides sufficient information for the establishment of remedial action objectives, evaluation of remedial action alternatives, and selection of an on-Site remedy. The remedial investigation (RI) described in this document is consistent with applicable guidance and supplements the previous November 2020 Remedial Investigation Report (RIR) prepared by Hillmann. This RIR implements Hillmann's February 2023 Remedial Investigation Work Plan with the collection and evaluation of new data that was collected to delineate the extent of the chlorinated solvent release at the Site.

The Site is located at 85 Riverdale Avenue, Yonkers, New York. The Site is currently developed with three interconnected buildings that are composed of two 18-story sections, one 15-story section, and five 6-story sections of concrete and masonry construction with basements. In addition to the current structures, the subject property is improved with a freestanding, four-story parking garage, a fenced enclosure, a former basketball court, an asphalt-paved driving lane, two open-air quads, breezeways, and associated landscaping. The proposed post-remediation use of the Site will be unchanged from the current use of the Site including the commercial and office space as well as residential apartments. The property is an Affordable Housing Project under 6 NYCRR 375-3.2(a).

Summary of Remedial Investigation

The Spring 2023 field program entailed the installation of four (4) additional deep (50 to 60 feet below grade [fbg]) monitoring wells in weathered bedrock, one additional shallow water table well, groundwater sampling and analyses from all 13 on-Site monitoring wells, and a soil vapor intrusion study at the abutting property to the east at 100 Riverdale Avenue. Evaluation of the new data indicates that the Site has been fully delineated concerning the shallow chlorinated solvent plume and no potential vapor intrusion pathway exists beyond the property bounds. The deep

plume is localized to the suspected release area, defined by the well cluster MW-3, MW-5, MW-7 and MW-8. Spatial trends from the deep bedrock wells indicate that the extent is also confined to the property.

The following has been performed during remedial investigations of identified Areas of Concern (AOCs) which have included characterization of soil, groundwater, soil-vapor and indoor air in the Site vicinity:

- Advanced fourteen (14) soil borings at the Site to define the upgradient, lateral and downgradient extent of impact, and collected sixteen (16) soil samples for chemical analysis from the soil borings to evaluate soil quality;
- Installed fourteen (14) permanent groundwater monitoring wells, one of which has been abandoned (MW-1). In March 2023, five new wells (MW-9 through MW-13) were installed, with one well (MW-11) completed to 20 fbg and four (4) deep wells. One deep well was 50 fbg (MW-12) and the other three (3) wells to 60 fbg (MW-9, MW-10, and MW-13);
- Collected numerous rounds of groundwater samples from the monitoring wells to evaluate groundwater quality, and collected three (3) water samples from basement sumps to evaluate groundwater quality. In April 2023, each of the available 13 monitoring wells, including the initial sampling of the newly-installed wells MW-9 through MW-13.
- Installed thirteen (13) sub-slab soil vapor probes in the building's basement and collected thirteen (13) soil vapor samples for chemical analysis. Collected thirteen (13) corresponding indoor air samples for analysis in the vicinity of the soil vapor locations, with six (6) additional indoor air samples in February 2020. In March 2023, a sub-slab soil vapor sample and indoor air sample were collected at the building located east of the Site at 100 Riverdale Avenue.

Summary of Environmental Findings

Soil Results:

- Shallow soil samples collected from landscaped (unpaved) areas at the Site had the following detections: (1) several semi-volatile organic compound/polycyclic aromatic

hydrocarbon (SVOC/PAH) compounds in exceedance of the Restricted Residential Use Soil Cleanup Objectives (RRUSCOs) at select locations; (2) mercury in exceedance of the RRUSCO at several shallow locations and one deep 13.5-14.0 fbg sample; (3) arsenic, expected to be a result of natural background, was detected in exceedance of the RRUSCO in one shallow sample (out of a total of 10 samples). Based on the shallow sample depth and previous redevelopment of the Site into the current buildings, exceedances are not expected to have resulted from historic or current Site use. The compounds detected in the shallow soil are typical of urban fill in similar areas.

- A Brownfield Cleanup Agreement (BCA) amendment was executed March 12, 2024, which identified two unpaved landscaped areas of the Site as "carved out" and no longer within the amended Site boundary for the BCA. These two "carve-out" areas include the northeastern area of the western quad (sample locations S9, S10 and/or S16) and the southwestern corner of the Site (sample locations S12 and S13), where certain metals and/or SVOC/PAH compounds exceed the RRSUCOs.

- Soil sample results in the exterior behind the former dry cleaner did not indicate any hot spots and/or elevated volatile organic compound (VOC) detections. A previous inspection of the interior space formerly occupied by the dry cleaner did not indicate any cracks or holes in the slab near the location of the former dry-cleaning machinery. Additionally, the former dry-cleaning space was on the ground floor but was located over a sub-grade basement level. As such, any leaks from the former dry-cleaning machine would be an unlikely pathway to the subsurface as contaminants would have to pass through the ground-level floor into the basement and then pass through the basement concrete floor; without observation by Site maintenance personnel.

Groundwater Results–- SVOCs, Metals, PCBs and PFAS:

- Several SVOCs were detected in exceedance of the GWQS in MW-1A, MW-2, MW-4 and/or MW-5.
- Several dissolved (filtered) metals, iron, magnesium, manganese, and sodium, were detected exceeding the NYS Ambient Water Quality Standards and Guidance Values (AWQSGV) in all monitoring wells. The historic Site use did not feature activities that used and/or generated the metal compounds detected in groundwater. The metals detected

are typical naturally occurring compounds and are suspected to be a result of natural background.

- PFAS in groundwater was analyzed at wells MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6 and MW-7. A maximum of 140 ppt PFOA was detected at MW-1A and a maximum of 34.3 ppt PFOS was detected at MW-6. Each of the wells, except MW-4, exceeded the NYSDEC 2023 ambient water quality guidance values for PFOA and PFOS, which are 6.7 ppt and 2.7 ppt, respectively. The PFAS appears to be related to off-Site or background sources as the highest PFAS concentrations were detected at upgradient wells (MW-1A and MW-6) relative to the release area.

Groundwater Results - VOCs:

- The April 2023 data presented herein indicate delineation has been achieved for chlorinated VOCs in shallow groundwater (less than 20 fbg). Additionally, the deeper wells (40 to 60 fbg) indicate the highest levels of contamination are restricted to the release area (well cluster MW-3, MW-5, MW-7 and MW-8), such that delineation has been approached for deeper groundwater. The well couplets to the north and west of the source area are below the laboratory reporting limit for both the shallow and deep wells. For the eastern and southern well couplets, background is achieved for all analytes except for PCE at the deep well MW-12 to the east and trans-1,2-DCE at MW-13 to the south, which only slightly exceeds the AWQSGV of 0.7 and 5 µg/l for PCE and 1,2-DCE, respectively. The soil vapor results for the off-Site building at 100 Riverdale Avenue confirm the shallow chlorinated VOC plume is limited to the Site.
- In 2017, injection of potassium permanganate to oxidize chlorinated VOCs in the source area was conducted according to the 2017 Remedial Action Work Plan (RAWP) prepared by Hillmann. Post-remedial monitoring indicated that contaminant levels were initially reduced, but contaminant levels rebounded in June 2018, suggesting that in situ oxidation chemical injection as a source reduction measure is not effective.
- Quarterly groundwater monitoring from May 2021 to March 2022 indicates that the level of contaminant concentrations is decreasing within the source area and that the chlorinated VOC plume is reducing in size and magnitude, and is not migrating off-Site, as confirmed within the March/April 2023 investigation program presented herein.

- The recent sampling round of all 13 monitoring wells indicates that the plume is delineated. The shallow portion of the plume (less than 20 fbg) is not shown to extend beyond the existing monitoring well network located on the property. The deeper portion of the plume (greater than 50 feet) also does not impact abutting properties. Using a linear log-normal spatial distribution estimator, there is a potential for deep groundwater (greater than 40 fbg) to be impacted deep below the southbound lane of the Riverdale Avenue right-of-way.

Free Product at Well MW-13:

- Approximately 0.85 feet of oil as a Light Nonaqueous Phase Liquid (LNAPL) was encountered during the gauging of Well MW-13 on January 24, 2024. This condition was unanticipated based on prior monitoring. Well MW-13 (installed March 2023) is screened from 50 to 60 fbg, whereas the adjacent well MW-4 (installed 2016) intersects the water table at approximately 12 fbg. MW-4 has never encountered "free product" and no oil was encountered in well MW-13 during sampling in April 2023. A fingerprint analysis of the oil via gas chromatography identified it as a Heavy Mineral Oil, which typically makes up 99% of hydraulic oil. The source of the mineral oil at MW-13 remains unclear but appears to be limited in extent given the extensive monitoring data from the adjacent well MW-4. The mineral oil does not indicate a UST source, and the mineral oil does not appear to be associated with mobile or known toxic constituents. Additionally, the oil appears to be essentially void of VOCs, which would pose a potential vapor intrusion threat to indoor air.

Vapor Intrusion Pathway Results:

- Previous air sampling in 2019 and 2020 at the on-Site building (85 Riverdale Avenue) indicated that the NYSDOH decision matrices indicated *no further action* for all other sampled compounds except for methylene chloride and trichloroethene within a portion of the basement. No indoor air samples exceeded the applicable NYSDOH Air Guideline Value for analyzed compounds.
- As a precautionary measure, a SSDS was implemented per Hillmann's 2019 Interim Remedial Measures Workplan. The SSDS was installed to mitigate a potential vapor intrusion pathway that was identified within a portion of the basement of the 85 Riverdale

Avenue building. Post-installation "confirmatory" testing indicated that no indoor air samples exceeded the applicable NYSDOH Air Guideline Value for analyzed compounds.

Qualitative Human Health Exposure Assessment

The data presented within this RIR and previous RIRs indicate that this Site does not pose a significant threat to human health or the environment. Potable water is provided by the City of Yonkers Water Bureau. On-Site groundwater is not used for either potable or non-potable purposes. A shallow off-Site plume does not migrate off-Site, and groundwater contamination levels in the deeper suite of monitoring wells indicate that delineation is approached or achieved at the Site boundaries.

The following table summarizes the exposure assessment.

Environmental Media and Exposure Route	**Human Exposure Assessment**
Direct contact with subsurface soils (and incidental ingestion)	• On-Site residents, trespassers, passersby, and construction/utility workers could come into contact with soil via incidental ingestion and dermal contact. The contaminants in shallow soil are consistent with urban fill and are considered a background condition. Chlorinated VOCs were not detected in the soil.
Ingestion of groundwater	• This pathway is incomplete as contaminated groundwater is not used for drinking water, and the Site vicinity is connected to a public water supply.
Inhalation of air (exposure related to soil vapor intrusion)	• A potential vapor intrusion pathway was found for a portion of the 85 Riverdale Avenue basement. This pathway has been mitigated with the implementation of an active SSDS.

General Conclusions:

- Based on the type and location of chemical compounds detected in groundwater, former dry-cleaning operations are suspected as the source of chlorinated VOCs in the investigated groundwater. According to property records, dry cleaning operations were present on-Site from May 1988 to August 2018 (May 1988 – May 1989 operator: Lawrence Mindich; May 1989 – August 2018 operator: Guillet Inc.). No records pertaining to tenant/operations in the s–ace from 1975, when the building was constructed, to 1988 have been found.
- Soil data collected as part of the remedial investigation indicate that an ongoing source of groundwater contamination does not exist at the Site. Injection of potassium permanganate

was utilized as a source reduction measure in 2017. Post-remedial monitoring indicated that this source reduction measure was not effective.

- The Conceptual Site Model (CSM) suggests that the local hydrogeology is influenced by bedrock with local groundwater flow to the east-southeast due to a buried weathered bedrock surface. Regionally, groundwater from the Site is anticipated to be influenced by the Hudson River located to the west of the Site. A downward vertical pathway has been demonstrated for the Site, which is consistent with the limited extent of contamination observed in shallow groundwater.
- The temporal trends of the dissolved-phase chlorinated VOCs have been evaluated since 2018, with quarterly groundwater monitoring from May 2021 to March 2022 indicating that the level of contaminant concentrations is decreasing within the source area and that the chlorinated VOC plume is reducing in size and magnitude.
- The March/April 2023 groundwater sampling event indicates that the dissolved-phase chlorinated VOC plume has been delineated within the Site for shallow groundwater. The deep portion of the dissolved-phase plume (greater than 40 fbg) has been delineated to be restricted to the Site, with the potential for a narrow segment of the right-of-way to the east (i.e., below the southbound land of Riverdale Avenue). As such, the groundwater plume is localized and is not migrating from the Site.
- Hillmann's Interim Remedial Measures (IRM) Workplan, dated August 20, 2019, has been developed and approved by NYSDEC to mitigate COPCs in soil vapor and indoor air. Subsequently, the installation of a SSDS and sump covers in the southern portion of the basement were completed as mitigation measures in January 2020. Confirmatory indoor air analyses collected in February 2020 indicated that the SSDS mitigates the potential vapor intrusion pathway to the on-Site building. Recent groundwater monitoring and off-Site vapor intrusion sampling indicate that no off-Site receptors are impacted by the dissolved-phase chlorinated VOC plume.
- In Hillmann's opinion, the investigation activities detailed in this RIR and previous RIRs are sufficient to develop a remedy for the Site. This remedy will be detailed and evaluated in a Remedial Action Workplan (RAWP) prepared in accordance with NYSDEC and NYS Brownfield Cleanup Program guidelines.

1.0 INTRODUCTION

1.1 Purpose and Objectives

Buena Vista Associates, LP has enrolled in the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) to investigate and remediate the Site located at 85 Riverdale Avenue, Yonkers, New York. NYSDEC has designated Buena Vista Associates, LP as a Volunteer. A Volunteer in the BCP must evaluate and implement an effective remedy to address the contamination on-Site and prevent further migration of contamination to off-Site properties.

This RIR, prepared by HK Engineering and Geology, D.P.C. (Hillmann), summarizes investigative fieldwork conducted in March and April 2023. The work was conducted in general accordance with the February 2023 Remedial Investigation Work Plan (RIWP) prepared by Hillmann. This RIR supplements the previous November 2020 RIR and other reports prepared by Hillmann as part of the BCP. The purpose of this remedial investigation was to further define the nature and extent of contamination and provide additional information for the remedial action objectives, evaluation of remedial action alternatives, and selection of a remedy that is protective of human health and the environment consistent with the use of the property and Buena Vista Associates, LP's Volunteer designation.

1.2 Site Description and History

The Site is developed with three interconnected buildings that are composed of two 18-story sections, one 15-story section, and five 6-story sections of concrete and masonry construction with basements. In addition to the current structures, the subject property is improved with a freestanding, four-story parking garage, a fenced enclosure, a former basketball court, an asphalt-paved driving lane, two open-air quads, breezeways, and associated landscaping. A Site plan showing the property location is included in Figure 1.

The main chemicals of potential concern (COPC) are related to the former Guillet Cleaners operation, located in a unit within the southeast portion of the existing structure at 91 Riverdale Avenue. According to property records, dry cleaning operations were present on-Site from May 1988 to August 2018 (May 1988 - May 1989 operator: Lawrence Mindich; May 1989 - August 2018 operator: Guillet Inc.). No records were located pertaining to tenant/operations in the space from 1975, when the building was constructed, to 1988. Since the acquisition of the property in

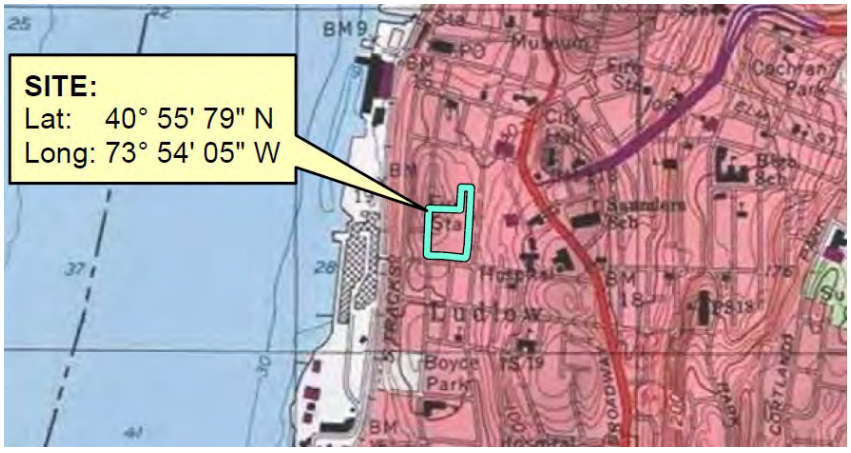
December 2016, Buena Vista Associates, LP has been vigilant in ensuring against additional contamination from the previous tenant's on-Site dry-cleaning operations. The dry-cleaning machine was removed in August 2018 and no subsequent dry cleaning has been conducted on-Site. Limited available disposal and inspection documentation showing proper disposal of dry-cleaning chemicals and approved NYSDEC compliance inspections have been previously provided within the November 2020 RIR.

2.0 ENVIRONMENTAL SETTING

2.1 Physiography

Based on a review of the United States Geological Survey (USGS) Mount Vernon, New York and Yonkers, New York Quadrangle topographic maps, the subject property is situated at an elevation approximately 69 feet above mean sea level.

The regional topography has an overall downward trend to the west as the Site is situated on the eastern side of the Hudson River valley. The local topography is influenced by a subtle topographic high located immediately east of the property along Hawthorne Avenue, which creates a slight downward slope to the southeast. The topography is assumed to be bedrock-controlled in the Site vicinity.



Insert 1 - USGS Topographic Site Location Map

Soils at the Site are generally urban fill soils but a veneer of lacustrine sand and till are mapped to exist above a buried weathered bedrock interface. These units were generally encountered within soil borings advanced at the property. Fill and native soils have been identified within borings at the Site at variable depths ranging from 3 to 13 fbg. Weathered rock is interlayered with medium to coarse sand with little silt beginning approximately 15 to 20 fbg.

The subject property is situated within the Manhattan Prong of the Piedmont physiographic province of the State of New York (Prucha et al, 1968; Finks, 1968). The topography appears to be predominantly controlled by the mapped bedrock, which is identified as Inwood Marble. This formation is interbedded with the Manhattan Schist above and the Fordham Gneiss below, all being bedrock formations within the region. The Inwood Marble, Manhattan Schist and Fordham Gneiss bedrock formations are primarily composed of dolomite marble, calcschist, granulite, and quartzite of Early Cambrian to Middle Ordovician age.

2.2 Hydrogeologic Setting

Groundwater is encountered at depths ranging from between 12.79 and 16.30 fbg. Groundwater has been mapped by Hillmann to trend to the east-southeast during groundwater gauging conducted since 2019.

Insert 2- NHD-mapped basin divide (purple) and conceptual groundwater flow path from the site to the Hudson River

Hillmann has reviewed the National Hydrography Dataset (NHD) for the Site vicinity. The Site is located within the Sparkill Creek-Hudson River hydrologic sub-basin, with the surface water drainage divide with the Saw Mill River hydrologic sub-basin also being on-Site, located 150 feet north of the former dry cleaner. Additionally, there is a topographic catchment divide located on the western property line as mapped by NHD. These divides are consistent with the U.S. Geological Survey topographic map for the area.

Shallow groundwater flow is consistent with surface water flow patterns predicted from the surface topography. The hydrogeologic conceptual model presented herein is consistent with the mapped groundwater flow contours presented by Hillmann, wherein the groundwater table configuration mirrors the surface topography. Borings also indicate that the upper surface of the relatively competent bedrock is buried below a veneer of fill and till, which also mirrors the surface topography. The shallow flow path is for groundwater migration only and does not represent the extent of dissolved contamination, which within this RIR, is shown to be essentially limited to the Site.

3.0 SITE CHARACTERIZATION AND INTERIM MEASURES

3.1 Area and Contaminant of Concern

The focus of this updated RIR is the nature and extent of the dry-cleaning solvent chemical tetrachloroethene (PCE), and the associated PCE degradation by-products trichloroethene (TCE), trans and cis-1,2-dichloroethene (t1,2DCE and c1,2DCE) and vinyl chloride (VC); collectively all of which are referred to herein as chlorinated volatile organic compounds (VOCs). All these constituents have been detected at levels above the AWQSGV, particularly in groundwater at the source area well "quadruplet" consisting of wells MW-3 (shallow water table), MW-5 (intermediate), MW-7 (deep) and MW-8 (deepest).

In the spring/summer of 2020, a sub-slab depressurization system (SSDS) was installed within the southeastern portion of the basement to mitigate the potential of soil vapor intrusion into the basement air space. The SSDS installation and associated documentation were detailed in the September 2020 Construction Completion Report submitted to NYSDEC and the New York State Department of Health (NYSDOH).

The proposed post-remediation use of the Site will be unchanged from the current use, which includes residential apartments as well as commercial space on the ground floor. The property is an Affordable Housing Project pursuant to 6 NYCRR 375-3.2(a).

3.2 Previous Remedial Investigations

Several environmental assessments have previously been conducted at the property. These are documented in:

- Phase I Environmental Site Assessment Report dated January 16, 2015 prepared by Partner Assessment Corporation (Partner)
- Phase II Subsurface Investigation Report dated April 8, 2015 prepared by Partner
- Remedial Investigation Report/Remedial Action Workplan dated January 11, 2016 prepared by Partner
- Remedial Action Report dated March 2018 prepared by Hillmann
- Construction Completion Report, September 2020, prepared by Hillmann
- Annual Groundwater Monitoring Report, Revised May 9, 2022, prepared by Hillmann

Phase I Environmental Site Assessment Report dated January 16, 2015 prepared by Partner

Partner prepared a Phase I Environmental Site Assessment (Phase I ESA) for the Site dated January 16, 2015. The Phase I indicated the subject property was formerly developed with numerous residential and commercial structures in the north and an industrial/manufacturing facility from as early as 1886. The northern portion of the subject property remained improved with residential and commercial structures through the 1950s. The southern portion of the subject property remained improved with an industrial/manufacturing facility through the late 1910s and was re-developed with an auto depot and two parking garages circa 1940. By the early 1950s, the southern portion of the subject property was re-developed with a wholesale grocery warehouse, a commercial/industrial facility, a gasoline service station, and a parking garage. Four gasoline underground storage tanks (USTs) of unknown capacity were also located along the eastern elevation of the unmarked parking garage. By the late 1950s, the four gasoline tanks located at the unmarked parking garage were no longer displayed in historic images. An official request for records was made to local and State regulatory agencies, concerning the installation, use, and closure of storage tanks containing hazardous substances, and hazardous materials activities; however, no records were on file with the NYSDEC or the City of Yonkers. By 1971, all existing structures located within the northern portion of the subject property, with the exception of a single fire station, were demolished. All existing structures located within the southern portion of the subject property, with the exception of the wholesale grocery warehouse, which was converted into a pen manufacturing facility, were also demolished. By 1973, all remaining structures on the subject property were removed. The subject property was re-developed in 1975 by the New York State Urban Development Corporation, which built the current structures, that Buena Vista recently renovated and remodeled in 2017-2019. The buildings currently contain residential units, two vacant commercial units, restaurants, a deli/meat market, and a retail establishment where clothes dry cleaned off-Site are picked up and delivered, but which formerly housed an on-Site dry-cleaning operation.

The following uses of the Site were considered Recognized Environmental Conditions (RECs) and were identified as having potentially caused subsurface impacts: the former hat and carpet manufacturing facility, former gasoline tanks, and the former on-Site dry-cleaning facility.

Phase II Subsurface Investigation Report dated April 8, 2015 prepared by Partner

Partner conducted a Phase II subsurface investigation in 2015 consisting of a geophysical survey as well as soil and groundwater sampling to investigate the RECs. Partner's initial findings indicated the presence of volatile organic compounds (VOCs) and potentially polycyclic aromatic hydrocarbons (PAHs) above the NYSDEC Ambient Water Quality Standards, possibly in connection with the dry-cleaning facility, industrial/manufacturing operations, auto repair operations, and storage of gasoline, warranting further investigation.

Partner conducted subsequent additional investigation in 2015 to further evaluate the impact of VOCs and/or PAHs to groundwater, sub-slab soil gas, and indoor air as a consequence of a potential release or releases from the dry-cleaning operation's REC and the former gasoline USTs REC. The investigation indicated the presence of VOCs in groundwater exceeding the New York Ambient Water Quality Standards, in sub-slab soil gas exceeding the EPA calculated Vapor Intrusion Screening Levels (VISLs), and in indoor air samples exceeding the VISLs for indoor air. On August 27, 2015 concentrations of VOCs in groundwater, soil gas, and indoor air samples were reported resulting in the NYSDEC Spill Hotline assigning Spill Number 1505681 to the case and Mr. Edward Moore as the case manager.

Remedial Investigation Report/Remedial Action Workplan dated January 11, 2016 prepared by Partner

Partner prepared a Remedial Investigation Workplan (RIWP) to further investigate and horizontally and vertically delineate the identified groundwater, soil gas, and indoor air impacts associated with Spill Number 1505681. Mr. Edward Moore approved the RIWP on behalf of NYSDEC on September 3, 2015. The remedial investigation included a geophysical survey, sub-slab soil gas sampling, and groundwater sampling. Indoor air samples were not collected as a part of this investigation. The investigation indicated the presence of VOCs in groundwater which exceed the New York Ambient Water Quality Standards. Additionally, VOCs were identified in sub-slab soil gas samples, exceeding the EPA calculated VISLs for sub-slab soil gas. Based on the findings of the Remedial Investigation, it was suspected that the groundwater, sub-slab soil gas, and indoor air contamination were associated with the historic dry-cleaning operation.

In 2016, Partner prepared a Remedial Action Workplan (RAWP) on behalf of Buena Vista. Based upon the presence of chlorinated compounds in the groundwater, Partner proposed soil gas and indoor air sampling in the vicinity of the dry-cleaning business, and injections of potassium permanganate, a chemical oxidizer, to promote in-situ oxidation of the chemicals of concern. The

injections were also anticipated to promote the natural attenuation of remaining chlorinated VOCs within the source area. The NYSDEC approved the RIWP on April 7, 2016.

Remedial Action Report dated March 2018 prepared by Hillmann

Remedial injections of potassium permanganate were directed by Hillmann on behalf of Buena Vista in 2017 in accordance with the NYSDEC-approved Remedial Investigation Report/Remedial Action Work Plan. Following the injections, two post-injection groundwater sampling events were conducted; August 31, 2017, and November 1, 2017. Hillmann subsequently proposed four quarterly sampling events in 2018 to confirm the achievement of NYSDEC Groundwater Quality Standards via natural attenuation. Mr. Edward Moore of the NYSDEC approved Hillmann's quarterly groundwater sampling plan in a February 20, 2018 email correspondence.

The initial 2018 quarterly sampling (February 2018) indicated the expected continued downward trend of contaminants; however, the second round of quarterly testing in June 2018 indicated increased levels of VOC concentrations. Quarterly sampling through the third quarter of 2018 confirmed that the initial spike of contaminants of concern was not an anomaly.

Construction Completion Report, September 2020 prepared by Hillmann

The previous air sampling results were incorporated into an Interim Remedial Measures Work Plan for the design and installation of the SSDS to mitigate potential vapor intrusion into the building. Subsequent to a pilot test, the SSDS was designed and installed within the southeastern portion of the basement, where mitigation of potential soil vapor intrusion into the basement air was deemed necessary. The objectives were achieved by sealing the two identified sumps in the area of concern and creating a negative pressure differential between the interior space of the building and the subsurface beneath the facility floor slab to induce transport of the sub-slab vapors through a series of soil vapor suction pits and transferred via interconnected piping for discharge to the atmosphere above the roofline of the building. The SSDS was installed by Remediation Equipment & Services, Inc. (RES) under the supervision and management of Hillmann in accordance with the approved IRM Work Plan.

A post-SSDS installation indoor air sampling event consisting of six (6) confirmatory indoor air samples was conducted in February 2020 with the SSDS in operation. The results of the post-

installation testing indicate that the active SSDS is effective at mitigating vapor intrusion to indoor air in the basement.

4.0 REMEDIAL INVESTIGATION SCOPE AND METHODS

All work described in this RIR was performed in full compliance with applicable laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. A Community Air Monitoring Plan (CAMP) was also implemented. All material encountered during the remedial investigation was managed in accordance with applicable laws and regulations.

This RIR was completed in phases according to the following NYSDEC-approved Remedial Investigation Workplans (RIWP) prepared by Hillmann, and conversations with NYSDEC:

- August 20, 2019 RIWP, and
- February 22, 2022 RIWP

Subsequent to NYDEC's approval of the scope of work, the following work was performed during this remedial investigation:

1. Advanced 16 soil borings in the immediate area of the former dry cleaning business to evaluate the nature and extent of soil impact. Sample depths ranged from surficial to 15 fbg. Sixteen soil samples were evaluated for PFAS, Target Compound List (TCL) constituents, Target Analyte List (TAL) constituents;

2. Installed eight (8) monitoring wells across the entire Site to depths ranging from 20 to a maximum of 60 fbg. These are in addition to four (4) pre-existing wells that were installed by Partner during the site characterization stage of investigation, for a total of 13 monitoring wells;

3. Completed PFAS, TCL/TAL +30 analyses for groundwater from seven (7) monitoring wells and three sumps within the on-Site building basement;

4. Conducted quarterly groundwater monitoring for VOC analysis at eight (8) existing wells between May 2021 and March 2022;

5. Most recently, collected groundwater in April 2023 from the thirteen (13) on-Site monitoring wells to evaluate groundwater quality, and collected one (1) field blank and one (1) trip blank to evaluate sampling integrity;

6. Collected 18 sub-slab soil vapor samples at the on-Site building with a similar number of indoor air samples at the on-Site building. Most recently, Hillmann installed a probe in the east adjoining building's (100 Riverdale Avenue) in the lowest level and collected one (1) soil vapor sample for chemical analysis. In March 2023, Hillmann collected one (1) corresponding indoor air sample in the vicinity of the soil vapor location and one (1) exterior ambient air sample to evaluate air quality.

Soil and groundwater samples were submitted to NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory analysis. Although VOCs are the target contaminants of concern, select soil and groundwater samples were analyzed for the full TAL/TCL plus tentatively identified compounds (TICs), 1,4-dioxane and the full list of 21 PFAS compounds, as identified in the DEC Memo "EC Sampling Guidance." The sample analyses are summarized below:

- Volatile organic compounds (VOCs) by EPA Method 8260;
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270;
- Pesticides/polychlorinated biphenyls (PCBs) by EPA Method 8081/8082;
- TAL metals by EPA Method 6010 and 7471 (groundwater was analyzed for both total metals and, after lab filtration, for dissolved-phase metals);
- 1,4-Dioxane by EPA Method 8270; and
- Full list of 21 PFAS compounds by modified EPA Method 537.

Samples collected from the interior sumps were analyzed for VOCs. All soil vapor and indoor air samples were analyzed for VOCs by EPA Method TO-15.

Table 1 indicates the lab analyses completed for each sample, organized by date of sample collection and media type. The status of the lab testing and reporting, and the report that originally contained the laboratory data reports, are also listed in Table 1, with all data utilizing ASP Category B Data Deliverable (Cat B DD) attached to this report (see Appendix D), along with their

applicable Data Usability Summary reports (see Appendix F). Not all historical analytical testing utilized Cat B DD protocol for the lab results, or had data usability summary reports completed for each lab report. However, all relevant soil, soil vapor and air samples were analyzed with a full TAL/TCL +30 analyte list using Cat B DD, as was at least one round from each groundwater monitoring well. The most recent sampling event (April 2023) including all thirteen (13) monitoring wells were analyzed for VOCs using Cat B DD and a Data Usability Summary assessment.

Sample results were compared to applicable NYS standards, criteria, and guidance (SCGs) by media as summarized below. Tables 2 through 4 provide the soil analytical summaries, Tables 5 through 9 and 12 provide the groundwater analytical summaries, and Tables 10 and 11 provide the vapor intrusion (indoor air and sub-slab soil vapor) analytical results. Plans indicating the sample location include Figures 2A and 2B for soil sample locations, Figure 3 for the most recent April 2023 groundwater sample locations and results along with well screen depths, Figures 5A and 5B are groundwater contour maps, and Figures 6 through 9 showing indoor air and sub-slab soil vapor locations and analytical results.

4.1 Soil Investigation

On September 17 and 18, 2019, Hillmann oversaw the advancement of six (6) borings with a direct push drill rig in the vicinity of MW-3 and MW-5 at the rear portion of the former dry cleaner. Borings were advanced through the groundwater table (approximately 15 fbg) to an estimated depth of 20 fbg. One soil sample was collected from each boring, either from the interval of highest potential contamination as determined by field screening, or the soil/groundwater interface. See Figure 2A for boring locations. All recovered soil field was screened with a photo-ionization detector (PID) as well as visual and olfactory methods. Field screening did not indicate any elevated PID readings, staining or odors. As such, no additional contingency borings were advanced. One grab soil sample was collected from the soil/groundwater interface (between 10-15 fbg) in laboratory-provided containers and transported under chain of custody protocol to the laboratory for analysis.

In addition to the above soil borings, ten (10) shallow soil borings (identified as S7 through S16) were advanced in representative landscaped (unpaved) areas of the Site (see Figure 2B). Borings were advanced to one foot below grade and field screened using the same procedure as detailed above. One soil sample was collected from each boring. Were advanced in representative landscaped areas throughout the Site. Borings were advanced to 0-2” below the surficial cover

layer (primarily woodchips) and the recovered soil was field screened with a PID as well as with visual and olfactory methods. Field screening did not indicate any elevated PID readings, staining or odors. One grab soil sample was collected from each location. One trip and two field blanks were also collected during sampling activities.

Soil samples were collected from each of the borings, and evaluated for the PFAS and TCL/TAL +30 analytes, with the soil analytical results summarized in Tables 2, 3 and 4. Boring logs are attached in Appendix B. A map showing the location of soil samples is shown in Figures 2A & 2B.

4.2 Groundwater Characterization

4.2.1 Groundwater Sampling (October 16 & 17, 2019)

The RIWP proposed installation of three additional monitoring wells on-Site; located in the northern portion of the eastern quad and the southern portion of the western quad. Several attempts were made with a direct push/hollow stem auger drill rig to install monitoring wells with bedrock refusal at approximately 4-6 fbg. Additionally, installation locations were limited in the northern portion of the eastern quad due to a large utility trench in this area. The depth of bedrock refusal encountered corresponds with the local topography which slopes downward from west to east at the Site.

Since additional monitoring wells were unable to be installed on these dates due to Site conditions, the existing on-Site monitoring wells (identified as MW-2 through MW-5) were sampled to evaluate current Site conditions. Note that MW-1 was not found and assumed to have been paved over during Site renovation activities. Prior to sampling, each well was gauged for depth to water and purged of three well volumes. Depth to water ranged from 12.30 to 12.51 fbg. One groundwater sample was collected from each monitoring well using dedicated sampling equipment. One field and one trip blank were also collected during sampling activities.

In addition, groundwater samples were collected from three sumps in the basement (identified as SP-2, SP-3 and SP-4) on-Site using dedicated equipment. The remaining two sumps (identified as SP-1 and SP-5) were observed as dry, and therefore no water was available for sampling.

Sampling logs are included in Appendix C and a map showing the location of groundwater samples are shown in Figures 3 and 4.

4.2.2 2020 Monitoring Well Installations

In accordance with the SRIWP, three groundwater monitoring wells were installed between 5-6 fbg into buried bedrock at the property in February 20 to 27, 2020 timeframe. Methods of installation included hollow-stem auger, which was later converted to an air rotary once the bedrock layer was encountered. A deep interval well, MW-7, was installed near MW-5 in the eastern quad near the rear area of the former dry cleaner. MW-7 was completed to 40 fbg with bedrock encountered at approximately 10 fbg. Given the difficulty of installing a two-inch well with the subsurface conditions, a one-inch well was installed with 10 feet of slotted screen within the bedrock from 30-40 fbg.

In an attempt to locate the paved-over well MW-1, metal detection devices were deployed at the Site. These devices identified two areas showing a strong metallic response. Further investigation concluded the response in these two areas was not indicative of a monitoring well in either location. In light of the failure to locate MW-1, a new well designated MW-1A was installed in the vicinity of the former MW-1, which is up gradient from the former dry cleaners. The well was advanced to a depth of 25 fbg and constructed with a one-inch diameter well with 10 feet of slotted screen from 15-25 fbg; bedrock was encountered at approximately 8.0 fbg. Due to limited access in the western exterior quad, another new well, MW-6, was installed in the rear of the property. MW-6, which is the westernmost well, was constructed similarly to MW-1A with 10 feet of slotted screen from 15-25 fbg; bedrock was encountered at approximately 8.0 fbg. Well construction logs are included in Appendix B.

In September 2020, several well attempts behind the former dry cleaner were advanced to approximately 41 fbg to facilitate a geophysics study. The geology observed was weathered rock interspersed with bands of soil (versus competent solid bedrock). After removing the drilling equipment the borehole collapsed in on itself to 20 fbg. As such, without an open borehole the geophysics study could not be performed. However, the groundwater in this weathered rock interspersed with soil should have the same characteristics as soil overburden, compared to bedrock fractures which the geophysics study would have defined. Thus, the DEC indicated that the geophysics studied would not be needed based on the geology; however, a deeper monitoring well would still be needed to further delineate vertical impacts.

This weathered rock interspersed with soil also presented the same issue with attempting to install a monitoring well deeper than 40 feet for additional vertical delineation; each time the drilling equipment was removed the borehole would collapse before the piping for a well could be

inserted. Three separate types of drilling technology were used (air rotary, diamond bit and roller bit); with no success on achieving the target depth beyond 40 feet.

On October 13, 2020, a vertical delineation monitoring well, MW-8, was installed on-Site. Considering the subsurface conditions, a sonic drill rig was necessary to install the well to a depth of 60 fbg. The two-inch well was screened from 50-60 fbg to facilitate the collection of a deep delineation groundwater sample.

4.2.3 Groundwater Sampling (2020 - 2022)

March 18 and November 5, 2020 Events

Groundwater sampling activities were conducted at the newly installed wells on March 18, 2020 (MW-1A, MW-6 & MW-7) and November 5, 2020 (MW-8). Wells MW-1A, MW-6, MW-7 and MW-8 were gauged and purged via low-flow techniques. The depth of water ranged from 11.69 to 21.2414.21 fbg. One groundwater sample was collected from each MW within the screened interval using dedicated equipment. One field and one trip blank were also collected during sampling activities.

Sampling logs are included in Appendix C. A map showing the location of monitoring wells are shown on Figure 3.

Quarterly Events in 2021 and 2022

Hillmann collected quarterly groundwater samples from wells MW-1A through MW-8 monitoring wells on May 24, 2021, September 3, 2021, December 20, 2021, and March 15, 2022. As part of the sampling protocol, each well sampled was gauged for depth to water (DTW) relative to the top of the well casing. An electronic water level meter was used to measure DTW to an accuracy of ± 0.01 foot. The gauging data and analytical results were previously provided within quarterly monitoring reports for each round, with a more in-depth analysis provided within a May 9, 2022 Annual Groundwater Monitoring Report prepared by Hillmann.

Samples were collected utilizing a modified low-flow groundwater sampling method with a flow-through cell equipped with field water quality monitoring probes. A peristaltic pump (for 2” diameter wells) or bladder pump (for 1” diameter wells) directed the extracted groundwater to the flow-through cell. The flow setting on the pump was set to minimize drawdown within the well, typically resulting in flow rates of 0.1 liters per minute (L/min) to 0.5 L/min. A Horiba U-52 water quality meter was utilized to measure the following field parameters during each well sampling event: conductivity, temperature, oxidation/reduction potential (ORP), dissolved oxygen (DO),

and pH. Groundwater samples were collected when the field water quality parameters stabilized to within approximately 10 percent, or up to 30 minutes of purging, whichever occurred first. Upon collection, groundwater samples were containerized within laboratory-prepared containers, placed on ice, and submitted to a NYS ELAP certified laboratory, in accordance with standard chain-of-custody procedures.

The samples were analyzed for the following:

- Volatile Organic Compound (VOC) List by U.S. Environmental Protection Agency (EPA) Method 8260;
- Sodium, potassium, nitrate, sulfate, iron, manganese, and chloride, which are select chemical indicators of Monitored Natural Attenuation (MNA)

The field sampling logs and the laboratory analytical reports were previously provided in the quarterly reports and annual reports. Note that the historical results for the chlorinated VOCs (CVOCs) are presented in Table 12.

4.2.4 April 2023 Monitoring Well Installations

Monitoring wells were installed at the subject property between March 27, 2023, through April 3, 2023, by a licensed NYS driller using a sonic-style Geoprobe 8140 LS rig. Prior to the installations, a ground-penetrating radar (GPR) survey was completed to identify safe drilling locations.

During borehole advancement for well installation, continuous core sampling was logged for lithologic characterization, recovery, and headspace analysis, when possible. With drilling difficulties encountered during well installation at several locations due to the subsurface terrain, some soil cores were unable to be captured during advancement. Any undisturbed soil cores that were captured for field analysis were collected by driving a split-spoon sampler prior to auger advancement. Soil cores were then dropped into polycarbonate sheeting in either 5-foot or 10-foot intervals at the discretion of the driller. A detailed log of the drilling activities and materials encountered was compiled and maintained by the on-Site geologist/hydrogeologist.

Under the supervision of Hillmann, a total of nine (9) monitoring wells, MW-1A, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12 and MW-13 were installed across the property. Monitoring wells were constructed vertically with 2-inch Schedule 40 threaded polyvinyl chloride (PVC) and a screen slot size of 0.010-inch spanning the bottom 10 feet for each well. Solid riser pipe PVC was placed from above the top of the screened interval until flush to the ground surface.

Filter pack material was placed in the annulus around the outside of the well screen and extended approximately 2 feet above the top of the well screen. Prior to placing the bentonite seal, the filter pack was surged to ensure proper filter pack placement and to avoid bridging during well installation. A bentonite seal was installed using bentonite chips placed in the annulus above the filter pack and hydrated in place. After the bentonite seal was hydrated, the remaining annulus was filled with filter pack sand to about 2 feet below the ground surface and grouted using a cement/bentonite mixture to the ground surface. Following the construction of each monitoring well, a painted metal cover was installed flush to the ground surface with no square apron to reduce damage to the well.

Completed well design details are provided in the following table.

Well ID	Total Depth (fbg)	Screened Interval (fbg)
MW-1	20.0	10-20
MW-2	14.5	4.5-14.5
MW-3	20.0	10-20
MW-4	20.33	10.33-20.33
MW-5	33.0	23-33
MW-6*	20.0	10-20
MW-7*	39.0	29-39
MW-8*	60.0	50-60
MW-9*	60.0	50-60
MW-10*	60.0	50-60
MW-11*	20.0	10-20
MW-12*	50.0	40-50
MW-13*	20.0	50-60

* Recent monitoring wells installed with oversight by Hillmann between 02/27/2020 through 04/03/2023.

Groundwater was encountered between 11.0 feet and 20.5 fbg during monitoring well installations. Boring/monitoring well logs with material descriptions are included in Appendix B of this RIR. Groundwater elevations, relative to the surveyed measuring points (top of PVC casing), are provided in Table 8. The top of PVC elevations were updated with a well elevation survey that was completed on January 24, 2024.

The Community Air Monitoring Plan provided air monitoring during remedial construction activities to ensure proper protections were employed to protect workers and the neighboring community. Air monitoring was performed in compliance with the Community Air Monitoring Plan in the approved RAP on days during well installation, with the exception of March 27, 2023,

when monitoring was not conducted. However, no exceedances triggering the short-term exposure limits were noted under Hillmann's supervision of the dust monitoring.

4.2.5 April 2023 Groundwater Sampling

Approximately two weeks following the new well installations, Hillmann conducted groundwater sampling on April 13 and 14, 2023. Depth to groundwater was measured to the nearest 0.01 feet in each well prior to any purging activities. Purging and sampling were performed in a manner that minimized the agitation of sediments in the monitoring well and the surrounding formation by a modified low-flow method.

Water quality parameters, pH, temperature, electrical conductivity (EC), dissolved oxygen (DO), oxidation-reduction potential (ORP), turbidity, and well draw were down continually recorded every 5 minutes until stabilization within the last three readings of purging was achieved. Once groundwater parameters were stabilized within the last three readings, a groundwater sample was collected from the screened interval of each well. Field equipment used to monitor groundwater parameters were maintained, calibrated, and operated based on manufacturer guidelines and recommendations. Groundwater sampling purge logs are included in Appendix C.

A total of thirteen (13) groundwater samples were collected plus one (1) field blank and one (1) trip blank. All aqueous samples were analyzed for VOCs via EPA Method 8260. The full VOC results are summarized in Table 9, and the laboratory analytical reports are provided in Appendix D.

4.2.6 January 2024 Groundwater Gauging

During fieldwork completed at the Site on January 24, 2024, a round of gauging was completed at the on-Site monitoring well network. The gauging results are provided in Table 8. The groundwater levels at the Site are 0.64 to 2.23 feet higher than the April 2023 gauging/monitoring event.

An unanticipated condition was encountered during the January 2024 gauging event, in that the oil as light NAPL was encountered at MW-13. Well MW-13 is the deep well of the MW-4/MW-13 well couplet, located in the center of the parking lot/basketball court to the south of the main building. Approximately 0.85 feet of a viscous clear oil was encountered as "free product" on the groundwater at well MW-13. The shallow MW-4, installed in 2016, has never had any indication of free product, and the April 2023 monitoring event did not indicate the presence of

product in either well MW-4 or MW-13. This new “free product” condition was reported to Mike Kilmer at NYSDEC on February 5, 2024.

Hillmann returned to the Site on February 8, 2024 to collect a sample of the oil for forensic analysis. The oil sample was analyzed via a gas chromatograph fingerprinting process using Method 8015B with qualitative comparison to various standards, and the lab report is provided in Appendix D. The oil was found to closely resemble Heavy Mineral Oil, which typically makes up 99% of hydraulic oil. A mineral oil identification is consistent with the visual and olfactory observations of the oil, as well as the insoluble properties of mineral oil, i.e., petroleum VOCs were low or non-detected in groundwater from wells MW-4 and MW-13.

Additional research was completed on the historical use of this portion of the Site. The area was a former gasoline service station. The 2015 Partner Phase I ESA concluded a Recognized Environmental Condition (REC) was present in this area due to “the unknown age, size, location, condition, and status of the former tanks, inherent nature of tank systems, and lack of subsurface work (i.e. soil and/or groundwater investigations) conducted to confirm the absence or presence of contamination” so that further investigation within a Phase II investigation in this area was warranted. The 2015 Partner Phase II ESA report proceeded to address this area. An L-shaped metallic anomaly was found from a geophysical survey, and a preliminary boring was advanced where MW-4 is located (S-2/GW-2). PAHs were not detected in a soil sample from that location, but dissolved-phase PAHs were found in groundwater in April 2015. After the installation of MW-4, PAHs in groundwater were not found above standards (see 2016 Partner RIR/RAWP report), and no further assessment or remediation was deemed warranted.

The available boring logs in this area were also reviewed, and elevated field-screening PID readings of soil were noted for samples collected several to tens of feet below the water table. The source of the mineral oil at MW-13 remains unclear but appears to be limited in extent given the extensive monitoring data from the adjacent well MW-4. The mineral oil does not indicate an ongoing UST source, and the mineral oil does not appear to be associated with mobile or known toxic constituents.

4.3 Vapor Intrusion Investigation at 85 Riverdale Avenue

4.3.1 September 2019 Vapor Intrusion Monitoring

On September 20, 2019, four sub-slab soil vapor samples were collected from below the basement floor (identified as SV-15 through SV-18) at Riverdale Avenue. Soil vapor samples were collected from steel implants inserted into the basement floor. Samples were collected over 24

hours in appropriate-sized air sampling canisters that were certified clean by the laboratory. The flow rate for both purging and sampling did not exceed 0.2 L/min. Prior to sampling, one to three implant volumes were purged prior to the collection of any soil vapor samples. Four corresponding indoor air samples (identified as IA-15 through IA-18) were collected concurrently in the same vicinity as the soil vapor samples. Indoor air samples were collected over a 24-hour period in appropriate-sized air sampling canisters that were certified clean by the laboratory.

4.3.2 February 2020 Vapor Intrusion Monitoring

Additional sub-slab soil vapor and indoor air samples were collected on February 20, 2020, in the remaining portions of the building. Nine sub-slab soil vapor samples (identified as SV-19 through SV-27) and nine corresponding indoor air samples (identified as IA-19 through IA-27) were collected. Soil vapor procedures were identical to the previous vapor intrusion sampling event conducted in Section 4.3. Air samples were collected over a 24-hour period in appropriate-sized air sampling canisters that were certified cleaned by the laboratory.

4.4 March 2023 Vapor Intrusion Monitoring at 100 Riverdale Avenue

To obtain air quality data to the east of the subject property, one soil vapor sample, one corresponding indoor air sample, and one exterior ambient air sample were collected to characterize the vapor conditions at the eastern adjoining property located at 100 Riverdale Avenue. The soil vapor sample was collected from a steel implant inserted into the basement floor of the 100 Riverdale Avenue building on March 23, 2023. The indoor air samples were collected concurrently in the same vicinity as the soil vapor sample. All samples were collected over a 24-hour period in appropriately sized air sampling canisters that had been certified clean by the laboratory. The ambient air sample was collected on the exterior rear side of the property. A sample location diagram is included in Figure 9.

The full VOC results for the indoor air and sub-slab soil vapor samples are summarized in Tables 10 and 11, and the laboratory analytical reports are provided in Appendix D.

5.0 REMEDIAL INVESTIGATION RESULTS

5.1 Geological and Hydrogeological Conditions

Stratigraphy

Soil observed during monitoring well installation contained various soil stratifications including fill material, sand, gravel, and weathered rock/cobbles interspersed across the Site at various depth intervals. Generally, the presence of highly weathered bedrock was encountered at approximately 10 to 20 fbg. See Appendix B for the monitoring well logs for notes on the recovered material encountered at each well location.

Hydrogeology

The depth to groundwater ranged from 11.47 to 16.26 fbg during the April 2023 sampling event. With the well elevation qualification noted in Section 4.1, the estimated groundwater elevations are provided in Table 8. The observed groundwater elevations represent the variable groundwater potentiometric conditions within the saturated zone. As such, groundwater flow was evaluated with a 3-dimensional perspective by evaluating the horizontal groundwater flow patterns along the water table (depth of 10 to 20 feet) using six (6) water table wells and within the deeper horizon of 40 to 60 fbg where five wells are screened. Additionally, vertical flow trends were evaluated by comparing shallow and deep well elevation data for well clusters located at the source area (MW-3, 5, 7 and 8), to the east (MW-12, 13), south (MW-4, 13), west (MW-1A, MW-9) and north (MW-2, 10).

The map of groundwater level elevations with estimated groundwater contours and flow direction are shown in Figure 5A for the water table wells and in Figure 5B for the wells screened in the range of 40 to 60 fbg. Horizontal groundwater flow for both the water table and the deep horizon is to the east-southeast. The gradient (rise/run) for the shallow flow is approximately 0.7 percent whereas the deeper horizon has a steeper 5 percent gradient. The difference in gradients is likely due to three-dimensional flow within an anisotropic and heterogeneous saturated formation. The lower gradient for the water table path is consistent with the probability of higher permeability soils and weathered bedrock within the overburden and/or top of weathered bedrock where the water table resides.

Examination of the vertical gradients indicates that downward vertical gradients are present throughout the Site. Downward flow is consistent with the Site being located within an upland area that is proximal to the Hudson River. Downward gradients range from 11 percent for the source

area well cluster (MW-3, 5, 7 and 8) to 13 percent for the eastern couplet (MW-12, 13) and 6 percent for the southern well couplet (MW-4, 13). The western and southern well couplets have a lower 2 to 3 % downward vertical gradient. The source area quadruplet well also suggests that a semi-confining layer may be located beginning around 25 feet, as the gradient increases substantially below this depth with a 20% downward gradient between MW-7 and MW-8. This may be related to the predominance of the weathered bedrock formation below the release area.

5.2 Soil Chemistry and Distribution

VOCs, SVOCs, pesticides and metal compounds were analyzed within soil samples collected at the Site. The soil analytical results were compared to the NYSDEC Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Part 375-6.8(b) Restricted-Residential Use Soil Cleanup Objectives (RRUSCOs). The soil laboratory results are presented in Tables 2, 3, and 4 and compared to the UUSCOs and RRUSCOs. The full laboratory analytical data package is included in Appendix D. Figures 3A and 3B show the soil sample locations, and post the values for soil that exceed the RRUSCOs.

In the eastern quad (samples S7 and S11) and landscaped area immediately south of the main building (samples S14 and S15), only one analyte exceeded the RRUSCOs. Shallow soil sample S11 had 0.54 mg/kg indeno(1,2,3-cd)pyrene, which slightly exceeds the RRUSCO. All other analytes analyzed within samples S7, S11, S14, and S15 did not exceed the RRUSCOs.

In the northeastern half of the western quad, shallow samples S9, S10 and/or S16 were found to have several SVOC compounds in exceedance of the RRUSCOs, including benzo(a)pyrene (max: 2.6 mg/kg), benzo(a)pyrene (max: 2.3 mg/kg), benzo(b)fluoranthene (max: 3.5 mg/kg), dibenz(a,h)anthracene (max: 0.4 mg/kg) and indeno(1,2,3-cd)pyrene (max: 2 mg/kg). Mercury at S10 (1.04 mg/kg) and arsenic at S16 (24.6 mg/kg) were also detected in exceedance of the RRUSCOs. Shallow soil sample S8, located in the southwestern half of the western quad, did not have any analyte concentrations that exceeded the RRUSCOs.

Shallow soil samples S12 and S13 were collected in the landscaped area in the southwestern corner of the Site. Mercury was detected in both samples at levels that exceeded the RRUSCO (max: 1.1 mg/kg). No other analytes exceeded the RRUSCO in this area.

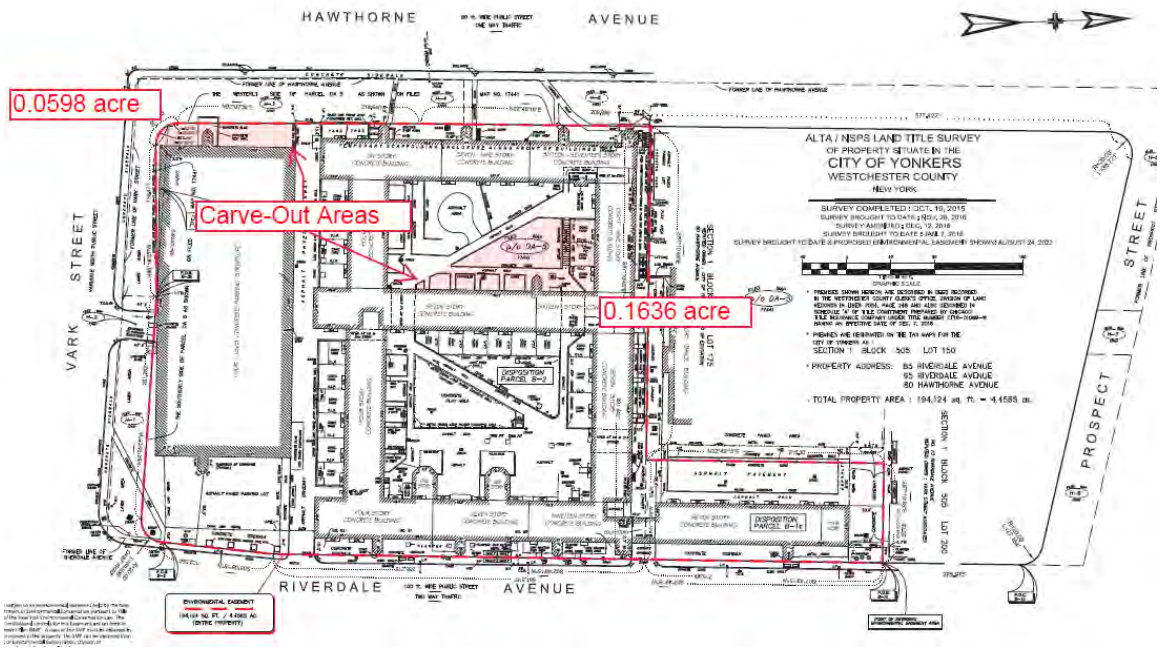
Deep soil samples were collected in the paved dry-cleaning solvent release area (see Figure 3A), where soil samples S1 through S6 were collected from depths ranging from 9 to 16 fbg. Analysis of these samples indicated that 0.98 mg/kg mercury was detected in sample S5, 13-14 fbg, which exceeds the RRUSCO. No other analytes exceeded the RRUSCOs in this area.

PFAS compounds were either not detected or detected at low concentrations sporadically in the samples analyzed. Note that there are no current NYSDEC soil standards for PFAS compounds.

5.3 Shallow Soil Exposure Point Concentrations

Hillmann conducted exposure point concentration (EPC) calculations for shallow soil at the site utilizing a 95% upper confidence level (UCL) for the mean, as recommended within NYSDEC's "DER-10 Technical Guidance for Site Investigation and Remediation", dated May 3, 2010. A total of 10 soil samples collected from 0.5 to 1.0 fbg in unpaved areas were averaged using the 95% UCL, with the results shown in Table 13a. The EPCs exceeded the RRUSCOs for four SVOCs/PAH and mercury.

The EPCs were then recalculated by eliminating contiguous areas that had elevated concentrations. As shown in Table 13b, with the northeast portion of the western quad (S9, S10, and S16) and the southwest corner of the Site (S12 and S13) removed from the EPC calculations, the remaining shallow five (5) soil samples at the Site that either has a 95% UCL that meets the RRUSCOs for all constituents of concern or in the case of mercury, none of the individual sample results exceed the RRUSCO.



Insert 3 - BCA Site Boundary showing two "carve-out" areas per the BCA Amendment executed March 12, 2024.

\

Based on the above, a Brownfield Cleanup Agreement (BCA) amendment was executed on March 12, 2024, which identified two unpaved landscaped areas of the Site as "carved out" and no longer within the amended Site boundary for the BCA. These two "carve-out" areas include the northeastern portion of the western quad (sample locations S9, S10, and/or S16) and the southwestern corner of the Site (sample locations S12 and S13), where certain metals and/or SVOC/PAH compounds exceed the RRSUCOs.

5.4 Groundwater Chemistry

Previous soil and groundwater chemistry at the Site has been discussed in previous reports, and the laboratory analytical reports have been provided in previous investigative or monitoring reports, e.g., the May 2022 Annual Groundwater Monitoring Report. This RIR has focused on the presentation of chlorinated VOCs within groundwater that were obtained in April 2023. Table 9 presents the full analytical summary for the April groundwater sample analyses, with the groundwater analytical results compared to the AWQSGV. A map showing the recent chlorinated VOC results is provided in Figure 3.

VOC Discussion

Certain VOC compounds were detected in exceedance of the AWQSGV, including the following (values shown in micrograms per liter, µg/l):

Source area "quadruplet" well cluster:

- MW-3 compound exceedances include cis-1,2-dichloroethene (203 µg/l), tetrachloroethene (1,810 µg/l), trans-1,2-dichloroethene (27.9 µg/l), and trichloroethene (583 µg/l).
- MW-5 compound exceedances include cis-1,2-dichloroethene (230 µg/l), tetrachloroethene (1,970 µg/l), trans-1,2-dichloroethene (77.6 µg/l), trichloroethene (722 µg/l) and vinyl chloride (29.2 µg/l).
- MW-7 compound exceedances include 1,1-dichloroethene (0.472 µg/l), cis-1,2-dichloroethene (64.1 µg/l), tetrachloroethene (192 µg/l), trans-1,2-dichloroethene (26.8 µg/l), trichloroethene (127 µg/l) and vinyl chloride (13.0 µg/l).

- MW-8 compound exceedances include acetone (93.8 µg/l), cis-1,2-dichloroethene (174 µg/l), tetrachloroethene (506 µg/l), trans-1,2-dichloroethene (15.7 µg/l), and trichloroethene (457 µg/l).

Southern well couplet:

- MW-4 compound exceedances include benzene (1.19 µg/l).
- MW-13 compound exceedance include benzene (1.71 µg/l) and trans-1,2-dichloroethene (9.31 µg/l).

Eastern well couplet:

- Monitoring well MW-11 did not indicate any compound exceedances above the AWQSGV.
- MW-12 compound exceedance includes tetrachloroethene (18.6 µg/l).

Northern well couplet:

- Monitoring wells MW-2 and MW-10 did not indicate any compound exceedances above the AWQSGV.

Western well couplet:

- Monitoring wells MW-1A and MW-9 did not indicate any compound exceedances above the AWQSGV.
- Further west, well MW-6 did not indicate any compound exceedances above the AWQSGV.

Per- and polyfluoroalkyl substances (PFAS) Discussion

PFAS in groundwater were analyzed in October 2019 for wells MW-2 through MW-5 and in March 2020 for wells MW-1A, MW-6 and MW-7. Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) were detected in each of the wells sampled, with a maximum 140 parts per trillion (ppt) PFOA detected at MW-1A and a maximum 34.3 ppt PFOS detected at MW-6. Note that, except for MW-4, each of the wells exceeded the 2023 NYSDEC ambient water quality guidance values of 6.7 ppt PFOA and 2.7 ppt PFOS. Other PFAS compounds analyzed were either not detected or detected at low concentrations. The PFAS appears to be related to off-Site or background sources as the highest PFAS concentrations were detected at upgradient wells (MW-1A and MW-6) relative to the release area.

5.5 Nature and Extent of Groundwater Contamination

With the improved monitoring well network and new groundwater analytical data provided herein, the delineation of the chlorinated VOCs in groundwater has been achieved. The well couplets to the north and west of the source area are below the laboratory reporting limit for both the shallow and deep wells. For the eastern and southern well couplets, background is achieved for all analytes except for 18.6 µg/l PCE at the deep well MW-12 to the east and 9.3 µg/l trans 1,2-DCE at MW-13 to the south, which slightly exceeds the AWQSGV of 5 µg/l PCE and 5 µg/l trans 1,2-DCE, respectively.

Using a linear log-normal spatial distribution estimator, the deep groundwater to the east and south may be predicted, assuming delineation is defined by the AWQSGV. The deep plume delineation to the east is predicted to be 30 feet beyond well MW-12, within the right-of-way in the southbound lane of Riverdale Avenue. To the south, the deep groundwater plume is predicted to be delineated approximately 15 feet beyond well MW-13, so that the southern extent does not extend beyond the Site property boundary. Again, the shallow groundwater data in all directions indicates delineation is achieved within the Site property boundary.

Table 12 presents the historical trends for the chlorinated VOCs at the Site. The source levels remain elevated within the source area, with 1,810 and 1,970 ug/L PCE at wells MW-3 and MW-5. MW-5 has higher PCE concentrations than previously detected, but the overall trend has been decreasing. The deeper source wells MW-7 and MW-8 are generally consistent with historical results, and remain above the AWQSGV. The previous delineation wells are also consistent with the results of trace or absent levels that were obtained in the previous monitoring events.

5.6 Soil Vapor Intrusion

Previous air quality chemistry at the Site has been noted in the November 2020 RIR. Below, the results for the current April 2023 vapor intrusion monitoring study at the eastern adjoining property at 100 Riverdale Avenue are discussed.

Analytical results for the indoor air (IA) sample from the eastern adjoining property at 100 Riverdale Avenue were compared to the Air Guideline Values found in the NYSDOH October 2006 Final Guidance for Evaluating Soil Vapor Intrusion. The indoor air sampling results indicated concentrations of applicable compounds were all detected below the applicable Air Guideline Values. Figure 9 shows the location and posts the values for indoor air to compare to the NYSDOH Air Guideline Value and matrices. A summary of the air laboratory results is included in Table 11 with the matrices included as Appendix E.

Soil vapor and indoor air results were compared to the NYSDOH 2017 Revised Vapor Intrusion Matrices. The matrices provided in Appendix E indicate that *No Further Action* is needed for all sampled compounds. Additionally, the soil vapor results support the conclusion that shallow chlorinated VOC impact is limited to the Site, and does not extend off-Site.

5.7 Data Usability Summary Report

In accordance with the RIWP, an independent, data validation evaluation and review was performed by Jeri L. Rossi, CEAC, Sr. Environmental Chemist of de maximis Data Management Solutions Incorporated (ddms) for laboratory data collected before 2023 and Nancy Rothman of New Environmental Horizons, Inc. for the 2023 data. The Data Usability Summary Reports (DUSRs) were conducted to determine if the data meets appropriate quality and use criteria for the project. The following items were reviewed:

- Chain of Custody
- Receiving conditions
- Holding times
- Sample Integrity
- Analyte lists
- Reporting limits
- Requested method
- Units
- Sample related quality control data:
    - Blanks
    - LCS/LCSD recoveries of Internal standard areas or Duplicates
- Instrument-related quality control data:
    - Instrument tunes
    - Calibration summaries

The DUSR for soil, groundwater, soil vapor, and indoor air did not reject any data for the October 2019 sampling event. The DUSR for the March 2020 groundwater sampling event rejected the results for 1,4-dioxane because the samples were extracted out of holding time and 1,4-dioxane was not detected in the samples. Since 1,4-dioxane was not detected above the MDL in any of the samples from the October 2019 groundwater sampling event, this rejection is not considered critical to the project decision process. The Data Usability Reports for the March 2023

soil vapor intrusion sample and the April 2023 groundwater sample analyses did not reject or qualify any data.

The DUSR reports further qualified some data during the data validation; any additional qualifications of the data have been incorporated into the summary data tables. None are considered critical to the project decision process. The most recent DUSRs are included in Appendix F.

6.0 QUALITATIVE HUMAN HEALTH RISK ASSESSMENT

The objective of the qualitative human health risk assessment is to identify potential receptors and pathways for human exposure to the COPCs that are present at the Site. The identification of exposure pathways describes the route that the COPC takes to travel from the source to the receptor. An identified pathway indicates that the potential for exposure exists; it does not imply that exposures occur. This risk assessment was performed to determine whether the Site poses an existing or future health hazard to the Site's exposed or potentially exposed population. The sampling data from the Remedial Investigation were evaluated to determine whether there is any health risk under current and future conditions by characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport.

6.1 Known and Potential Contaminant Sources

Based on the results of the RIR, the COPCs are summarized as follows:

- Groundwater: Several VOC compounds, including PCE and TCE, were detected in exceedance of the GWQS in samples MW-3, MW-5, MW-7, and MW-8 well cluster at the source area, and the deep well MW-12 for PCE only (18.6 µg/l vs AWQSGV of 0.7 µg/l). Additionally, the benzene AWQSGV of 1 µg/l was slightly exceeded at the well couplet to the south (MW-4 and MW-13).
- Soil Vapor & Indoor Air: With the operation of the SSDS in the 85 Riverdale Avenue building basement, the NYSDOH matrices indicate no further action for all sampled compounds.

6.2 Fate and Transport of COPCs

The laboratory results of the groundwater and air quality samples and physical site characteristics were evaluated to determine the fate and transport of constituents of potential

concern. The potential mechanisms for the migration of COPCs to other areas of the Site or other media are summarized below.

Groundwater: Groundwater underlying the Site generally flows to the east-southeast; although specific site features (i.e., subsurface utilities, depth of bedrock surface, etc) may cause some flow differences. The VOC compounds detected in shallow groundwater in the source area may volatilize into the surrounding subsurface and soil vapor, potentially resulting in migration to the indoor air of the on-Site building and/or adjacent buildings.

With the additional data presented in this RIR, the contamination plume is shown to not migrate off-Site. Additionally, quarterly groundwater monitoring has demonstrated that the contaminant levels are decreasing. The presence of degradation "breakdown" by-products along with the PCE indicates that natural attenuation processes are serving to limit and/or diminish the dissolved phase contaminant mass resulting from the dry-cleaning solvent release.

Soil Vapor & Indoor Air: VOCs detected in soil vapor in the source area may migrate through the building basement slab/subsurface basement walls and impact the indoor air of the on-Site building basement. This migration pathway is potentially relevant under the current and planned use. However, vapor Intrusion is being adequately mitigated in the building by the active SSDS that was installed in 2020.

Based on the soil vapor data at 100 Riverdale Avenue, vapor intrusion is not occurring off-Site and hydraulically downgradient of the source area. This is consistent with the mapped extent of the shallow chlorinated VOC plume being limited to the Site property boundaries.

6.3 Receptor Population

Potential human receptors are identified based on the site characterization and surrounding land use. The Site is currently used for residential apartments with some commercial businesses; no changes in Site use are planned. Under this Site use scenario, limited human contact with Site-related COPCs is possible for the following: apartment residents, workers and visitors, commercial business workers, and patrons. Exposure to COPCs is limited to contact with on-Site soil and indoor air confined to the building's basement, which is being addressed by the active SSDS. Contact with on-Site groundwater is not expected since groundwater in this area is not deemed

potable. Drinking water is supplied to the area through the City of Yonkers Water Bureau. Contact with groundwater in sumps, when present, is limited to building maintenance staff, and that contact would be incidental (i.e., drips or splashes) and not sustained.

The majority of the property is developed with the building, asphalt driveway/parking, concrete walkways, and landscaping. Potential exposure to soil is limited to landscaped areas throughout the Site. Occasional human contact with soil may occur in these areas during on-Site work (i.e., subsurface utility maintenance/construction), the impact of which can be mitigated by protective clothing and proper safety work practices.

Potential contact with COPCs in indoor air, which is limited to the building basement, has been mitigated by the operation of the active SSDS that was installed in the southeastern portion of the basement (see Hillmann's September 2020 Construction Completion Report). Note that the building basement is used for storage and maintenance and not for residences or continuous occupancy.

Considering Buena Vista Associate's Volunteer status, this RIR primarily focuses on on-Site contamination; however, the potential for off-Site migration of contaminants was also assessed. With the new data collected in March and April 2023, it has been established that the potential for chlorinated VOCs to migrate off-Site is null due to the limited extent of contamination that has been demonstrated by the delineation for both the shallow and deep groundwater flow pathways.

6.4 Potential Ecological Risks

The Site is an apartment building located within a densely developed, urban area in the City of Yonkers. The Site and surrounding properties are primarily developed with buildings, concrete sidewalks, asphalt parking lots, and man-made landscaping. There is little to no wildlife habitat or food source on-Site or on the surrounding properties. No surface waterways are present on-Site or on the immediate adjoining properties. Therefore, no ecological risks are anticipated resulting from the COPCs. In accordance with requirements stipulated in Section 3.10 and Appendix 3C of NYSDEC DER-10, preparation of a Fish and Wildlife Exposure Assessment for the Site was not required.

7.0 FINDINGS & CONCLUSIONS

Based on the information documented above and within the November 2020 RIR, the following environmental findings are provided:

Soil Results:

- Soil samples collected from landscaped (unpaved) areas at the Site had the following detections: (1) several semi-volatile organic compound/polycyclic aromatic hydrocarbon (SVOC/PAH) compounds in exceedance of the RRUSCOs in several of the shallow samples; (2) mercury in exceedance of the RRUSCO in several of the shallow samples and one deep 13.5-14.0 fbg sample; (3) arsenic, expected to be a result of natural background, was detected in exceedance of the RRUSCO in one shallow sample (out of a total of 10 samples). Based on the shallow sample depth and previous redevelopment of the Site into the current buildings, exceedances are not expected to have resulted from historic or current Site use. The compounds detected in the shallow soil are typical of urban fill in similar areas.
- A Brownfield Cleanup Agreement (BCA) amendment was executed on March 12, 2024, which identified two unpaved landscaped areas of the Site as "carved out" and no longer within the amended Site boundary for the BCA. These two "carve-out" areas include the northeastern area of the western quad (sample locations S9, S10, and/or S16) and the southwestern corner of the Site (sample locations S12 and S13), where certain metals and/or SVOC/PAH compounds exceed the RRSUCOs.
- Soil sample results in the exterior behind the former dry cleaner did not indicate any hot-spots and/or elevated volatile organic compound (VOC) detections. A previous inspection of the interior space formerly occupied by the dry cleaner did not indicate any cracks or holes in the slab near the location of the former dry-cleaning machinery. Additionally, the former dry-cleaning space was on the ground floor but was a building level above the sub-grade basement. As such, any leaks from the former dry-cleaning machine would be an unlikely pathway to the subsurface as contaminants would have to pass through the ground-level floor into the basement and then pass through the basement concrete floor; without observation by Site maintenance personnel.

Groundwater Results–- SVOCs, Metals, PCBs and PFAS:

- Several SVOCs were detected in exceedance of the GWQS in MW-1A, MW-2, MW-4 and/or MW-5.
- Several dissolved (filtered) metals, iron, magnesium, manganese, and sodium, were detected exceeding the NYS Ambient Water Quality Standards and Guidance Values (AWQSGV) in all monitoring wells. The historic Site use did not feature activities that used and/or generated the metal compounds detected in groundwater. The metals detected are typical naturally occurring compounds and are suspected to be a result of natural background.
- PFAS in groundwater was analyzed at wells MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6 and MW-7. A maximum of 140 ppt PFOA was detected at MW-1A and a maximum of 34.3 ppt PFOS was detected at MW-6. Each of the wells, except MW-4, exceeded the NYSDEC 2023 ambient water quality guidance values for PFOA and PFOS, which are 6.7 ppt and 2.7 ppt, respectively. The PFAS appears to be related to off-Site or background sources as the highest PFAS concentrations were detected at upgradient wells (MW-1A and MW-6) relative to the release area.

Groundwater Results - VOCs:

- The April 2023 data presented herein indicate delineation has been achieved for chlorinated VOCs in shallow groundwater (less than 20 fbg). Additionally, the deeper wells (40 to 60 fbg) indicate the highest levels of contamination are restricted to the release area (well cluster MW-3, MW-5, MW-7 and MW-8), such that delineation has been approached for deeper groundwater. The well couplets to the north and west of the source area are below the laboratory reporting limit for both the shallow and deep wells. For the eastern and southern well couplets, background is achieved for all analytes except for PCE at the deep well MW-12 to the east and trans-1,2-DCE at MW-13 to the south, which only slightly exceeds the AWQSGV of 0.7 and 5 µg/l for PCE and 1,2-DCE, respectively. The soil vapor results for the off-Site building at 100 Riverdale Avenue confirm the shallow chlorinated VOC plume is limited to the Site.
- In 2017, injection of potassium permanganate to oxidize chlorinated VOCs in the source area was conducted according to the 2017 Remedial Action Work Plan (RAWP) prepared by Hillmann. Post-remedial monitoring indicated that contaminant levels were initially

reduced, but contaminant levels rebounded in June 2018, suggesting that in situ oxidation chemical injection as a source reduction measure is not effective.

- Quarterly groundwater monitoring from May 2021 to March 2022 indicates that the level of contaminant concentrations is decreasing within the source area and that the chlorinated VOC plume is reducing in size and magnitude, and is not migrating off-Site, as confirmed within the March/April 2023 investigation program presented herein.
- The recent sampling round of all 13 monitoring wells indicate that the plume is delineated. The shallow portion of the plume (less than 20 fbg) is not shown to extend beyond the existing monitoring well network located on the property. The deeper portion of the plume (greater than 50 feet) also does not impact abutting properties. Using a linear log-normal spatial distribution estimator, there is a potential for deep groundwater (greater than 40 fbg) to be impacted deep below the southbound lane of the Riverdale Avenue right-of-way.

Free Product at Well MW-13:

- Approximately 0.85 feet of oil as LNAPL was encountered during the gauging of Well MW-13 on January 24, 2024. This condition was unanticipated based on prior monitoring. Well MW-13 (installed March 2023) is screened from 50 to 60 fbg, whereas the adjacent well MW-4 (installed 2016) intersects the water table at approximately 12 fbg. MW-4 has never encountered "free product" and no oil was encountered in well MW-13 during sampling in April 2023. A fingerprint analysis via gas chromatography of the oil identified it as a Heavy Mineral Oil, which typically makes up 99% of hydraulic oil. The source of the mineral oil at MW-13 remains unclear but appears to be limited in extent given the extensive monitoring data from the adjacent well MW-4. The mineral oil does not indicate a UST source, and the mineral oil does not appear to be associated with mobile or known toxic constituents. Additionally, the oil appears to be essentially void of VOCs, which would pose a potential vapor intrusion threat to indoor air.

Vapor Intrusion Pathway Results:

- Previous air sampling in 2019 and 2020 at the on-Site building (85 Riverdale Avenue) indicated that the NYSDOH decision matrices indicated *no further action* for all other sampled compounds except for methylene chloride and trichloroethene within a portion of

the basement. No indoor air samples exceeded the applicable NYSDOH Air Guideline Value for analyzed compounds.

- As a precautionary measure, a SSDS was implemented per Hillmann's 2019 Interim Remedial Measures Workplan. The SSDS was installed to mitigate a potential vapor intrusion pathway that was identified within a portion of the basement of the 85 Riverdale Avenue building. Post-installation "confirmatory" testing indicated that no indoor air samples exceeded the applicable NYSDOH Air Guideline Value for analyzed compounds.

The following general conclusions are made as a result of the remedial investigation and corrective actions that have been conducted:

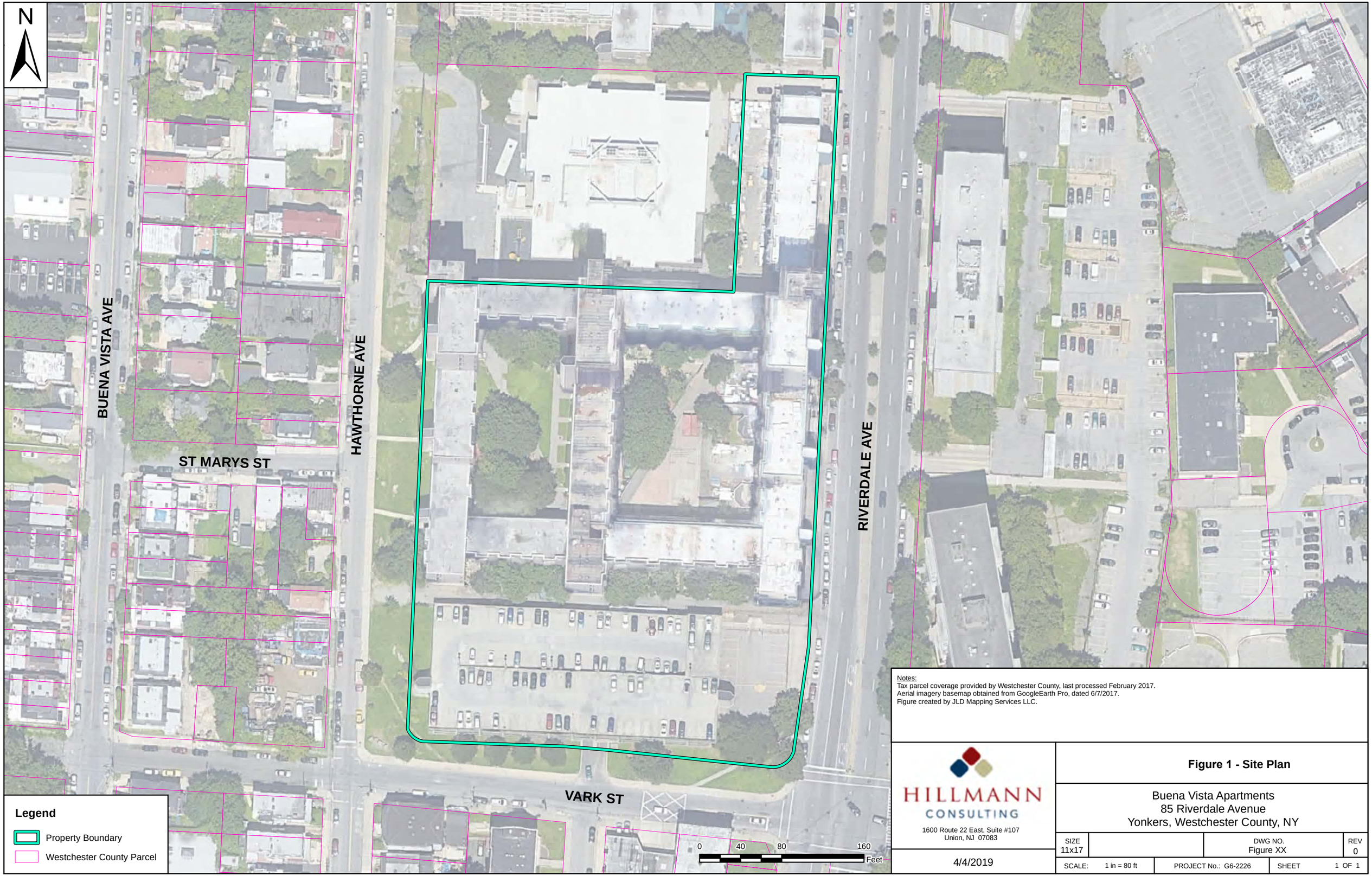
- Based on the type and location of chemical compounds detected in groundwater, former dry-cleaning operations are suspected as the source of chlorinated VOCs in the investigated groundwater. According to property records, dry cleaning operations were present on-Site from May 1988 to August 2018 (May 1988 - May 1989 operator: Lawrence Mindich; May 1989 - August 2018 operator: Guillet Inc.). No records pertaining to tenant/operations in the space from 1975, when the building was constructed, to 1988 have been found.
- Soil data collected as part of the remedial investigation indicate that an ongoing source of groundwater contamination does not exist at the Site. Injection of potassium permanganate was utilized as a source reduction measure in 2017. Post-remedial monitoring indicated that this source reduction measure was not effective.
- The Conceptual Site Model (CSM) suggests that the local hydrogeology is influenced by bedrock with local groundwater flow to the east-southeast as a result of a buried weathered bedrock surface. Regionally, groundwater from the Site is anticipated to be influenced by the Hudson River located to the west of the Site. A downward vertical pathway has been demonstrated for the Site, which is consistent with the limited extent of contamination observed in shallow groundwater.
- The temporal trends of the dissolved-phase chlorinated VOCs have been evaluated since 2018, with quarterly groundwater monitoring from May 2021 to March 2022 indicating that the level of contaminant concentrations is decreasing within the source area and that the chlorinated VOC plume is reducing in size and magnitude.
- The March/April 2023 groundwater sampling event indicates that the dissolved-phase chlorinated VOC plume has been delineated within the Site for shallow groundwater. The deep portion of the dissolved-phase plume (greater than 40 fbg) has been delineated to be

restricted to the Site, with the potential for a small portion right-of-way to the east (below the southbound land of Riverdale Avenue). As such, the groundwater plume is localized and is not migrating from the Site.

- Hillmann's Interim Remedial Measures (IRM) Workplan, dated August 20, 2019, has been developed and approved by NYSDEC to mitigate COPCs in soil vapor and indoor air. Subsequent mitigation measures, including installing sump covers and a SSDS in the southern portion of the basement, were completed in January 2020. Confirmatory indoor air analyses collected in February 2020 indicate that the SSDS mitigates the potential vapor intrusion pathway to the on-Site building. Recent groundwater monitoring and off-Site vapor intrusion sampling indicate that no off-Site receptors are impacted by the dissolved-phase chlorinated VOC plume.

The investigation activities detailed in this RIR and previous RIRs are sufficient to develop a remedy for the Site. This remedy will be detailed and evaluated in a RAWP prepared in accordance with NYSDEC and NYS Brownfield Cleanup Program guidelines.

FIGURES



Notes:
Tax parcel coverage provided by Westchester County, last processed February 2017.
Aerial imagery basemap obtained from GoogleEarth Pro, dated 6/7/2017.
Figure created by JLD Mapping Services LLC.

HILLMANN CONSULTING
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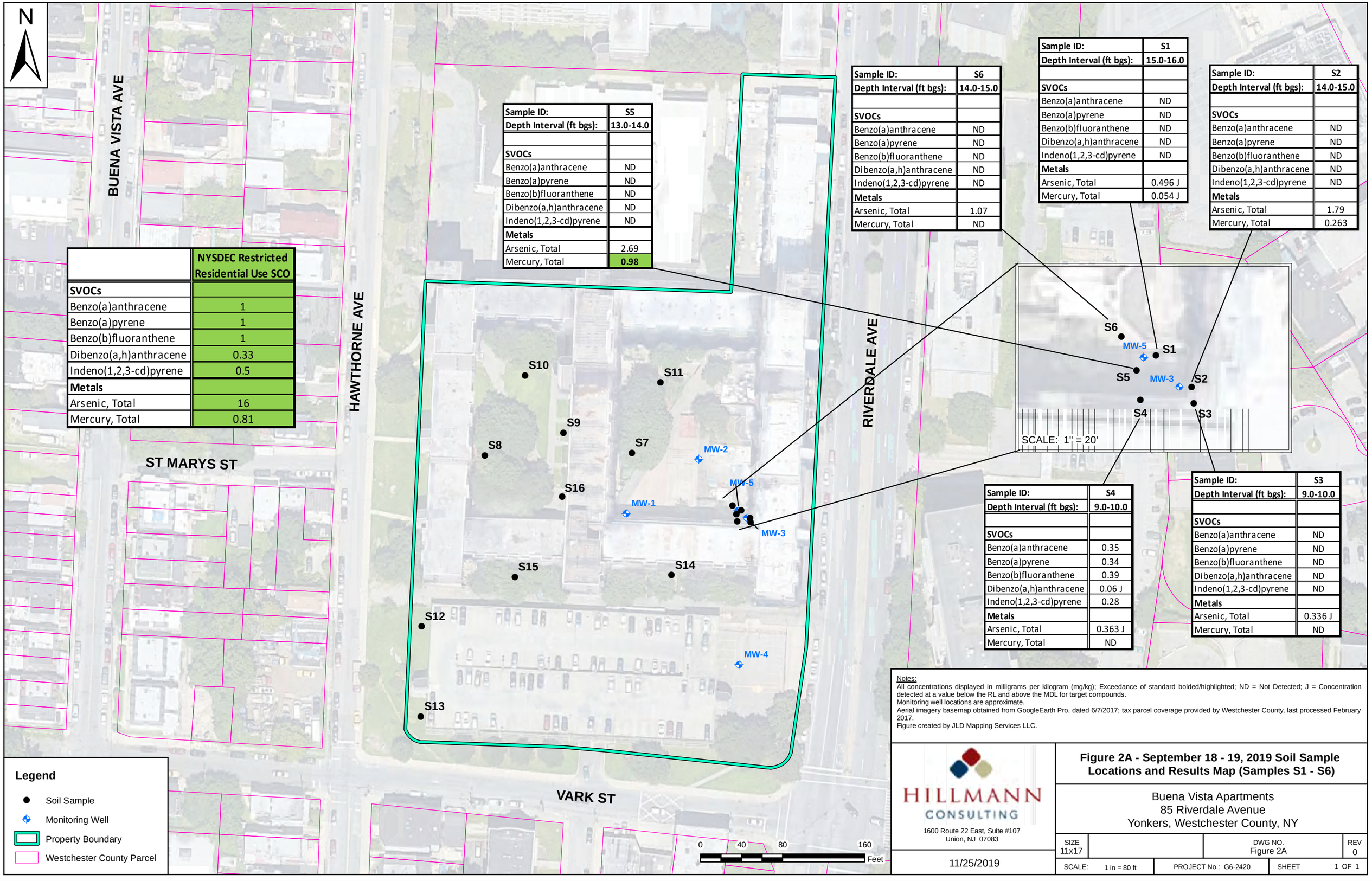
4/4/2019

Figure 1 - Site Plan

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure XX	0
SCALE: 1 in = 80 ft	PROJECT No.: G6-2226	SHEET	1 OF 1



	NYSDEC Restricted Residential Use SCO
SVOCs	
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Dibenzo(a,h)anthracene	0.33
Indeno(1,2,3-cd)pyrene	0.5
Metals	
Arsenic, Total	16
Mercury, Total	0.81

Sample ID:	S5
Depth Interval (ft bgs):	13.0-14.0
SVOCs	
Benzo(a)anthracene	ND
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	ND
Dibenzo(a,h)anthracene	ND
Indeno(1,2,3-cd)pyrene	ND
Metals	
Arsenic, Total	2.69
Mercury, Total	0.98

Sample ID:	S6
Depth Interval (ft bgs):	14.0-15.0
SVOCs	
Benzo(a)anthracene	ND
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	ND
Dibenzo(a,h)anthracene	ND
Indeno(1,2,3-cd)pyrene	ND
Metals	
Arsenic, Total	1.07
Mercury, Total	ND

Sample ID:	S1
Depth Interval (ft bgs):	15.0-16.0
SVOCs	
Benzo(a)anthracene	ND
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	ND
Dibenzo(a,h)anthracene	ND
Indeno(1,2,3-cd)pyrene	ND
Metals	
Arsenic, Total	0.496 J
Mercury, Total	0.054 J

Sample ID:	S2
Depth Interval (ft bgs):	14.0-15.0
SVOCs	
Benzo(a)anthracene	ND
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	ND
Dibenzo(a,h)anthracene	ND
Indeno(1,2,3-cd)pyrene	ND
Metals	
Arsenic, Total	1.79
Mercury, Total	0.263

Sample ID:	S4
Depth Interval (ft bgs):	9.0-10.0
SVOCs	
Benzo(a)anthracene	0.35
Benzo(a)pyrene	0.34
Benzo(b)fluoranthene	0.39
Dibenzo(a,h)anthracene	0.06 J
Indeno(1,2,3-cd)pyrene	0.28
Metals	
Arsenic, Total	0.363 J
Mercury, Total	ND

Sample ID:	S3
Depth Interval (ft bgs):	9.0-10.0
SVOCs	
Benzo(a)anthracene	ND
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	ND
Dibenzo(a,h)anthracene	ND
Indeno(1,2,3-cd)pyrene	ND
Metals	
Arsenic, Total	0.336 J
Mercury, Total	ND

Legend

- Soil Sample
- Monitoring Well
- Property Boundary
- Westchester County Parcel

Notes:
All concentrations displayed in milligrams per kilogram (mg/kg); Exceedance of standard bolded/highlighted; ND = Not Detected; J = Concentration detected at a value below the RL and above the MDL for target compounds.
Monitoring well locations are approximate.
Aerial imagery basemap obtained from GoogleEarth Pro, dated 6/7/2017; tax parcel coverage provided by Westchester County, last processed February 2017.
Figure created by JLD Mapping Services LLC.

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Union, NJ 07083

11/25/2019

Figure 2A - September 18 - 19, 2019 Soil Sample Locations and Results Map (Samples S1 - S6)

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 2A	0
SCALE: 1 in = 80 ft	PROJECT No.: G6-2420	SHEET	1 OF 1

N

BUENA VISTA AVE

HAWTHORNE AVE

RIVERDALE AVE

ST MARYS ST

VARK ST

Sample ID:	S10
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	0.59
Benzo(a)pyrene	0.59
Benzo(b)fluoranthene	0.84
Dibenzo(a,h)anthracene	0.1 J
Indeno(1,2,3-cd)pyrene	**0.52**
Metals	
Arsenic, Total	5.38
Mercury, Total	**1.04**

Sample ID:	S9
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	**1.2**
Benzo(a)pyrene	**1.1**
Benzo(b)fluoranthene	**1.6**
Dibenzo(a,h)anthracene	0.2
Indeno(1,2,3-cd)pyrene	**0.98**
Metals	
Arsenic, Total	11
Mercury, Total	0.393

Sample ID:	S11
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	0.61
Benzo(a)pyrene	0.59
Benzo(b)fluoranthene	0.9
Dibenzo(a,h)anthracene	0.11
Indeno(1,2,3-cd)pyrene	**0.54**
Metals	
Arsenic, Total	13
Mercury, Total	0.634

Sample ID:	S7
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	0.38
Benzo(a)pyrene	0.36
Benzo(b)fluoranthene	0.58
Dibenzo(a,h)anthracene	0.079 J
Indeno(1,2,3-cd)pyrene	0.35
Metals	
Arsenic, Total	10.6
Mercury, Total	0.678

	NYSDEC Restricted Residential Use SCO
SVOCs	
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Dibenzo(a,h)anthracene	0.33
Indeno(1,2,3-cd)pyrene	0.5
Metals	
Arsenic, Total	16
Mercury, Total	0.81

Sample ID:	S8
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	0.28
Benzo(a)pyrene	0.26
Benzo(b)fluoranthene	0.38
Dibenzo(a,h)anthracene	0.051 J
Indeno(1,2,3-cd)pyrene	0.21
Metals	
Arsenic, Total	8.05
Mercury, Total	0.774

Sample ID:	S15
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	0.26
Benzo(a)pyrene	0.23
Benzo(b)fluoranthene	0.32
Dibenzo(a,h)anthracene	0.044 J
Indeno(1,2,3-cd)pyrene	0.19
Metals	
Arsenic, Total	4.32
Mercury, Total	0.793

Sample ID:	S12
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	0.42
Benzo(a)pyrene	0.39
Benzo(b)fluoranthene	0.54
Dibenzo(a,h)anthracene	0.082 J
Indeno(1,2,3-cd)pyrene	0.32
Metals	
Arsenic, Total	5.38
Mercury, Total	**1.1**

Sample ID:	S13
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	0.46
Benzo(a)pyrene	0.38
Benzo(b)fluoranthene	0.58
Dibenzo(a,h)anthracene	0.076 J
Indeno(1,2,3-cd)pyrene	0.32
Metals	
Arsenic, Total	8.9
Mercury, Total	**0.958**

Sample ID:	S16
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	**2.6**
Benzo(a)pyrene	**2.3**
Benzo(b)fluoranthene	**3.5**
Dibenzo(a,h)anthracene	**0.4**
Indeno(1,2,3-cd)pyrene	**2**
Metals	
Arsenic, Total	**24.6**
Mercury, Total	0.325

Sample ID:	S14
Depth Interval (inch bgs):	0.0-2.0
SVOCs	
Benzo(a)anthracene	0.26
Benzo(a)pyrene	0.23
Benzo(b)fluoranthene	0.32
Dibenzo(a,h)anthracene	0.042 J
Indeno(1,2,3-cd)pyrene	0.19
Metals	
Arsenic, Total	3.95
Mercury, Total	0.803

S10 S11 S9 S8 S7 S16 S15 S14 S12 S13

MW-1 MW-2 MW-5 MW-3 MW-4

SCALE: 1" = 20'

S6 S1 MW-5 S5 MW-3 S2 S4 S3

0 40 80 160 Feet

Legend

- Soil Sample
- Monitoring Well
- Property Boundary
- Westchester County Parcel

Notes:
All concentrations displayed in milligrams per kilogram (mg/kg); Exceedance of standard bolded/highlighted; ND = Not Detected; J = Concentration detected at a value below the RL and above the MDL for target compounds.
Monitoring well locations are approximate.
Aerial imagery basemap obtained from GoogleEarth Pro, dated 6/7/2017; tax parcel coverage provided by Westchester County, last processed February 2017.
Figure created by JLD Mapping Services LLC.

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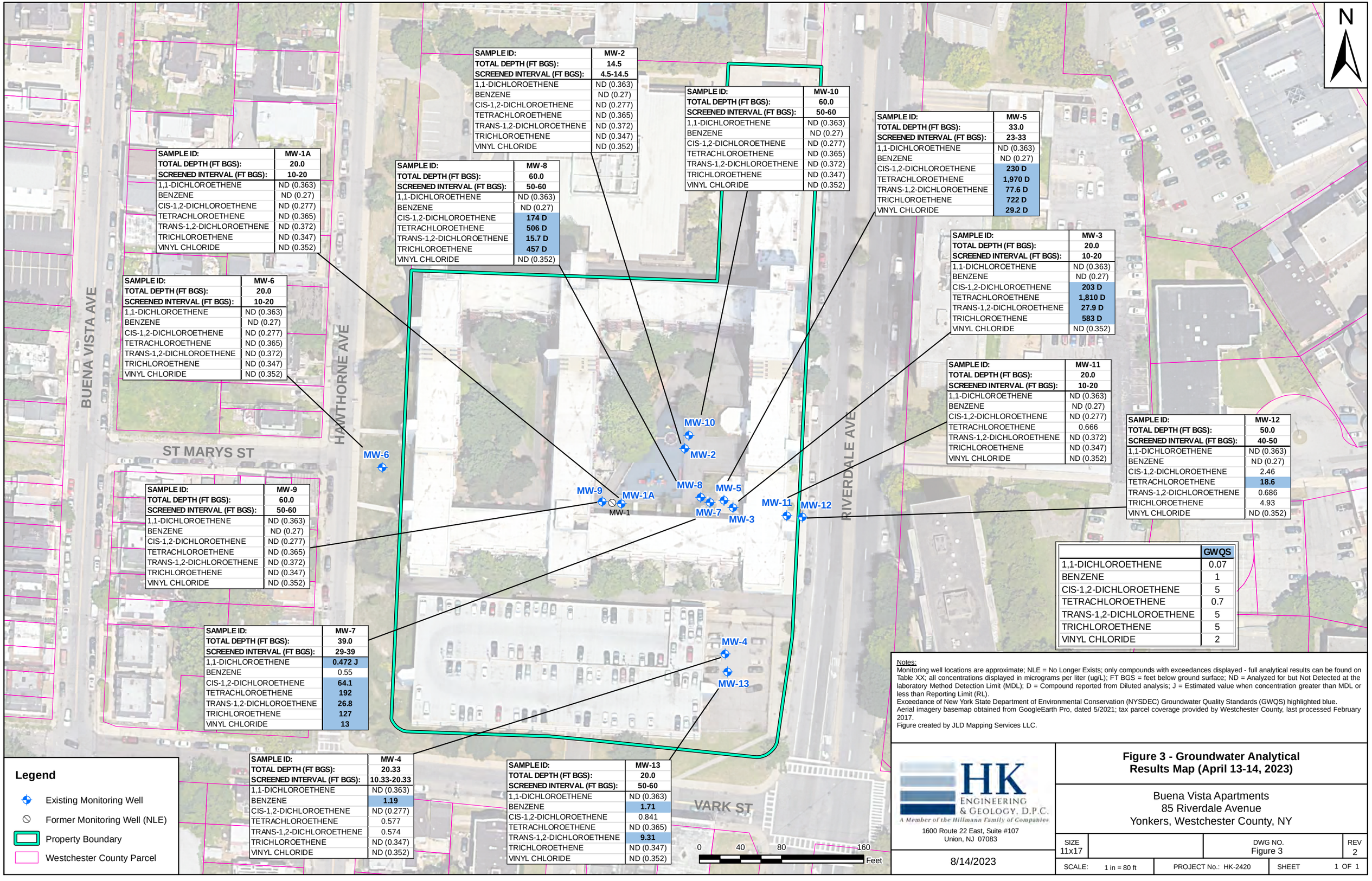
5/4/2020

Figure 2B - September 18 - 19, 2019 Soil Sample Locations and Results Map (Samples S7 - S16)

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 2B	2
SCALE: 1 in = 80 ft	PROJECT No.: HK-2420	SHEET	1 OF 1



SAMPLE ID:	MW-2
TOTAL DEPTH (FT BGS):	14.5
SCREENED INTERVAL (FT BGS):	4.5-14.5
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	ND (0.277)
TETRACHLOROETHENE	ND (0.365)
TRANS-1,2-DICHLOROETHENE	ND (0.372)
TRICHLOROETHENE	ND (0.347)
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-10
TOTAL DEPTH (FT BGS):	60.0
SCREENED INTERVAL (FT BGS):	50-60
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	ND (0.277)
TETRACHLOROETHENE	ND (0.365)
TRANS-1,2-DICHLOROETHENE	ND (0.372)
TRICHLOROETHENE	ND (0.347)
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-5
TOTAL DEPTH (FT BGS):	33.0
SCREENED INTERVAL (FT BGS):	23-33
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	**230 D**
TETRACHLOROETHENE	**1,970 D**
TRANS-1,2-DICHLOROETHENE	**77.6 D**
TRICHLOROETHENE	**722 D**
VINYL CHLORIDE	**29.2 D**

SAMPLE ID:	MW-1A
TOTAL DEPTH (FT BGS):	20.0
SCREENED INTERVAL (FT BGS):	10-20
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	ND (0.277)
TETRACHLOROETHENE	ND (0.365)
TRANS-1,2-DICHLOROETHENE	ND (0.372)
TRICHLOROETHENE	ND (0.347)
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-8
TOTAL DEPTH (FT BGS):	60.0
SCREENED INTERVAL (FT BGS):	50-60
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	**174 D**
TETRACHLOROETHENE	**506 D**
TRANS-1,2-DICHLOROETHENE	**15.7 D**
TRICHLOROETHENE	**457 D**
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-3
TOTAL DEPTH (FT BGS):	20.0
SCREENED INTERVAL (FT BGS):	10-20
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	**203 D**
TETRACHLOROETHENE	**1,810 D**
TRANS-1,2-DICHLOROETHENE	**27.9 D**
TRICHLOROETHENE	**583 D**
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-6
TOTAL DEPTH (FT BGS):	20.0
SCREENED INTERVAL (FT BGS):	10-20
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	ND (0.277)
TETRACHLOROETHENE	ND (0.365)
TRANS-1,2-DICHLOROETHENE	ND (0.372)
TRICHLOROETHENE	ND (0.347)
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-11
TOTAL DEPTH (FT BGS):	20.0
SCREENED INTERVAL (FT BGS):	10-20
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	ND (0.277)
TETRACHLOROETHENE	0.666
TRANS-1,2-DICHLOROETHENE	ND (0.372)
TRICHLOROETHENE	ND (0.347)
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-12
TOTAL DEPTH (FT BGS):	50.0
SCREENED INTERVAL (FT BGS):	40-50
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	2.46
TETRACHLOROETHENE	**18.6**
TRANS-1,2-DICHLOROETHENE	0.686
TRICHLOROETHENE	4.93
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-9
TOTAL DEPTH (FT BGS):	60.0
SCREENED INTERVAL (FT BGS):	50-60
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	ND (0.27)
CIS-1,2-DICHLOROETHENE	ND (0.277)
TETRACHLOROETHENE	ND (0.365)
TRANS-1,2-DICHLOROETHENE	ND (0.372)
TRICHLOROETHENE	ND (0.347)
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-7
TOTAL DEPTH (FT BGS):	39.0
SCREENED INTERVAL (FT BGS):	29-39
1,1-DICHLOROETHENE	**0.472 J**
BENZENE	0.55
CIS-1,2-DICHLOROETHENE	**64.1**
TETRACHLOROETHENE	**192**
TRANS-1,2-DICHLOROETHENE	**26.8**
TRICHLOROETHENE	**127**
VINYL CHLORIDE	**13**

	GWQS
1,1-DICHLOROETHENE	0.07
BENZENE	1
CIS-1,2-DICHLOROETHENE	5
TETRACHLOROETHENE	0.7
TRANS-1,2-DICHLOROETHENE	5
TRICHLOROETHENE	5
VINYL CHLORIDE	2

SAMPLE ID:	MW-4
TOTAL DEPTH (FT BGS):	20.33
SCREENED INTERVAL (FT BGS):	10.33-20.33
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	**1.19**
CIS-1,2-DICHLOROETHENE	ND (0.277)
TETRACHLOROETHENE	0.577
TRANS-1,2-DICHLOROETHENE	0.574
TRICHLOROETHENE	ND (0.347)
VINYL CHLORIDE	ND (0.352)

SAMPLE ID:	MW-13
TOTAL DEPTH (FT BGS):	20.0
SCREENED INTERVAL (FT BGS):	50-60
1,1-DICHLOROETHENE	ND (0.363)
BENZENE	**1.71**
CIS-1,2-DICHLOROETHENE	0.841
TETRACHLOROETHENE	ND (0.365)
TRANS-1,2-DICHLOROETHENE	**9.31**
TRICHLOROETHENE	ND (0.347)
VINYL CHLORIDE	ND (0.352)

Legend

- Existing Monitoring Well
- Former Monitoring Well (NLE)
- Property Boundary
- Westchester County Parcel

Notes:
Monitoring well locations are approximate; NLE = No Longer Exists; only compounds with exceedances displayed - full analytical results can be found on Table XX; all concentrations displayed in micrograms per liter (ug/L); FT BGS = feet below ground surface; ND = Analyzed for but Not Detected at the laboratory Method Detection Limit (MDL); D = Compound reported from Diluted analysis; J = Estimated value when concentration greater than MDL or less than Reporting Limit (RL).
Exceedance of New York State Department of Environmental Conservation (NYSDEC) Groundwater Quality Standards (GWQS) highlighted blue.
Aerial imagery basemap obtained from GoogleEarth Pro, dated 5/2021; tax parcel coverage provided by Westchester County, last processed February 2017.
Figure created by JLD Mapping Services LLC.

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8/14/2023

Figure 3 - Groundwater Analytical Results Map (April 13-14, 2023)

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

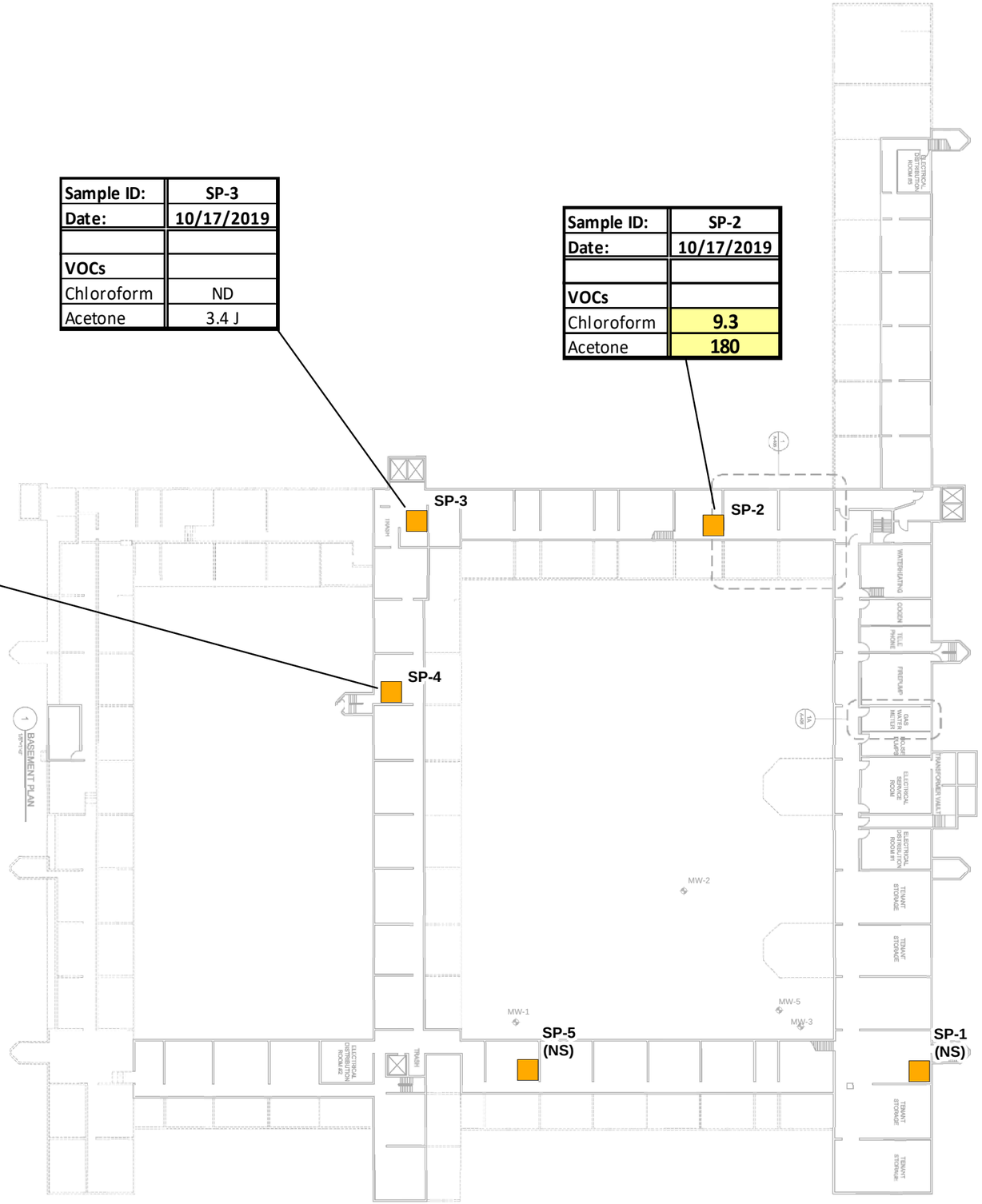
SIZE		DWG NO.	REV
11x17		Figure 3	2
SCALE: 1 in = 80 ft	PROJECT No.: HK-2420	SHEET	1 OF 1

N

Sample ID:	SP-3
Date:	10/17/2019
VOCs	
Chloroform	ND
Acetone	3.4 J

Sample ID:	SP-2
Date:	10/17/2019
VOCs	
Chloroform	**9.3**
Acetone	**180**

Sample ID:	SP-4
Date:	10/17/2019
VOCs	
Chloroform	ND
Acetone	34



HAWTHORNE AVE

RIVERDALE AVE

	NY-AWQS
VOCs	
Chloroform	7
Acetone	50

Legend

- Sump
- Monitoring Well

Notes:
All locations are approximate.
All concentrations displayed in micrograms per liter (ug/L); NS = Not Sampled; ND = Not Detected; J = Estimated concentration; exceedance of NY-AWQS highlighted/bold.
Basement layout diagram provided by Lawless & Mangione Architects and Engineers LP, drawing no. R-003.00, last revised 9/30/2015.
Figure created by JLD Mapping Services LLC.

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11/25/2019

Figure 4 - October 17, 2019 Groundwater Sampling Results - Sumps

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 4	1
SCALE: 1 in = 50 ft	PROJECT No.: G6-2420	SHEET	1 OF 1

N

BUENA VISTA AVE

HAWTHORNE AVE

ST MARYS ST

RIVERDALE AVE

VARK ST

MW-6 (67.10)

MW-2 (48.09)

MW-10

MW-1

MW-1A (48.78)

MW-9

MW-8

MW-7

MW-5

MW-3 (47.71)

MW-11 (47.68)

MW-12

MW-4 (47.21)

MW-13

48

49

50

47.5

0 40 80 160 Feet

Gauging Date: April 16 & 17, 2023

Well ID	SCRN (ft)	TOC (ft)	DTW (ft)	GWE (ft)
MW-1A	10-20	62.88	14.10	48.78
MW-2	4.5-14.5	59.56	11.47	48.09
MW-3	10-20	59.31	11.60	47.71
MW-4	10.3-20.3	58.95	11.74	47.21
MW-6	10-20	78.74	11.64	67.10
MW-11	10-20	59.7	12.00	47.68

SCRN - Screen interval feet below grade

TOC - Top of casing/measuring point elevation, feet above MSL

DTW - Depth to water, feet below TOC

GWE - Groundwater elevation, feet above MSL

Legend

- Shallow Monitoring Well (GWE)
- Other Monitoring Well
- Former Monitoring Well (NLE)
- GWE Contour
- Inferred GWE Contour
- Groundwater Flow Direction
- Property Boundary
- Westchester County Parcel

Notes:
Monitoring well locations are approximate; NLE = No Longer Exists.
Contours were hand-drawn and then digitized in ArcMap - locations are approximate. Contour interval = 1'.
Aerial imagery basemap obtained from GoogleEarth Pro, dated 5/2021; tax parcel coverage provided by Westchester County, last processed February 2017.
Figure created by JLD Mapping Services LLC.

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2/29/2024

Figure 5A - Groundwater Contour Map, Shallow Wells – April 2023

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 6A	1
SCALE: 1 in = 80 ft	PROJECT No.: HK-2420	SHEET	1 OF 1

N

BUENA VISTA AVE

HAWTHORNE AVE

ST MARYS ST

RIVERDALE AVE

VARK ST

MW-6

MW-9 (48.19)

MW-1

MW-1A

MW-8 (43.13)

MW-2

MW-10 (46.84)

MW-5

MW-7

MW-3

MW-11

MW-12 (43.58)

MW-4

MW-13 (44.78)

47

46

45

44

0 40 80 160 Feet

Gauging Date: April 16 & 17, 2023

Well ID	SCRN (ft)	TOC (ft)	DTW (ft)	GWE (ft)
MW-8	50-60	59.39	16.26	43.13
MW-9	50-60	63.39	15.20	48.19
MW-10	50-60	59.55	12.71	46.84
MW-12	40-50	59.56	15.98	43.58
MW-13	50-60	58.93	14.15	44.78

SCRN - Screen interval feet below grade

TOC - Top of casing/measuring point elevation, feet above MSL

DTW - Depth to water, feet below TOC

GWE - Groundwater elevation, feet above MSL

Legend

- Deep Monitoring Well (GWE)
- Other Monitoring Well
- Former Monitoring Well (NLE)
- Deep GWE Contour
- Groundwater Flow Direction
- Property Boundary
- Westchester County Parcel

Notes:
Monitoring well locations are approximate; NLE = No Longer Exists.
Contours were hand-drawn and then digitized in ArcMap - locations are approximate. Contour interval = 1'.
Aerial imagery basemap obtained from GoogleEarth Pro, dated 5/2021; tax parcel coverage provided by Westchester County, last processed February 2017.
Figure created by JLD Mapping Services LLC.

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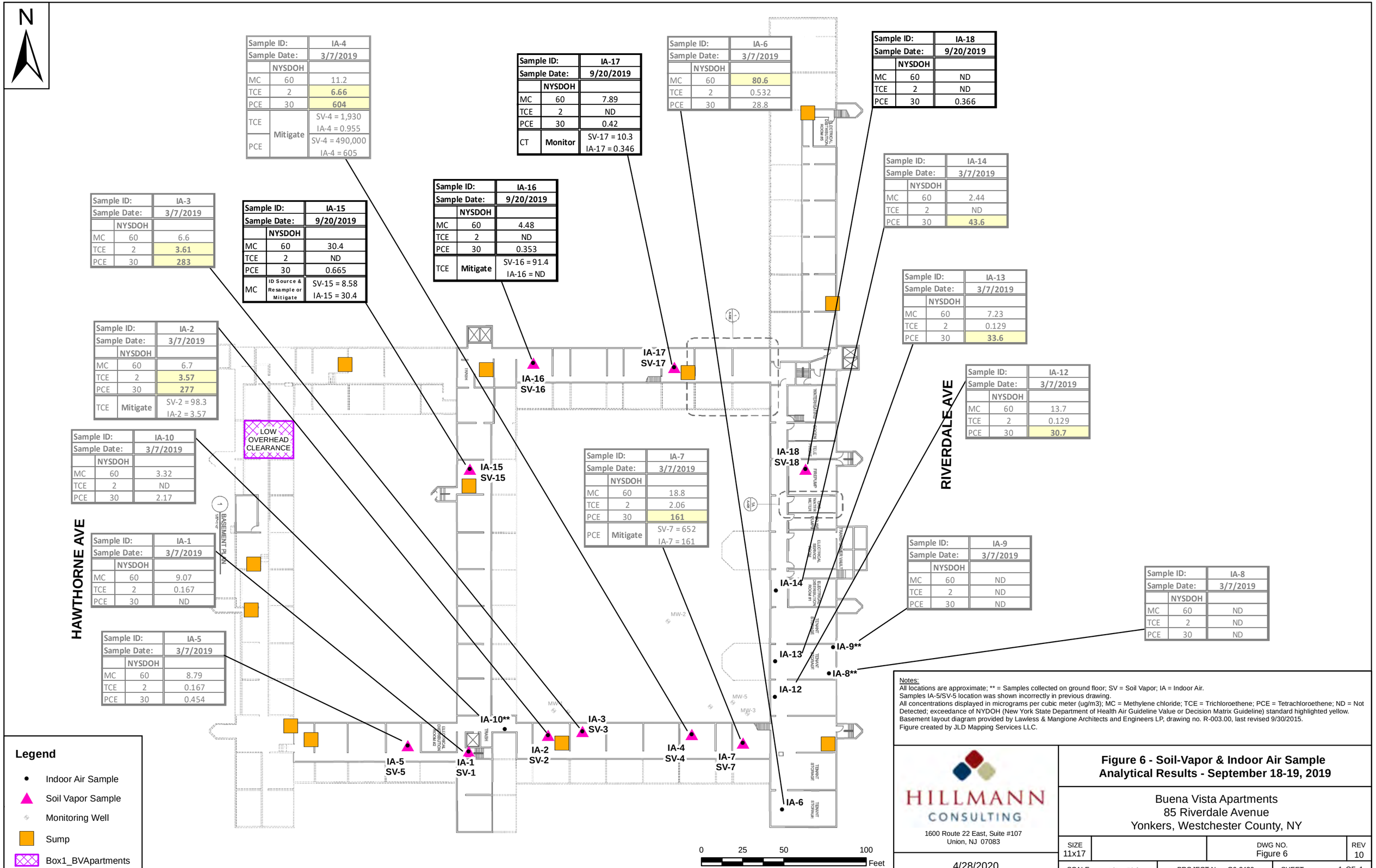
2/29/2024

Figure 5B - Groundwater Contour Map, Deep Wells – April 2023

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 6B	1
SCALE: 1 in = 80 ft	PROJECT No.: HK-2420	SHEET	1 OF 1



Notes:
All locations are approximate; ** = Samples collected on ground floor; SV = Soil Vapor; IA = Indoor Air.
Samples IA-5/SV-5 location was shown incorrectly in previous drawing.
All concentrations displayed in micrograms per cubic meter (ug/m3); MC = Methylene chloride; TCE = Trichloroethene; PCE = Tetrachloroethene; ND = Not Detected; exceedance of NYDOH (New York State Department of Health Air Guideline Value or Decision Matrix Guideline) standard highlighted yellow.
Basement layout diagram provided by Lawless & Mangione Architects and Engineers LP, drawing no. R-003.00, last revised 9/30/2015.
Figure created by JLD Mapping Services LLC.

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4/28/2020

Figure 6 - Soil-Vapor & Indoor Air Sample Analytical Results - September 18-19, 2019

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 6	10
SCALE: 1 in = 50 ft	PROJECT No.: G6-2420	SHEET	1 OF 1

N

Sample ID:		IA-20	SV-20
	NYSDOH		
CT	NS	0.277	ND
MC	60	ND	10.4
TCE	2	ND	ND
PCE	30	0.21	ND

Sample ID:		IA-23	SV-23
	NYSDOH		
CT	NS	0.327	2.93
MC	60	ND	2.61
TCE	2	0.769	2.7
PCE	30	ND	2.56

Sample ID:		IA-19	SV-19
	NYSDOH		
CT	NS	0.333	2.18
MC	60	ND	ND
TCE	2	ND	ND
PCE	30	0.149	3.72

Sample ID:		IA-21	SV-21
	NYSDOH		
CT	NS	0.296	1.96
MC	60	ND	1.98
TCE	2	ND	ND
PCE	30	0.136	3.95

Sample ID:		IA-22	SV-22
	NYSDOH		
CT	NS	0.296	ND
MC	60	ND	15.4
TCE	2	ND	ND
PCE	30	ND	8.75

Sample ID:		IA-24	SV-24
	NYSDOH		
CT	NS	0.387	11.4
MC	60	ND	2.34
TCE	2	ND	6.4
PCE	30	ND	1.61
CT	MONITOR	0.387	11.4

Sample ID:		IA-27	SV-27
	NYSDOH		
CT	NS	0.377	20.3
MC	60	ND	ND
TCE	2	0.113	1.29
PCE	30	0.305	4.97
CT	MONITOR	0.377	20.3

Sample ID:		IA-26	SV-26
	NYSDOH		
CT	NS	0.365	3.87
MC	60	ND	ND
TCE	2	0.43	ND
PCE	30	0.312	1.67

Sample ID:		IA-25	SV-25
	NYSDOH		
CT	NS	0.333	10.4
MC	60	ND	ND
TCE	2	ND	15.5
PCE	30	0.217	22.8
CT	MONITOR	0.333	10.4

IA-20 SV-20
IA-19 SV-19
IA-21 SV-21
IA-22 SV-22
IA-23 SV-23
IA-24 SV-24
IA-25 SV-25
IA-26 SV-26
IA-27 SV-27
IA-1 SV-1
IA-2 SV-2
IA-3 SV-3
IA-4 SV-4
IA-5 SV-5
IA-7 SV-7
IA-10**
IA-15 SV-15
IA-16 SV-16
IA-17 SV-17
IA-18 SV-18
IA-6
IA-8**
IA-9**
IA-12
IA-13
IA-14
MW-1
MW-2
MW-3
MW-5
LOW OVERHEAD CLEARANCE
HAWTHORNE AVE
RIVERDALE AVE
BASEMENT PLAN

Legend

- February 2020 Soil Vapor Sample
- February 2020 Indoor Air Sample
- Previous Indoor Air Sample
- Previous Soil-Vapor Sample
- Sump
- Monitoring Well

0 25 50 100 Feet

Notes:
All concentrations displayed in micrograms per cubic meter (ug/m3)
CT = Carbon Tetrachloride; MC = Methylene Chloride; TCE = Trichloroethene; PCE = Tetrachloroethene; NS = No Standard available; ND = Analyzed for but Not Detected at the Method Detection Limit (MDL).
Samples IA-5/SV-5 location was shown incorrectly in previous drawing.
All locations are approximate; ** = Samples collected on ground floor; SV = Soil Vapor; IA = Indoor Air.
Basement layout diagram provided by Lawless & Mangione Architects and Engineers LP, drawing no. R-003.00, last revised 9/30/2015.
Figure created by JLD Mapping Services LLC.

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Union, NJ 07083

3/4/2020

Figure 7 - Soil-Vapor & Indoor Air Sample Analytical Results - February 19-20, 2020

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 7	0
SCALE: 1 in = 50 ft	PROJECT No.: G6-2420	SHEET	1 OF 1

N

Sample ID:		IA-C
	NYSDOH	
MC	60	42.7
TCE	2	0.441
PCE	30	17.1

Sample ID:		IA-A
	NYSDOH	
MC	60	ND
TCE	2	ND
PCE	30	ND

Sample ID:		IA-B
	NYSDOH	
MC	60	13.8
TCE	2	0.328
PCE	30	9.7

Sample ID:		IA-D
	NYSDOH	
MC	60	ND
TCE	2	0.661
PCE	30	29

Sample ID:		IA-E
	NYSDOH	
MC	60	ND
TCE	2	ND
PCE	30	1.03

Sample ID:		IA-F
	NYSDOH	
MC	60	ND
TCE	2	0.124
PCE	30	0.237

HAWTHORNE AVE

RIVERDALE AVE

BASEMENT PLAN

IA-A

IA-B

IA-C

IA-D

IA-E

IA-F

MW-1

MW-2

MW-3

MW-5

0 25 50 100 Feet

Legend

- Basement Indoor Air Sample
- Monitoring Well

Notes:
All locations are approximate; All concentrations displayed in micrograms per cubic meter (ug/m3);
ND = Analyzed for but Not Detected at the Method Detection Limit (MDL).
Basement layout diagram provided by Lawless & Mangione Architects and Engineers LP, drawing no. R-003.00, last revised 9/30/2015.
Figure created by JLD Mapping Services LLC.

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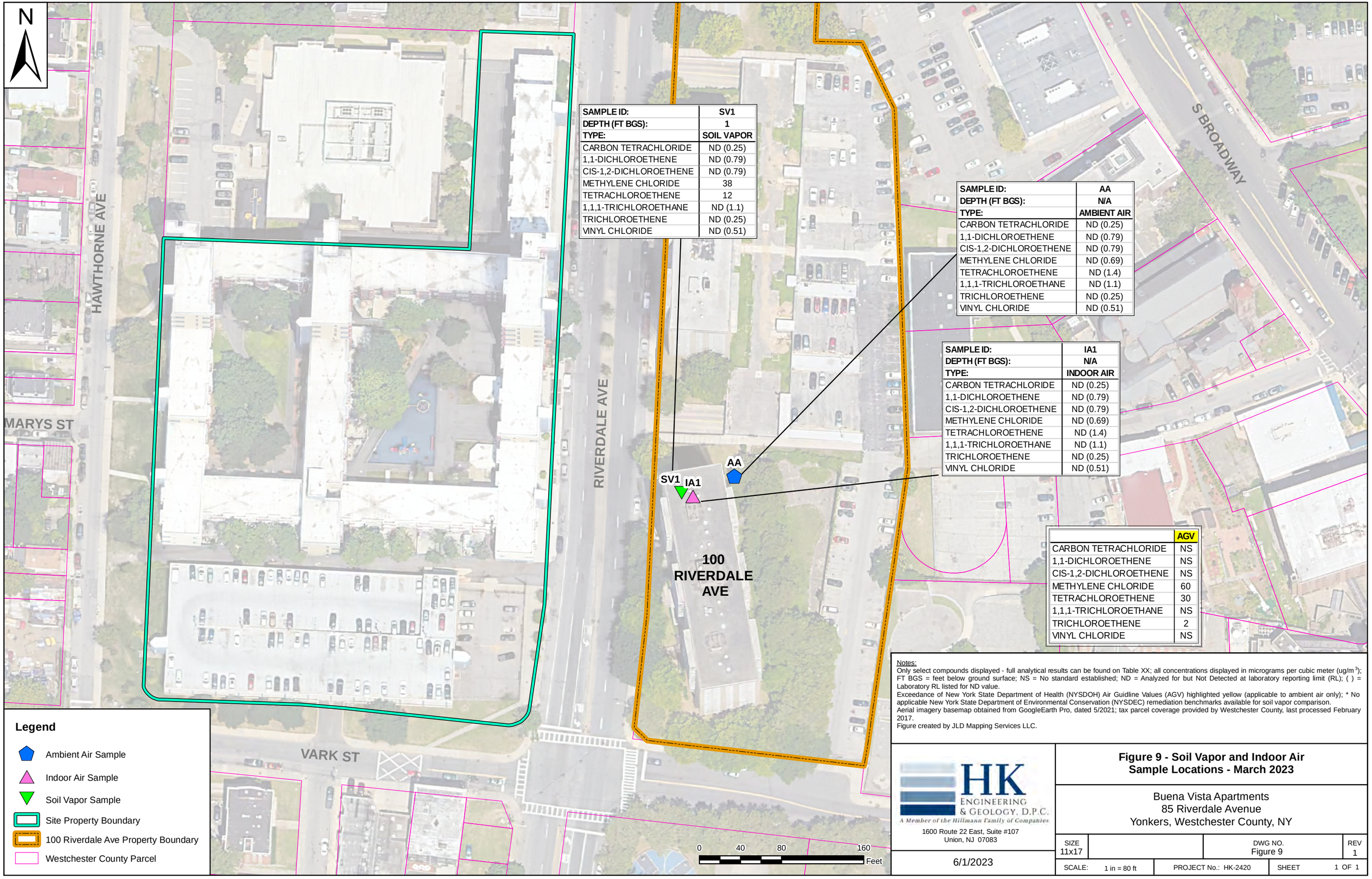
Union, NJ 07083

4/17/2019

Figure 8 - Vapor Intrusion Comfirmation Analytical Results - February 19-20, 2020

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 8	0
SCALE: 1 in = 50 ft	PROJECT No.: G6-2226	SHEET	1 OF 1



SAMPLE ID:	SV1
DEPTH (FT BGS):	1
TYPE:	SOIL VAPOR
CARBON TETRACHLORIDE	ND (0.25)
1,1-DICHLOROETHENE	ND (0.79)
CIS-1,2-DICHLOROETHENE	ND (0.79)
METHYLENE CHLORIDE	38
TETRACHLOROETHENE	12
1,1,1-TRICHLOROETHANE	ND (1.1)
TRICHLOROETHENE	ND (0.25)
VINYL CHLORIDE	ND (0.51)

SAMPLE ID:	AA
DEPTH (FT BGS):	N/A
TYPE:	AMBIENT AIR
CARBON TETRACHLORIDE	ND (0.25)
1,1-DICHLOROETHENE	ND (0.79)
CIS-1,2-DICHLOROETHENE	ND (0.79)
METHYLENE CHLORIDE	ND (0.69)
TETRACHLOROETHENE	ND (1.4)
1,1,1-TRICHLOROETHANE	ND (1.1)
TRICHLOROETHENE	ND (0.25)
VINYL CHLORIDE	ND (0.51)

SAMPLE ID:	IA1
DEPTH (FT BGS):	N/A
TYPE:	INDOOR AIR
CARBON TETRACHLORIDE	ND (0.25)
1,1-DICHLOROETHENE	ND (0.79)
CIS-1,2-DICHLOROETHENE	ND (0.79)
METHYLENE CHLORIDE	ND (0.69)
TETRACHLOROETHENE	ND (1.4)
1,1,1-TRICHLOROETHANE	ND (1.1)
TRICHLOROETHENE	ND (0.25)
VINYL CHLORIDE	ND (0.51)

	AGV
CARBON TETRACHLORIDE	NS
1,1-DICHLOROETHENE	NS
CIS-1,2-DICHLOROETHENE	NS
METHYLENE CHLORIDE	60
TETRACHLOROETHENE	30
1,1,1-TRICHLOROETHANE	NS
TRICHLOROETHENE	2
VINYL CHLORIDE	NS

Legend

- Ambient Air Sample
- Indoor Air Sample
- Soil Vapor Sample
- Site Property Boundary
- 100 Riverdale Ave Property Boundary
- Westchester County Parcel

Notes:
Only select compounds displayed - full analytical results can be found on Table XX; all concentrations displayed in micrograms per cubic meter (ug/m^3); FT BGS = feet below ground surface; NS = No standard established; ND = Analyzed for but Not Detected at laboratory reporting limit (RL); ( ) = Laboratory RL listed for ND value.
Exceedance of New York State Department of Health (NYSDOH) Air Guidline Values (AGV) highlighted yellow (applicable to ambient air only); * No applicable New York State Department of Environmental Conservation (NYSDEC) remediation benchmarks available for soil vapor comparison.
Aerial imagery basemap obtained from GoogleEarth Pro, dated 5/2021; tax parcel coverage provided by Westchester County, last processed February 2017.
Figure created by JLD Mapping Services LLC.

HK Engineering & Geology, D.P.C.
A Member of the Hillmann Family of Companies
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Union, NJ 07083

6/1/2023

Figure 9 - Soil Vapor and Indoor Air Sample Locations - March 2023

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, Westchester County, NY

SIZE		DWG NO.	REV
11x17		Figure 9	1
SCALE: 1 in = 80 ft	PROJECT No.: HK-2420	SHEET	1 OF 1

TABLES

Table 1
Summary of Soil, Groundwater, Soil Vapor and Indoor Air Sampling

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, New York

Date(s)	Matrix Sampled	Sample Location Designations	Lab Analyses	Analytical Lab Report Identification	ASP Category B Data Deliverable Package?	Data Usability Summary Report	Consultant	Technical Report
2015_04	Soil	B-1, 14.5-15'; B-2, 13.5-14'; B-3, 17-17.5'; B-4, 19.5-20'	VOCs (PAHs @ B-1 only and Lead @ B-2 only)	Alpha L1506134	Not Available	Not Available	Partner	20150408 Phase II
2015_04	Groundwater	MW-1, MW-2, MW-3, MW-4	VOCs (PAHs @ MW-2 & MW-2 only)	Alpha L1506151	Not Available	Not Available	Partner	20150408 Phase II
2015_06	Groundwater	MW-1, MW-2, MW-3, MW-4	VOCs (PAHs @ MW-4 only)	Not Available	Not Available	Not Available	Partner	20160111 Remedial Investigation
2015_06, 07	Soil vapor	SG-1, SG-2, SG-3, SG-4, SG-5, SG-6	VOCs	Not Available	Not Available	Not Available	Partner	20160111 Remedial Investigation
2015_07	Indoor air	IA-1, IA-2, IA-3	VOCs	Not Available	Not Available	Not Available	Partner	20160111 Remedial Investigation
2015_10	Soil vapor	SG-7, SG-8, SG-9, SG-10	VOCs	Alpha L1525718	Not Available	Not Available	Partner	20160111 Remedial Investigation
2015_10	Groundwater	MW-1, MW-2, MW-3, MW-4, MW-5	VOCs	Alpha L1525966	Not Available	Not Available	Partner	20160111 Remedial Investigation
2016_0418	Indoor air	Sub-Slab-1, 2, 3, 4, 5 and 6	VOCs	SGS JC18554	Not Available	Not Available	Hillmann	20180320 Remedial Action
2016_0419	Indoor air	Indoor Air-1, 2 and Ambient	VOCs	SGS JC18640	Not Available	Not Available	Hillmann	20180320 Remedial Action
2016_0418	Groundwater	MW-1 through MW-5	VOCs	SGS JC18561	Not Available	Not Available	Hillmann	20180320 Remedial Action
2016_0426	Indoor air	Sub-Slab-2	VOCs	SGS JC19068	Not Available	Not Available	Hillmann	20180320 Remedial Action
2017_0831	Groundwater	MW-1 through MW-5	VOCs	IAL E17-07454	Not Available	Not Available	Hillmann	20180320 Remedial Action
2017_1101	Groundwater	MW-1 through MW-5	VOCs	IAL E17-09447	Not Available	Not Available	Hillmann	20180320 Remedial Action
2018_0201	Groundwater	MW-1 through MW-5	VOCs	IAL E18-00795	Not Available	Not Available	Hillmann	20180320 Remedial Action
2018_0626	Groundwater	MW-1 through MW-5	VOCs	IAL E18-05107	Not Available	Not Available	Hillmann	20190405 BCP Application
2018_0926	Groundwater	MW-1 through MW-5	VOCs	IAL E18-07744	Not Available	Not Available	Hillmann	20190405 BCP Application
2019_0307	Soil vapor	SV-1, SV-2, SV-3, SV-4, SV-5, SV-7	VOCs	Alpha LL1909015	Not Available	Not Available	Hillmann	20201019 Construction Completion
2019_0307	Indoor air	IA-1, IA-2, IA-3, IA-4, IA-5, IA-6, IA-7, IA-8, IA-9, IA-10 IA-11, IA-12, IA-13, IA-14	VOCs	Alpha LL1909015	Not Available	Not Available	Hillmann	20201019 Construction Completion
2019_0917	Soil	S1, 15-16'; S2, 14-15'; S3, 9-10'; S4, 9-10'; S5, 13-14'; S6, 14-15'; S7, 0.5-1'; S8, 0.5-1'; S9, 0.5-1'; S10, 0.5-1'; S11, 0.5-1'; S12, 0.5-1' ; S13, 0.5-1'; S14, 0.5-1'; S15, 0.5-1'; S16, 0.5-1'	TCL: VOCs+10, SVOCs+20, PCBs, Pesticides; TAL Metals, Cyanide, PFAS	Alpha L1942859	Attached	Attached	Hillmann	20201130 Remedial Investigation
2019_0920	Soil vapor	SV-15, SV-16, SV-17, SV-18	VOCs	Alpha L1943629	Attached	Attached	Hillmann	20201130 Remedial Investigation
2019_0920	Indoor air	IA-15, IA-16, IA-17, IA-18, AA-19	VOCs	Alpha L1943629	Attached	Attached	Hillmann	20201130 Remedial Investigation
2019_1016	Groundwater	MW-2, MW-3, MW-4, MW-5	TCL: VOCs+10, SVOCs+20, PCBs, Pesticides	Alpha L1948512	Attached	Attached	Hillmann	20201130 Remedial Investigation
2019_1016	Groundwater	MW-2, MW-3, MW-4, MW-5	PFAS	Alpha L1953183	Attached	Attached	Hillmann	20201130 Remedial Investigation
2019_1017	Sump water	SP-2, SP-3, SP-4	VOCs	Alpha L1948968	Attached	Attached	Hillmann	20201130 Remedial Investigation
2020_0220	Indoor air	IA-A, IA-B, IA-C, IA-D, IA-E, IA-F, IA-BB, IA-AA, IA-BB, IA-CC	VOCs	Alpha L2007785	Not Available	Not Available	Hillmann	20201130 Remedial Investigation
2020_0220	Soil vapor	SV-19, SV-20, SV-21, SV-23, SV-24, SV-25, SV-26, SV-27	VOCs	Alpha L2007789	Attached	Attached	Hillmann	20201130 Remedial Investigation
2020_0220	Indoor Air	IA-19, IA-20, IA-21, IA-22, IA23, IA-24, IA-25, IA-26, IA-27	VOCs (TO-15 SIM)	Alpha L2007789	Attached	Attached	Hillmann	20201130 Remedial Investigation

Table 1
Summary of Soil, Groundwater, Soil Vapor and Indoor Air Sampling

Buena Vista Apartments
85 Riverdale Avenue
Yonkers, New York

Date(s)	Matrix Sampled	Sample Location Designations	Lab Analyses	Analytical Lab Report Identification	ASP Category B Data Deliverable Package?	Data Usability Summary Report	Consultant	Technical Report
2020_0318	Groundwater	MW-1A, MW-6, MW-7	TCL: VOCs+10, SVOCs+20, PCBs, Pesticides	Alpha L2012391	Attached	Attached	Hillmann	20201130 Remedial Investigation
2020_0318	Groundwater	MW-1A, MW-6, MW-7	1,4 Dioxane	Alpha L2014361	Attached	Attached	Hillmann	20201130 Remedial Investigation
2020_1105	Groundwater	MW-8	VOCs	IAL E20-07510	Attached	Attached	Hillmann	20201130 Remedial Investigation
2021_0524	Groundwater	MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8	VOCs, Fe, Mn, K, Na, NO3, SO4, Cl	IAL E21-03228	Not Available	Not Available	Hillmann	20210628 Qtr GW Monitoring
2021_0903	Groundwater	MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8	VOCs, Fe, Mn, K, Na, NO3, SO4, Cl	SGS JD31021	Not Available	Not Available	Hillmann	20210923 Qtr GW Monitoring
2021_1220	Groundwater	MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8	VOCs, Fe, Mn, K, Na, NO3, SO4, Cl	IAL E21-07741	Not Available	Not Available	Hillmann	20220104 Qtr GW Monitoring
2022_0315	Groundwater	MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8	VOCs, Fe, Mn, K, Na, NO3, SO4, Cl	SGS JD41347	Not Available	Not Available	Hillmann	20220509 Annual GW Monitoring
2023_0323	Soil Vapor	SV1 (100 Riverdale)	VOCs	IAL E23-01495	Attached	Attached	Hillmann	This report
2023_0323	Indoor air	IA1, AA (100 Riverdale)	VOCs	IAL E23-01495	Attached	Attached	Hillmann	This report
2023_0413,14	Groundwater	MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-0, MW-10 MW-11, MW-12, MW-13	VOCs	IAL E23-01849	Attached	Attached	Hillmann	This report

Table 2 - Soil Results - VOCs

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 9/18 - 9/19/2019

Target Compounds	NYSDEC Unrestricted Use SCO	NYSDEC Restricted Residential Use SCO	S1 Sample Depth: 15.0-16.0'				S2 Sample Depth: 14.0-15.0'				S3 Sample Depth: 9.0-10.0'				S4 Sample Depth: 9.0-10.0'				S5 Sample Depth: 13.0-14.0'				S6 Sample Depth: 14.0-15.0'				S7 Sample Depth: 0.5-1.0'				S8 Sample Depth: 0.5-1.0'			
Volatiles (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,1,1,2-Tetrachloroethane	NS	NS	ND		0.00075	0.0002	ND		0.00057	0.00015	ND		0.00072	0.00019	ND		0.00065	0.00017	ND		0.00068	0.00018	ND		0.0006	0.00016	ND		0.0012	0.00033	ND		0.00068	0.00018
1,1,1-Trichloroethane	0.68	100	ND		0.00075	0.00025	ND		0.00057	0.00019	ND		0.00072	0.00024	ND		0.00065	0.00022	ND		0.00068	0.00023	ND		0.0006	0.0002	ND		0.0012	0.00041	ND		0.00068	0.00023
1,1,2,2-Tetrachloroethane	NS	NS	ND		0.00075	0.00025	ND		0.00057	0.00019	ND		0.00072	0.00024	ND		0.00065	0.00022	ND		0.00068	0.00022	ND		0.0006	0.0002	ND		0.0012	0.00041	ND		0.00068	0.00023
1,1,2-Trichloroethane	NS	NS	ND		0.0015	0.0004	ND		0.0011	0.0003	ND		0.0014	0.00039	ND		0.0013	0.00035	ND		0.0014	0.00036	ND		0.0012	0.00032	ND		0.0025	0.00066	ND		0.0014	0.00036
1,1-Dichloroethane	0.27	26	ND		0.0015	0.00022	ND		0.0011	0.00016	ND		0.0014	0.00021	ND		0.0013	0.00019	ND		0.0014	0.0002	ND		0.0012	0.00018	ND		0.0025	0.00036	ND		0.0014	0.0002
1,1-Dichloroethene	0.33	100	ND		0.0015	0.00036	ND		0.0011	0.00027	ND		0.0014	0.00034	ND		0.0013	0.00031	ND		0.0014	0.00032	ND		0.0012	0.00029	ND		0.0025	0.00059	ND		0.0014	0.00032
1,1-Dichloropropene	NS	NS	ND		0.00075	0.00024	ND		0.00057	0.00018	ND		0.00072	0.00023	ND		0.00065	0.00021	ND		0.00068	0.00022	ND		0.0006	0.00019	ND		0.0012	0.00039	ND		0.00068	0.00022
1,2,3-Trichlorobenzene	NS	NS	ND		0.003	0.00048	ND		0.0023	0.00036	ND		0.0029	0.00047	ND		0.0026	0.00042	ND		0.0027	0.00044	ND		0.0024	0.00039	ND		0.0049	0.0008	ND		0.0027	0.00044
1,2,3-Trichloropropane	NS	NS	ND		0.003	0.00019	ND		0.0023	0.00014	ND		0.0029	0.00018	ND		0.0026	0.00016	ND		0.0027	0.00017	ND		0.0024	0.00015	ND		0.0049	0.00031	ND		0.0027	0.00017
1,2,4,5-Tetramethylbenzene	NS	NS	ND		0.003	0.00029	ND		0.0023	0.00022	ND		0.0029	0.00028	ND		0.0026	0.00025	ND		0.0027	0.00026	ND		0.0024	0.00023	ND		0.0049	0.00047	ND		0.0027	0.00026
1,2,4-Trichlorobenzene	NS	NS	ND		0.003	0.00041	ND		0.0023	0.00031	ND		0.0029	0.00039	ND		0.0026	0.00035	ND		0.0027	0.00037	ND		0.0024	0.00033	ND		0.0049	0.00067	ND		0.0027	0.00037
1,2,4-Trimethylbenzene	3.6	52	ND		0.003	0.0005	ND		0.0023	0.00038	ND		0.0029	0.00048	ND		0.0026	0.00043	ND		0.0027	0.00045	ND		0.0024	0.0004	ND		0.0049	0.00082	ND		0.0027	0.00046
1,2-Dibromo-3-chloropropane	NS	NS	ND		0.0045	0.0015	ND		0.0034	0.0011	ND		0.0044	0.0014	ND		0.0039	0.0013	ND		0.0041	0.0014	ND		0.0036	0.0012	ND		0.0074	0.0025	ND		0.0041	0.0014
1,2-Dibromoethane	NS	NS	ND		0.0015	0.00042	ND		0.0011	0.00032	ND		0.0014	0.0004	ND		0.0013	0.00036	ND		0.0014	0.00038	ND		0.0012	0.00034	ND		0.0025	0.00069	ND		0.0014	0.00038
1,2-Dichlorobenzene	1.1	100	ND		0.003	0.00022	ND		0.0023	0.00016	ND		0.0029	0.00021	ND		0.0026	0.00019	ND		0.0027	0.0002	ND		0.0024	0.00017	ND		0.0049	0.00036	ND		0.0027	0.0002
1,2-Dichloroethane	0.02	3.1	ND		0.0015	0.00039	ND		0.0011	0.00029	ND		0.0014	0.00037	ND		0.0013	0.00033	ND		0.0014	0.00035	ND		0.0012	0.00031	ND		0.0025	0.00064	ND		0.0014	0.00035
1,2-Dichloroethene, Total	NS	NS	0.00088	J	0.0015	0.0002	0.00089	J	0.0011	0.00016	0.0011	J	0.0014	0.0002	0.00085	J	0.0013	0.00018	0.00065	J	0.0014	0.00018	0.0011	J	0.0012	0.00016	ND		0.0025	0.00034	0.0011	J	0.0014	0.00019
1,2-Dichloropropane	NS	NS	ND		0.0015	0.00019	ND		0.0011	0.00014	ND		0.0014	0.00018	ND		0.0013	0.00016	ND		0.0014	0.00017	ND		0.0012	0.00015	ND		0.0025	0.00031	ND		0.0014	0.00017
1,3,5-Trimethylbenzene	8.4	52	ND		0.003	0.00029	ND		0.0023	0.00022	ND		0.0029	0.00028	ND		0.0026	0.00025	ND		0.0027	0.00026	ND		0.0024	0.00023	ND		0.0049	0.00048	ND		0.0027	0.00026
1,3-Dichlorobenzene	2.4	49	ND		0.003	0.00022	ND		0.0023	0.00017	ND		0.0029	0.00021	ND		0.0026	0.00019	ND		0.0027	0.0002	ND		0.0024	0.00018	ND		0.0049	0.00036	ND		0.0027	0.0002
1,3-Dichloropropane	NS	NS	ND		0.003	0.00025	ND		0.0023	0.00019	ND		0.0029	0.00024	ND		0.0026	0.00022	ND		0.0027	0.00023	ND		0.0024	0.0002	ND		0.0049	0.00041	ND		0.0027	0.00023
1,3-Dichloropropene, Total	NS	NS	ND		0.00075	0.00024	ND		0.00057	0.00018	ND		0.00072	0.00023	ND		0.00065	0.0002	ND		0.00068	0.00021	ND		0.0006	0.00019	ND		0.0012	0.00039	ND		0.00068	0.00022
1,4-Dichlorobenzene	1.8	13	ND		0.003	0.00026	ND		0.0023	0.00019	ND		0.0029	0.00025	ND		0.0026	0.00022	ND		0.0027	0.00023	ND		0.0024	0.00021	ND		0.0049	0.00042	ND		0.0027	0.00023
1,4-Dioxane	0.1	13	ND		0.12	0.053	ND		0.091	0.04	ND		0.12	0.051	ND		0.1	0.046	ND		0.11	0.048	ND		0.097	0.042	ND		0.2	0.087	ND		0.11	0.048
2,2-Dichloropropane	NS	NS	ND		0.003	0.0003	ND		0.0023	0.00023	ND		0.0029	0.00029	ND		0.0026	0.00026	ND		0.0027	0.00027	ND		0.0024	0.00024	ND		0.0049	0.0005	ND		0.0027	0.00028
2-Butanone	0.12	100	0.0093	J	0.015	0.0033	0.0065	J	0.011	0.0025	0.0061	J	0.014	0.0032	0.0058	J	0.013	0.0029	0.0062	J	0.014	0.003	0.0088	J	0.012	0.0027	ND		0.025	0.0055	ND		0.014	0.003
2-Hexanone	NS	NS	ND		0.015	0.0018	ND		0.011	0.0013	ND		0.014	0.0017	ND		0.013	0.0015	ND		0.014	0.0016	ND		0.012	0.0014	ND		0.025	0.0029	ND		0.014	0.0016
4-Methyl-2-pentanone	NS	NS	ND		0.015	0.0019	ND		0.011	0.0014	ND		0.014	0.0018	ND		0.013	0.0017	ND		0.014	0.0017	ND		0.012	0.0015	ND		0.025	0.0032	ND		0.014	0.0017
Acetone	0.05	100	**0.48**	E	0.015	0.0072	**0.45**	E	0.011	0.0054	**0.28**		0.014	0.007	**0.27**		0.013	0.0063	**0.32**		0.014	0.0065	**0.47**	E	0.012	0.0058	**0.63**		0.025	0.012	**0.15**		0.014	0.0066
Acrylonitrile	NS	NS	ND		0.006	0.0017	ND		0.0045	0.0013	ND		0.0058	0.0017	ND		0.0052	0.0015	ND		0.0054	0.0016	ND		0.0048	0.0014	ND		0.0099	0.0028	ND		0.0055	0.0016
Benzene	0.06	4.8	ND		0.00075	0.00025	ND		0.00057	0.00019	ND		0.00072	0.00024	ND		0.00065	0.00022	ND		0.00068	0.00022	ND		0.0006	0.0002	ND		0.0012	0.00041	ND		0.00068	0.00023
Bromobenzene	NS	NS	ND		0.003	0.00022	ND		0.0023	0.00016	ND		0.0029	0.00021	ND		0.0026	0.00019	ND		0.0027	0.0002	ND		0.0024	0.00018	ND		0.0049	0.00036	ND		0.0027	0.0002
Bromochloromethane	NS	NS	ND		0.003	0.00031	ND		0.0023	0.00023	ND		0.0029	0.0003	ND		0.0026	0.00027	ND		0.0027	0.00028	ND		0.0024	0.00025	ND		0.0049	0.00051	ND		0.0027	0.00028
Bromodichloromethane	NS	NS	ND		0.00075	0.00016	ND		0.00057	0.00012	ND		0.00072	0.00016	ND		0.00065	0.00014	ND		0.00068	0.00015	ND		0.0006	0.00013	ND		0.0012	0.00027	ND		0.00068	0.00015
Bromoform	NS	NS	ND		0.006	0.00037	ND		0.0045	0.00028	ND		0.0058	0.00036	ND		0.0052	0.00032	ND		0.0054	0.00033	ND		0.0048	0.0003	ND		0.0099	0.00061	ND		0.0055	0.00034
Bromomethane	NS	NS	ND		0.003	0.00087	ND		0.0023	0.00066	ND		0.0029	0.00084	ND		0.0026	0.00076	ND		0.0027	0.00079	ND		0.0024	0.0007	ND		0.0049	0.0014	ND		0.0027	0.00079
Carbon disulfide	NS	NS	ND		0.015	0.0068	ND		0.011	0.0052	ND		0.014	0.0066	ND		0.013	0.0059	ND		0.014	0.0062	ND		0.012	0.0055	ND		0.025	0.011	ND		0.014	0.0062
Carbon tetrachloride	0.76	2.4	ND		0.0015	0.00034	ND		0.0011	0.00026	ND		0.0014	0.00033	ND		0.0013	0.0003	ND		0.0014	0.00031	ND		0.0012	0.00028	ND		0.0025	0.00057	ND		0.0014	0.00031
Chlorobenzene	1.1	100	ND		0.00075	0.00019	ND		0.00057	0.00014	ND		0.00072	0.00018	ND		0.00065	0.00016	ND		0.00068	0.00017	ND		0.0006	0.00015	ND		0.0012	0.00031	ND		0.00068	0.00017
Chloroethane	NS	NS	ND		0.003	0.00068	ND		0.0023	0.00051	ND		0.0029	0.00066	ND		0.0026	0.00059	ND		0.0027	0.00061	ND		0.0024	0.00055	ND		0.0049	0.0011	ND		0.0027	0.00062
Chloroform	0.37	49	0.00039	J	0.0022	0.00021	0.00028	J	0.0017	0.00016	0.00039	J	0.0022	0.0002	0.00036	J	0.002	0.00018	0.00035	J	0.002	0.00019	0.00033	J	0.0018	0.00017	ND		0.0037	0.00035	0.0003	J	0.002	0.00019
Chloromethane	NS	NS	ND		0.006	0.0014	ND		0.0045	0.001	ND		0.0058	0.0014	ND		0.0052	0.0012	ND		0.0054	0.0013	ND		0.0048	0.0011	ND		0.0099	0.0023	ND		0.0055	0.0013
cis-1,2-Dichloroethene	0.25	100	ND		0.0015	0.00026	ND		0.0011	0.0002	ND		0.0014	0.00025	ND		0.0013	0.00023	ND		0.0014	0.00024	ND		0.0012	0.00021	ND		0.0025	0.00043	ND		0.0014	0.00024
cis-1,3-Dichloropropene	NS	NS	ND		0.00075	0.00024	ND		0.00057	0.00018	ND		0.00072	0.00023	ND		0.00065	0.0002	ND		0.00068	0.00021	ND		0.0006	0.00019	ND		0.0012	0.00039	ND		0.00068	0.00022
Dibromochloromethane	NS	NS	ND		0.0015	0.00021	ND		0.0011	0.00016	ND		0.0014	0.0002	ND		0.0013	0.00018	ND		0.0014	0.00019	ND		0.0012	0.00017	ND		0.0025	0.00035	ND		0.0014	0.00019
Dibromomethane	NS	NS	ND		0.003	0.00036	ND		0.0023	0.00027	ND		0.0029	0.00034	ND		0.0026	0.00031	ND		0.0027	0.00032	ND		0.0024	0.00029	ND		0.0049	0.00059	ND		0.0027	0.00032
Dichlorodifluoromethane	NS	NS	ND		0.015	0.0014	ND		0.011	0.001	ND		0.014	0.0013	ND		0.013	0.0012	ND		0.014	0.0012	ND		0.012	0.0011	ND		0.025	0.0023	ND		0.014	0.0012
Ethyl ether	NS	NS	ND		0.003	0.00051	ND		0.0023	0.00039	ND		0.0029	0.0005	ND		0.0026	0.00044	ND		0.0027	0.00046	ND		0.0024	0.00041	ND		0.0049	0.00084	ND		0.0027	0.00046
Ethylbenzene	1	41	ND		0.0015	0.00021	ND		0.0011	0.00016	ND		0.0014	0.0002	ND		0.0013	0.00018	ND		0.0014	0.00019	ND		0.0012	0.00017	ND		0.0025	0.00035	ND		0.0014	0.00019
Hexachlorobutadiene	NS	NS	ND		0.006	0.00025	ND		0.0045	0.00019	ND		0.0058	0.00024	ND		0.0052	0.00022	ND		0.0054	0.00023	ND		0.0048	0.0002	ND		0.0099	0.00042	ND		0.0055	0.00023
Isopropylbenzene	NS	NS	ND		0.0015	0.00016	ND		0.0011	0.00012	ND		0.0014	0.00016	ND		0.0013	0.00014	ND		0.0014	0.00015	ND		0.0012	0.00013	ND		0.0025	0.00027	ND		0.0014	0.00015
Methyl tert butyl ether	0.93	100	0.0024	J	0.003	0.0003	0.0015	J	0.0023	0.00023	0.0022	J	0.0029	0.00029	0.002	J	0.0026	0.00026	0.0023	J	0.0027	0.00027	0.0017	J	0.0024	0.00024	ND		0.0049	0.0005	0.00048	J	0.0027	0.00027
Methylene chloride	0.05	100	ND		0.0075	0.0034	ND		0.0057	0.0026	ND		0.0072	0.0033	ND		0.0065	0.003	ND		0.0068	0.0031	ND		0.006	0.0028	ND		0.012	0.0057	ND		0.0068	0.0031
Naphthalene	12	100	ND		0.006	0.00098	ND		0.0045	0.00074	ND		0.0058	0.00094	ND		0.0052	0.00085	ND		0.0054	0.00088	ND		0.0048	0.00079	ND		0.0099	0.0016	ND		0.0055	0.00089
n-Butylbenzene	12	100	ND		0.0015	0.00025	ND		0.0011	0.00019	ND		0.0014	0.00024	ND		0.0013	0.00022	ND		0.0014	0.00023	ND		0.0012	0.0002	ND		0.0025	0.00041	ND		0.0014	0.00023
n-Propylbenzene	3.9	100	ND		0.0015	0.00026	ND		0.0011	0.00019	ND		0.0014	0.00025	ND		0.0013	0.00022	ND		0.0014	0.00023	ND		0.0012	0.00021	ND		0.0025	0.00042	ND		0.0014	0.00023
o-Chlorotoluene	NS	NS	ND		0.003	0.00029	ND		0.0023	0.00022	ND		0.0029	0.00028	ND		0.0026	0.00025	ND		0.0027	0.00026	ND		0.0024	0.00023	ND		0.0049	0.00047	ND		0.0027	0.00026
o-Xylene	NS	NS	ND		0.0015	0.00044	ND		0.0011	0.00033	ND		0.0014	0.00042	ND		0.0013	0.00038	ND		0.0014	0.0004	ND		0.0012	0.00035	ND		0.0025	0.00072	ND		0.0014	0.0004
p/m-Xylene	NS	NS	ND		0.003	0.00084	ND		0.0023	0.00063	ND		0.0029	0.00081	ND		0.0026	0.00073	ND		0.0027	0.00076	ND		0.0024	0.00068	ND		0.0049	0.0014	ND		0.0027	0.00076
p-Chlorotoluene	NS	NS	ND		0.003	0.00016	ND		0.0023	0.00012	ND		0.0029	0.00016	ND		0.0026	0.00014	ND		0.0027	0.00015	ND		0.0024	0.00013	ND		0.0049	0.00027	ND		0.0027	0.00015
p-Diethylbenzene	NS	NS	ND		0.003	0.00026	ND		0.0023	0.0002	ND		0.0029	0.00026	ND		0.0026	0.00023	ND		0.0027	0.00024	ND		0.0024	0.00021	ND		0.0049	0.00044	ND		0.0027	0.00024
p-Ethyltoluene	NS	NS	ND		0.003	0.00058	ND		0.0023	0.00044	ND		0.0029	0.00056	ND		0.0026	0.0005	ND		0.0027	0.00052	ND		0.0024	0.00046	ND		0.0049	0.00095	ND		0.0027	0.00052
p-Isopropyltoluene	NS	NS	ND		0.0015	0.00016	ND		0.0011	0.00012	ND		0.0014	0.00016	ND		0.0013	0.00014	ND		0.0014	0.00015	ND		0.0012	0.00013	ND		0.0025	0.00027	ND		0.0014	0.00015
sec-Butylbenzene	11	100	ND		0.0015	0.00022	ND		0.0011	0.00016	ND		0.0014	0.00021	ND		0.0013	0.00019	ND		0.0014	0.0002	ND		0.0012	0.00018	ND		0.0025	0.00036	ND		0.0014	0.0002
Styrene	NS	NS	ND		0.0015	0.00029	ND		0.0011	0.00022	ND		0.0014	0.00028	ND		0.0013	0.00026	ND		0.0014	0.00027	ND		0.0012	0.00024	ND		0.0025	0.00048	ND		0.0014	0.00027
tert-Butylbenzene	5.9	100	ND		0.003	0.00018	ND		0.0023	0.00013	ND		0.0029	0.00017	ND		0.0026	0.00015	ND		0.0027	0.00016	ND		0.0024	0.00014	ND		0.0049	0.00029	ND		0.0027	0.00016
Tetrachloroethene	1.3	19	ND		0.00075	0.00029	0.00042	J	0.00057	0.00022	0.00043	J	0.00072	0.00028	0.0016		0.00065	0.00026	0.00036	J	0.00068	0.00027	0.0005	J	0.0006	0.00024	ND		0.0012	0.00048	ND		0.00068	0.00027
Toluene	0.7	100	ND		0.0015	0.00082	ND		0.0011	0.00062	ND		0.0014	0.00079	ND		0.0013	0.00071	ND		0.0014	0.00074	ND		0.0012	0.00066	ND		0.0025	0.0013	ND		0.0014	0.00074
trans-1,2-Dichloroethene	0.19	100	0.00088	J	0.0022	0.0002	0.00089	J	0.0017	0.00016	0.0011	J	0.0022	0.0002	0.00085	J	0.002	0.00018	0.00065	J	0.002	0.00018	0.0011	J	0.0018	0.00016	ND		0.0037	0.00034	0.0011	J	0.002	0.00019
trans-1,3-Dichloropropene	NS	NS	ND		0.0015	0.00041	ND		0.0011	0.00031	ND		0.0014	0.0004	ND		0.0013	0.00036	ND		0.0014	0.00037	ND		0.0012	0.00033	ND		0.0025	0.00067	ND		0.0014	0.00037
trans-1,4-Dichloro-2-butene	NS	NS	ND		0.0075	0.0021	ND		0.0057	0.0016	ND		0.0072	0.0021	ND		0.0065	0.0018	ND		0.0068	0.0019	ND		0.006	0.0017	ND		0.012	0.0035	ND		0.0068	0.0019
Trichloroethene	0.47	21	ND		0.00075	0.0002	ND		0.00057	0.00016	ND		0.00072	0.0002	ND		0.00065	0.00018	ND		0.00068	0.00018	ND		0.0006	0.00016	ND		0.0012	0.00034	ND		0.00068	0.00019
Trichlorofluoromethane	NS	NS	ND		0.006	0.001	ND		0.0045	0.00079	ND		0.0058	0.001	ND		0.0052	0.0009	ND		0.0054	0.00094	ND		0.0048	0.00084	ND		0.0099	0.0017	ND		0.0055	0.00095
Vinyl acetate	NS	NS	ND		0.015	0.0032	ND		0.011	0.0024	ND		0.014	0.0031	ND		0.013	0.0028	ND		0.014	0.0029	ND		0.012	0.0026	ND		0.025	0.0053	ND		0.014	0.0029
Vinyl chloride	0.02	0.9	ND		0.0015	0.0005	ND		0.0011	0.00038	ND		0.0014	0.00049	ND		0.0013	0.00044	ND		0.0014	0.00045	ND		0.0012	0.0004	ND		0.0025	0.00083	ND		0.0014	0.00046
Xylenes, Total	0.26	100	ND		0.0015	0.00044	ND		0.0011	0.00033	ND		0.0014	0.00042	ND		0.0013	0.00038	ND		0.0014	0.0004	ND		0.0012	0.00035	ND		0.0025	0.00072	ND		0.0014	0.0004
Total VOCs	NS	NS	0.49297	-	-	-	0.45959	-	-	-	0.29022	-	-	-	0.28061	-	-	-	0.32986	-	-	-	0.48243	-	-	-	0.63	-	-	-	0.15188	-	-	-
Total TICs	NS	NS	0.0108	J	0	0	ND		0	0	0.00303	J	0	0	0.00263	J	0	0	0.0036	J	0	0	ND		0	0	0.0133	J	0	0	0.00291	J	0	0

Results in Yellow Highlight displays exceedance above the NYSDEC Unrestricted Use Soil Cleanup Objective
Results in Green Highlight displays exceedance above both NYSDEC Unrestricted Use & Restricted Residential Soil Cleanup Objectives
J = Concentration detected at a value below the RL and above the MDL for target compounds

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 2 - Soil Results - VOCs (continued)

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 9/18 - 9/19/2019

Target Compounds	NYSDEC Unrestricted Use SCO	NYSDEC Restricted Residential Use SCO	S9 Sample Depth: 0.5-1.0'				S10 Sample Depth: 0.5-1.0'				S11 Sample Depth: 0.5-1.0'				S12 Sample Depth: 0.5-1.0'				S13 Sample Depth: 0.5-1.0'				S14 Sample Depth: 0.5-1.0'				S15 Sample Depth: 0.5-1.0'				S16 Sample Depth: 0.5-1.0'			
Volatiles (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,1,1,2-Tetrachloroethane	**NS**	**NS**	ND		0.0007	0.00018	ND		0.00059	0.00016	ND		0.00074	0.00019	ND		0.00087	0.00023	ND		0.00095	0.00025	ND		0.00097	0.00026	ND		0.0011	0.00029	ND		0.00082	0.00022
1,1,1-Trichloroethane	**0.68**	**100**	ND		0.0007	0.00023	ND		0.00059	0.0002	ND		0.00074	0.00025	ND		0.00087	0.00029	ND		0.00095	0.00032	ND		0.00097	0.00032	ND		0.0011	0.00036	ND		0.00082	0.00027
1,1,2,2-Tetrachloroethane	**NS**	**NS**	ND		0.0007	0.00023	ND		0.00059	0.0002	ND		0.00074	0.00024	ND		0.00087	0.00029	ND		0.00095	0.00032	ND		0.00097	0.00032	ND		0.0011	0.00036	ND		0.00082	0.00027
1,1,2-Trichloroethane	**NS**	**NS**	ND		0.0014	0.00038	ND		0.0012	0.00032	ND		0.0015	0.00039	ND		0.0017	0.00046	ND		0.0019	0.00051	ND		0.0019	0.00052	ND		0.0022	0.00058	ND		0.0016	0.00044
1,1-Dichloroethane	**0.27**	**26**	ND		0.0014	0.0002	ND		0.0012	0.00017	ND		0.0015	0.00021	ND		0.0017	0.00025	ND		0.0019	0.00028	ND		0.0019	0.00028	ND		0.0022	0.00032	ND		0.0016	0.00024
1,1-Dichloroethene	**0.33**	**100**	ND		0.0014	0.00033	ND		0.0012	0.00028	ND		0.0015	0.00035	ND		0.0017	0.00041	ND		0.0019	0.00045	ND		0.0019	0.00046	ND		0.0022	0.00052	ND		0.0016	0.00039
1,1-Dichloropropene	**NS**	**NS**	ND		0.0007	0.00022	ND		0.00059	0.00019	ND		0.00074	0.00023	ND		0.00087	0.00028	ND		0.00095	0.0003	ND		0.00097	0.00031	ND		0.0011	0.00035	ND		0.00082	0.00026
1,2,3-Trichlorobenzene	**NS**	**NS**	ND		0.0028	0.00045	ND		0.0024	0.00038	ND		0.0029	0.00047	ND		0.0035	0.00056	ND		0.0038	0.00061	ND		0.0039	0.00063	ND		0.0044	0.0007	ND		0.0033	0.00053
1,2,3-Trichloropropane	**NS**	**NS**	ND		0.0028	0.00018	ND		0.0024	0.00015	ND		0.0029	0.00019	ND		0.0035	0.00022	ND		0.0038	0.00024	ND		0.0039	0.00025	ND		0.0044	0.00028	ND		0.0033	0.00021
1,2,4,5-Tetramethylbenzene	**NS**	**NS**	ND		0.0028	0.00027	ND		0.0024	0.00023	ND		0.0029	0.00028	ND		0.0035	0.00033	ND		0.0038	0.00036	ND		0.0039	0.00037	ND		0.0044	0.00042	ND		0.0033	0.00031
1,2,4-Trichlorobenzene	**NS**	**NS**	ND		0.0028	0.00038	ND		0.0024	0.00032	ND		0.0029	0.0004	ND		0.0035	0.00047	ND		0.0038	0.00052	ND		0.0039	0.00053	ND		0.0044	0.00059	ND		0.0033	0.00045
1,2,4-Trimethylbenzene	**3.6**	**52**	ND		0.0028	0.00047	ND		0.0024	0.0004	ND		0.0029	0.00049	ND		0.0035	0.00058	ND		0.0038	0.00063	ND		0.0039	0.00065	ND		0.0044	0.00073	ND		0.0033	0.00055
1,2-Dibromo-3-chloropropane	**NS**	**NS**	ND		0.0042	0.0014	ND		0.0036	0.0012	ND		0.0044	0.0015	ND		0.0052	0.0017	ND		0.0057	0.0019	ND		0.0058	0.0019	ND		0.0065	0.0022	ND		0.0049	0.0016
1,2-Dibromoethane	**NS**	**NS**	ND		0.0014	0.00039	ND		0.0012	0.00033	ND		0.0015	0.00041	ND		0.0017	0.00048	ND		0.0019	0.00053	ND		0.0019	0.00054	ND		0.0022	0.00061	ND		0.0016	0.00046
1,2-Dichlorobenzene	**1.1**	**100**	ND		0.0028	0.0002	ND		0.0024	0.00017	ND		0.0029	0.00021	ND		0.0035	0.00025	ND		0.0038	0.00027	ND		0.0039	0.00028	ND		0.0044	0.00031	ND		0.0033	0.00024
1,2-Dichloroethane	**0.02**	**3.1**	ND		0.0014	0.00036	ND		0.0012	0.0003	ND		0.0015	0.00038	ND		0.0017	0.00045	ND		0.0019	0.00049	ND		0.0019	0.0005	ND		0.0022	0.00056	ND		0.0016	0.00042
1,2-Dichloroethene, Total	**NS**	**NS**	0.0014	J	0.0014	0.00019	0.00078	J	0.0012	0.00016	ND		0.0015	0.0002	0.0025	J	0.0017	0.00024	0.002	J	0.0019	0.00026	0.00067	J	0.0019	0.00027	0.0011	J	0.0022	0.0003	0.001	J	0.0016	0.00022
1,2-Dichloropropane	**NS**	**NS**	ND		0.0014	0.00018	ND		0.0012	0.00015	ND		0.0015	0.00018	ND		0.0017	0.00022	ND		0.0019	0.00024	ND		0.0019	0.00024	ND		0.0022	0.00027	ND		0.0016	0.0002
1,3,5-Trimethylbenzene	**8.4**	**52**	ND		0.0028	0.00027	ND		0.0024	0.00023	ND		0.0029	0.00028	ND		0.0035	0.00034	ND		0.0038	0.00037	ND		0.0039	0.00038	ND		0.0044	0.00042	ND		0.0033	0.00032
1,3-Dichlorobenzene	**2.4**	**49**	ND		0.0028	0.00021	ND		0.0024	0.00018	ND		0.0029	0.00022	ND		0.0035	0.00026	ND		0.0038	0.00028	ND		0.0039	0.00029	ND		0.0044	0.00032	ND		0.0033	0.00024
1,3-Dichloropropane	**NS**	**NS**	ND		0.0028	0.00023	ND		0.0024	0.0002	ND		0.0029	0.00025	ND		0.0035	0.00029	ND		0.0038	0.00032	ND		0.0039	0.00032	ND		0.0044	0.00036	ND		0.0033	0.00027
1,3-Dichloropropene, Total	**NS**	**NS**	ND		0.0007	0.00022	ND		0.00059	0.00019	ND		0.00074	0.00023	ND		0.00087	0.00027	ND		0.00095	0.0003	ND		0.00097	0.00031	ND		0.0011	0.00034	ND		0.00082	0.00026
1,4-Dichlorobenzene	**1.8**	**13**	ND		0.0028	0.00024	ND		0.0024	0.0002	ND		0.0029	0.00025	ND		0.0035	0.0003	ND		0.0038	0.00032	ND		0.0039	0.00033	ND		0.0044	0.00037	ND		0.0033	0.00028
1,4-Dioxane	**0.1**	**13**	ND		0.11	0.049	ND		0.095	0.042	ND		0.12	0.052	ND		0.14	0.061	ND		0.15	0.067	ND		0.16	0.068	ND		0.17	0.076	ND		0.13	0.058
2,2-Dichloropropane	**NS**	**NS**	ND		0.0028	0.00028	ND		0.0024	0.00024	ND		0.0029	0.0003	ND		0.0035	0.00035	ND		0.0038	0.00038	ND		0.0039	0.00039	ND		0.0044	0.00044	ND		0.0033	0.00033
2-Butanone	**0.12**	**100**	ND		0.014	0.0031	0.0044	J	0.012	0.0026	0.0054	J	0.015	0.0033	0.023		0.017	0.0038	ND		0.019	0.0042	0.0095	J	0.019	0.0043	ND		0.022	0.0048	0.0063	J	0.016	0.0036
2-Hexanone	**NS**	**NS**	ND		0.014	0.0017	ND		0.012	0.0014	ND		0.015	0.0017	ND		0.017	0.002	ND		0.019	0.0022	ND		0.019	0.0023	ND		0.022	0.0026	ND		0.016	0.0019
4-Methyl-2-pentanone	**NS**	**NS**	ND		0.014	0.0018	ND		0.012	0.0015	ND		0.015	0.0019	ND		0.017	0.0022	ND		0.019	0.0024	ND		0.019	0.0025	ND		0.022	0.0028	ND		0.016	0.0021
Acetone	**0.05**	**100**	**0.069**		0.014	0.0068	**0.28**		0.012	0.0057	**0.42**		0.015	0.0071	**3.2**	E	0.017	0.0084	**0.33**		0.019	0.0091	**0.26**		0.019	0.0094	**0.17**		0.022	0.01	**0.48**		0.016	0.0079
Acrylonitrile	**NS**	**NS**	ND		0.0056	0.0016	ND		0.0047	0.0014	ND		0.0059	0.0017	ND		0.007	0.002	ND		0.0076	0.0022	ND		0.0078	0.0022	ND		0.0087	0.0025	ND		0.0066	0.0019
Benzene	**0.06**	**4.8**	ND		0.0007	0.00023	ND		0.00059	0.0002	ND		0.00074	0.00024	ND		0.00087	0.00029	ND		0.00095	0.00032	ND		0.00097	0.00032	ND		0.0011	0.00036	ND		0.00082	0.00027
Bromobenzene	**NS**	**NS**	ND		0.0028	0.0002	ND		0.0024	0.00017	ND		0.0029	0.00021	ND		0.0035	0.00025	ND		0.0038	0.00028	ND		0.0039	0.00028	ND		0.0044	0.00032	ND		0.0033	0.00024
Bromochloromethane	**NS**	**NS**	ND		0.0028	0.00029	ND		0.0024	0.00024	ND		0.0029	0.0003	ND		0.0035	0.00036	ND		0.0038	0.00039	ND		0.0039	0.0004	ND		0.0044	0.00045	ND		0.0033	0.00034
Bromodichloromethane	**NS**	**NS**	ND		0.0007	0.00015	ND		0.00059	0.00013	ND		0.00074	0.00016	ND		0.00087	0.00019	ND		0.00095	0.00021	ND		0.00097	0.00021	ND		0.0011	0.00024	ND		0.00082	0.00018
Bromoform	**NS**	**NS**	ND		0.0056	0.00035	ND		0.0047	0.00029	ND		0.0059	0.00036	ND		0.007	0.00043	ND		0.0076	0.00047	ND		0.0078	0.00048	ND		0.0087	0.00054	ND		0.0066	0.0004
Bromomethane	**NS**	**NS**	ND		0.0028	0.00082	ND		0.0024	0.00069	ND		0.0029	0.00086	ND		0.0035	0.001	ND		0.0038	0.0011	ND		0.0039	0.0011	ND		0.0044	0.0013	ND		0.0033	0.00096
Carbon disulfide	**NS**	**NS**	ND		0.014	0.0064	ND		0.012	0.0054	ND		0.015	0.0067	ND		0.017	0.0079	ND		0.019	0.0086	ND		0.019	0.0088	ND		0.022	0.0099	ND		0.016	0.0075
Carbon tetrachloride	**0.76**	**2.4**	ND		0.0014	0.00032	ND		0.0012	0.00027	ND		0.0015	0.00034	ND		0.0017	0.0004	ND		0.0019	0.00044	ND		0.0019	0.00045	ND		0.0022	0.0005	ND		0.0016	0.00038
Chlorobenzene	**1.1**	**100**	ND		0.0007	0.00018	ND		0.00059	0.00015	ND		0.00074	0.00019	ND		0.00087	0.00022	ND		0.00095	0.00024	ND		0.00097	0.00025	ND		0.0011	0.00028	ND		0.00082	0.00021
Chloroethane	**NS**	**NS**	ND		0.0028	0.00064	ND		0.0024	0.00054	ND		0.0029	0.00067	ND		0.0035	0.00078	ND		0.0038	0.00086	ND		0.0039	0.00088	ND		0.0044	0.00098	ND		0.0033	0.00074
Chloroform	**0.37**	**49**	0.00033	J	0.0021	0.0002	0.00029	J	0.0018	0.00016	0.00034	J	0.0022	0.00021	0.00041	J	0.0026	0.00024	0.00045	J	0.0028	0.00026	0.0005	J	0.0029	0.00027	0.00054	J	0.0033	0.0003	0.00045	J	0.0025	0.00023
Chloromethane	**NS**	**NS**	ND		0.0056	0.0013	ND		0.0047	0.0011	ND		0.0059	0.0014	ND		0.007	0.0016	ND		0.0076	0.0018	ND		0.0078	0.0018	ND		0.0087	0.002	ND		0.0066	0.0015
cis-1,2-Dichloroethene	**0.25**	**100**	ND		0.0014	0.00025	ND		0.0012	0.00021	ND		0.0015	0.00026	ND		0.0017	0.0003	ND		0.0019	0.00033	ND		0.0019	0.00034	ND		0.0022	0.00038	ND		0.0016	0.00029
cis-1,3-Dichloropropene	**NS**	**NS**	ND		0.0007	0.00022	ND		0.00059	0.00019	ND		0.00074	0.00023	ND		0.00087	0.00027	ND		0.00095	0.0003	ND		0.00097	0.00031	ND		0.0011	0.00034	ND		0.00082	0.00026
Dibromochloromethane	**NS**	**NS**	ND		0.0014	0.0002	ND		0.0012	0.00016	ND		0.0015	0.00021	ND		0.0017	0.00024	ND		0.0019	0.00026	ND		0.0019	0.00027	ND		0.0022	0.0003	ND		0.0016	0.00023
Dibromomethane	**NS**	**NS**	ND		0.0028	0.00033	ND		0.0024	0.00028	ND		0.0029	0.00035	ND		0.0035	0.00041	ND		0.0038	0.00045	ND		0.0039	0.00046	ND		0.0044	0.00052	ND		0.0033	0.00039
Dichlorodifluoromethane	**NS**	**NS**	ND		0.014	0.0013	ND		0.012	0.0011	ND		0.015	0.0013	ND		0.017	0.0016	ND		0.019	0.0017	ND		0.019	0.0018	ND		0.022	0.002	ND		0.016	0.0015
Ethyl ether	**NS**	**NS**	ND		0.0028	0.00048	ND		0.0024	0.0004	ND		0.0029	0.0005	ND		0.0035	0.00059	ND		0.0038	0.00065	ND		0.0039	0.00066	ND		0.0044	0.00074	ND		0.0033	0.00056
Ethylbenzene	**1**	**41**	ND		0.0014	0.0002	ND		0.0012	0.00017	ND		0.0015	0.00021	ND		0.0017	0.00024	ND		0.0019	0.00027	ND		0.0019	0.00027	ND		0.0022	0.00031	ND		0.0016	0.00023
Hexachlorobutadiene	**NS**	**NS**	ND		0.0056	0.00024	ND		0.0047	0.0002	ND		0.0059	0.00025	ND		0.007	0.00029	ND		0.0076	0.00032	ND		0.0078	0.00033	ND		0.0087	0.00037	ND		0.0066	0.00028
Isopropylbenzene	**NS**	**NS**	ND		0.0014	0.00015	ND		0.0012	0.00013	ND		0.0015	0.00016	ND		0.0017	0.00019	ND		0.0019	0.00021	ND		0.0019	0.00021	ND		0.0022	0.00024	ND		0.0016	0.00018
Methyl tert butyl ether	**0.93**	**100**	0.00051	J	0.0028	0.00028	0.00051	J	0.0024	0.00024	0.00086	J	0.0029	0.0003	0.00049	J	0.0035	0.00035	0.0035	J	0.0038	0.00038	0.004		0.0039	0.00039	0.0042	J	0.0044	0.00044	0.0034		0.0033	0.00033
Methylene chloride	**0.05**	**100**	ND		0.007	0.0032	ND		0.0059	0.0027	ND		0.0074	0.0034	ND		0.0087	0.004	ND		0.0095	0.0043	ND		0.0097	0.0044	ND		0.011	0.005	ND		0.0082	0.0038
Naphthalene	**12**	**100**	ND		0.0056	0.00091	ND		0.0047	0.00077	ND		0.0059	0.00096	ND		0.007	0.0011	ND		0.0076	0.0012	ND		0.0078	0.0013	ND		0.0087	0.0014	ND		0.0066	0.0011
n-Butylbenzene	**12**	**100**	ND		0.0014	0.00023	ND		0.0012	0.0002	ND		0.0015	0.00025	ND		0.0017	0.00029	ND		0.0019	0.00032	ND		0.0019	0.00032	ND		0.0022	0.00036	ND		0.0016	0.00027
n-Propylbenzene	**3.9**	**100**	ND		0.0014	0.00024	ND		0.0012	0.0002	ND		0.0015	0.00025	ND		0.0017	0.0003	ND		0.0019	0.00032	ND		0.0019	0.00033	ND		0.0022	0.00037	ND		0.0016	0.00028
o-Chlorotoluene	**NS**	**NS**	ND		0.0028	0.00027	ND		0.0024	0.00023	ND		0.0029	0.00028	ND		0.0035	0.00033	ND		0.0038	0.00036	ND		0.0039	0.00037	ND		0.0044	0.00042	ND		0.0033	0.00031
o-Xylene	**NS**	**NS**	ND		0.0014	0.00041	ND		0.0012	0.00034	ND		0.0015	0.00043	ND		0.0017	0.0005	ND		0.0019	0.00055	ND		0.0019	0.00057	ND		0.0022	0.00063	ND		0.0016	0.00048
p/m-Xylene	**NS**	**NS**	ND		0.0028	0.00079	ND		0.0024	0.00066	ND		0.0029	0.00082	ND		0.0035	0.00097	ND		0.0038	0.0011	ND		0.0039	0.0011	ND		0.0044	0.0012	ND		0.0033	0.00092
p-Chlorotoluene	**NS**	**NS**	ND		0.0028	0.00015	ND		0.0024	0.00013	ND		0.0029	0.00016	ND		0.0035	0.00019	ND		0.0038	0.0002	ND		0.0039	0.00021	ND		0.0044	0.00024	ND		0.0033	0.00018
p-Diethylbenzene	**NS**	**NS**	ND		0.0028	0.00025	ND		0.0024	0.00021	ND		0.0029	0.00026	ND		0.0035	0.00031	ND		0.0038	0.00034	ND		0.0039	0.00034	ND		0.0044	0.00038	ND		0.0033	0.00029
p-Ethyltoluene	**NS**	**NS**	ND		0.0028	0.00054	ND		0.0024	0.00045	ND		0.0029	0.00057	ND		0.0035	0.00067	ND		0.0038	0.00073	ND		0.0039	0.00075	ND		0.0044	0.00084	ND		0.0033	0.00063
p-Isopropyltoluene	**NS**	**NS**	ND		0.0014	0.00015	ND		0.0012	0.00013	ND		0.0015	0.00016	ND		0.0017	0.00019	ND		0.0019	0.00021	ND		0.0019	0.00021	ND		0.0022	0.00024	ND		0.0016	0.00018
sec-Butylbenzene	**11**	**100**	ND		0.0014	0.0002	ND		0.0012	0.00017	ND		0.0015	0.00022	ND		0.0017	0.00025	ND		0.0019	0.00028	ND		0.0019	0.00028	ND		0.0022	0.00032	ND		0.0016	0.00024
Styrene	**NS**	**NS**	ND		0.0014	0.00028	ND		0.0012	0.00023	ND		0.0015	0.00029	ND		0.0017	0.00034	ND		0.0019	0.00037	ND		0.0019	0.00038	ND		0.0022	0.00043	ND		0.0016	0.00032
tert-Butylbenzene	**5.9**	**100**	ND		0.0028	0.00017	ND		0.0024	0.00014	ND		0.0029	0.00017	ND		0.0035	0.0002	ND		0.0038	0.00022	ND		0.0039	0.00023	ND		0.0044	0.00026	ND		0.0033	0.00019
Tetrachloroethene	**1.3**	**19**	ND		0.0007	0.00028	ND		0.00059	0.00023	ND		0.00074	0.00029	ND		0.00087	0.00034	ND		0.00095	0.00037	ND		0.00097	0.00038	ND		0.0011	0.00043	ND		0.00082	0.00032
Toluene	**0.7**	**100**	ND		0.0014	0.00076	ND		0.0012	0.00064	ND		0.0015	0.0008	ND		0.0017	0.00094	ND		0.0019	0.001	ND		0.0019	0.001	ND		0.0022	0.0012	ND		0.0016	0.00089
trans-1,2-Dichloroethene	**0.19**	**100**	0.0014	J	0.0021	0.00019	0.00078	J	0.0018	0.00016	ND		0.0022	0.0002	0.0025	J	0.0026	0.00024	0.002	J	0.0028	0.00026	0.00067	J	0.0029	0.00027	0.0011	J	0.0033	0.0003	0.001	J	0.0025	0.00022
trans-1,3-Dichloropropene	**NS**	**NS**	ND		0.0014	0.00038	ND		0.0012	0.00032	ND		0.0015	0.0004	ND		0.0017	0.00047	ND		0.0019	0.00052	ND		0.0019	0.00053	ND		0.0022	0.00059	ND		0.0016	0.00045
trans-1,4-Dichloro-2-butene	**NS**	**NS**	ND		0.007	0.002	ND		0.0059	0.0017	ND		0.0074	0.0021	ND		0.0087	0.0025	ND		0.0095	0.0027	ND		0.0097	0.0028	ND		0.011	0.0031	ND		0.0082	0.0023
Trichloroethene	**0.47**	**21**	ND		0.0007	0.00019	ND		0.00059	0.00016	ND		0.00074	0.0002	ND		0.00087	0.00024	ND		0.00095	0.00026	ND		0.00097	0.00027	ND		0.0011	0.0003	ND		0.00082	0.00022
Trichlorofluoromethane	**NS**	**NS**	ND		0.0056	0.00098	ND		0.0047	0.00082	ND		0.0059	0.001	ND		0.007	0.0012	ND		0.0076	0.0013	ND		0.0078	0.0014	ND		0.0087	0.0015	ND		0.0066	0.0011
Vinyl acetate	**NS**	**NS**	ND		0.014	0.003	ND		0.012	0.0025	ND		0.015	0.0032	ND		0.017	0.0037	ND		0.019	0.0041	ND		0.019	0.0042	ND		0.022	0.0047	ND		0.016	0.0035
Vinyl chloride	**0.02**	**0.9**	ND		0.0014	0.00047	ND		0.0012	0.0004	ND		0.0015	0.00049	ND		0.0017	0.00058	ND		0.0019	0.00064	ND		0.0019	0.00065	ND		0.0022	0.00073	ND		0.0016	0.00055
Xylenes, Total	**0.26**	**100**	ND		0.0014	0.00041	ND		0.0012	0.00034	ND		0.0015	0.00043	ND		0.0017	0.0005	ND		0.0019	0.00055	ND		0.0019	0.00057	ND		0.0022	0.00063	ND		0.0016	0.00048
Total VOCs	**NS**	**NS**	0.07124	-	-	-	0.28598	-	-	-	0.4266	-	-	-	3.2264	-	-	-	0.33595	-	-	-	0.27467	-	-	-	0.17584	-	-	-	0.49115	-	-	-
Total TICs	**NS**	**NS**	ND		0	0	0.00652	J	0	0	0.00316	J	0	0	0.0282	J	0	0	0.00475	J	0	0	0.0132	J	0	0	ND		0	0	0.00433	J	0	0

Results in Yellow Highlight displays exceedance above the NYSDEC Unrestricted Use Soil Cleanup Objective
Results in Green Highlight displays exceedance above both NYSDEC Unrestricted Use & Restricted Residential Soil Cleanup Objectives
J = Concentration detected at a value below the RL and above the MDL for target compounds

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 3 - Soil Results - SVOCs

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Target Compounds	NYSDEC Unrestricted Use SCO	NYSDEC Restricted Residential Use SCO	S1 Sample Depth: 15.0-16.0'				S2 Sample Depth: 14.0-15.0'				S3 Sample Depth: 9.0-10.0'				S4 Sample Depth: 9.0-10.0'				S5 Sample Depth: 13.0-14.0'				S6 Sample Depth: 14.0-15.0'				S7 Sample Depth: 0.5-1.0'				S8 Sample Depth: 0.5-1.0'			
Semivolatiles - BNA (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,2,4,5-Tetrachlorobenzene	NS	NS	ND		0.2	0.021	ND		0.2	0.021	ND		0.19	0.019	ND		0.19	0.02	ND		0.21	0.022	ND		0.19	0.019	ND		0.19	0.02	ND		0.17	0.018
1,2,4-Trichlorobenzene	NS	NS	ND		0.2	0.023	ND		0.2	0.023	ND		0.19	0.021	ND		0.19	0.022	ND		0.21	0.024	ND		0.19	0.021	ND		0.19	0.021	ND		0.17	0.02
1,2-Dichlorobenzene	1.1	100	ND		0.2	0.037	ND		0.2	0.036	ND		0.19	0.033	ND		0.19	0.034	ND		0.21	0.038	ND		0.19	0.033	ND		0.19	0.034	ND		0.17	0.031
1,3-Dichlorobenzene	2.4	49	ND		0.2	0.035	ND		0.2	0.034	ND		0.19	0.032	ND		0.19	0.033	ND		0.21	0.036	ND		0.19	0.032	ND		0.19	0.032	ND		0.17	0.03
1,4-Dichlorobenzene	1.8	13	ND		0.2	0.036	ND		0.2	0.035	ND		0.19	0.032	ND		0.19	0.034	ND		0.21	0.037	ND		0.19	0.032	ND		0.19	0.033	ND		0.17	0.03
1,4-Dioxane	0.1	13	ND		0.031	0.0094	ND		0.03	0.0091	ND		0.028	0.0086	ND		0.029	0.0088	ND		0.032	0.0097	ND		0.028	0.0086	ND		0.028	0.0086	ND		0.026	0.008
2,4,5-Trichlorophenol	NS	NS	ND		0.2	0.039	ND		0.2	0.038	ND		0.19	0.036	ND		0.19	0.037	ND		0.21	0.04	ND		0.19	0.036	ND		0.19	0.036	ND		0.17	0.033
2,4,6-Trichlorophenol	NS	NS	ND		0.12	0.039	ND		0.12	0.038	ND		0.11	0.035	ND		0.12	0.036	ND		0.13	0.04	ND		0.11	0.035	ND		0.11	0.036	ND		0.1	0.033
2,4-Dichlorophenol	NS	NS	ND		0.18	0.033	ND		0.18	0.032	ND		0.17	0.03	ND		0.17	0.031	ND		0.19	0.034	ND		0.17	0.03	ND		0.17	0.03	ND		0.16	0.028
2,4-Dimethylphenol	NS	NS	ND		0.2	0.067	ND		0.2	0.066	ND		0.19	0.062	ND		0.19	0.063	ND		0.21	0.07	ND		0.19	0.061	ND		0.19	0.062	ND		0.17	0.058
2,4-Dinitrophenol	NS	NS	ND		0.98	0.095	ND		0.95	0.092	ND		0.89	0.087	ND		0.92	0.089	ND		1	0.098	ND		0.89	0.087	ND		0.9	0.087	ND		0.84	0.081
2,4-Dinitrotoluene	NS	NS	ND		0.2	0.041	ND		0.2	0.04	ND		0.19	0.037	ND		0.19	0.038	ND		0.21	0.042	ND		0.19	0.037	ND		0.19	0.037	ND		0.17	0.035
2,6-Dinitrotoluene	NS	NS	ND		0.2	0.035	ND		0.2	0.034	ND		0.19	0.032	ND		0.19	0.033	ND		0.21	0.036	ND		0.19	0.032	ND		0.19	0.032	ND		0.17	0.03
2-Chloronaphthalene	NS	NS	ND		0.2	0.02	ND		0.2	0.02	ND		0.19	0.018	ND		0.19	0.019	ND		0.21	0.021	ND		0.19	0.018	ND		0.19	0.018	ND		0.17	0.017
2-Chlorophenol	NS	NS	ND		0.2	0.024	ND		0.2	0.023	ND		0.19	0.022	ND		0.19	0.023	ND		0.21	0.025	ND		0.19	0.022	ND		0.19	0.022	ND		0.17	0.021
2-Methylnaphthalene	NS	NS	ND		0.24	0.025	ND		0.24	0.024	ND		0.22	0.022	0.051	J	0.23	0.023	ND		0.25	0.025	ND		0.22	0.022	ND		0.22	0.023	ND		0.21	0.021
2-Methylphenol	0.33	100	ND		0.2	0.032	ND		0.2	0.031	ND		0.19	0.029	ND		0.19	0.03	ND		0.21	0.033	ND		0.19	0.029	ND		0.19	0.029	ND		0.17	0.027
2-Nitroaniline	NS	NS	ND		0.2	0.039	ND		0.2	0.038	ND		0.19	0.036	ND		0.19	0.037	ND		0.21	0.041	ND		0.19	0.036	ND		0.19	0.036	ND		0.17	0.034
2-Nitrophenol	NS	NS	ND		0.44	0.077	ND		0.43	0.075	ND		0.4	0.07	ND		0.41	0.072	ND		0.46	0.079	ND		0.4	0.07	ND		0.4	0.07	ND		0.38	0.066
3,3'-Dichlorobenzidine	NS	NS	ND		0.2	0.054	ND		0.2	0.053	ND		0.19	0.05	ND		0.19	0.051	ND		0.21	0.056	ND		0.19	0.05	ND		0.19	0.05	ND		0.17	0.046
3-Methylphenol/4-Methylphenol	0.33	100	ND		0.29	0.032	ND		0.29	0.031	ND		0.27	0.029	ND		0.28	0.03	ND		0.3	0.033	ND		0.27	0.029	ND		0.27	0.029	ND		0.25	0.027
3-Nitroaniline	NS	NS	ND		0.2	0.038	ND		0.2	0.037	ND		0.19	0.035	ND		0.19	0.036	ND		0.21	0.04	ND		0.19	0.035	ND		0.19	0.035	ND		0.17	0.033
4,6-Dinitro-o-cresol	NS	NS	ND		0.53	0.098	ND		0.52	0.095	ND		0.48	0.089	ND		0.5	0.092	ND		0.55	0.1	ND		0.48	0.089	ND		0.49	0.09	ND		0.45	0.084
4-Bromophenyl phenyl ether	NS	NS	ND		0.2	0.031	ND		0.2	0.03	ND		0.19	0.028	ND		0.19	0.029	ND		0.21	0.032	ND		0.19	0.028	ND		0.19	0.028	ND		0.17	0.027
4-Chloroaniline	NS	NS	ND		0.2	0.037	ND		0.2	0.036	ND		0.19	0.034	ND		0.19	0.035	ND		0.21	0.038	ND		0.19	0.034	ND		0.19	0.034	ND		0.17	0.032
4-Chlorophenyl phenyl ether	NS	NS	ND		0.2	0.022	ND		0.2	0.021	ND		0.19	0.02	ND		0.19	0.02	ND		0.21	0.022	ND		0.19	0.02	ND		0.19	0.02	ND		0.17	0.019
4-Nitroaniline	NS	NS	ND		0.2	0.084	ND		0.2	0.082	ND		0.19	0.077	ND		0.19	0.079	ND		0.21	0.087	ND		0.19	0.077	ND		0.19	0.078	ND		0.17	0.072
4-Nitrophenol	NS	NS	ND		0.28	0.083	ND		0.28	0.081	ND		0.26	0.076	ND		0.27	0.078	ND		0.3	0.086	ND		0.26	0.076	ND		0.26	0.076	ND		0.24	0.071
Acenaphthene	20	100	ND		0.16	0.021	ND		0.16	0.02	ND		0.15	0.019	0.036	J	0.15	0.02	ND		0.17	0.022	ND		0.15	0.019	ND		0.15	0.019	0.024	J	0.14	0.018
Acenaphthylene	100	100	ND		0.16	0.032	ND		0.16	0.031	ND		0.15	0.029	ND		0.15	0.03	ND		0.17	0.032	ND		0.15	0.029	0.095	J	0.15	0.029	0.029	J	0.14	0.027
Acetophenone	NS	NS	ND		0.2	0.025	ND		0.2	0.024	ND		0.19	0.023	ND		0.19	0.024	ND		0.21	0.026	ND		0.19	0.023	0.1	J	0.19	0.023	0.036	J	0.17	0.022
Anthracene	100	100	ND		0.12	0.04	ND		0.12	0.039	ND		0.11	0.036	0.12		0.12	0.037	ND		0.13	0.041	ND		0.11	0.036	0.078	J	0.11	0.036	0.08	J	0.1	0.034
Benzo(a)anthracene	1	1	ND		0.12	0.023	ND		0.12	0.022	ND		0.11	0.021	0.35		0.12	0.022	ND		0.13	0.024	ND		0.11	0.021	0.38		0.11	0.021	0.28		0.1	0.02
Benzo(a)pyrene	1	1	ND		0.16	0.05	ND		0.16	0.048	ND		0.15	0.045	0.34		0.15	0.047	ND		0.17	0.051	ND		0.15	0.045	0.36		0.15	0.046	0.26		0.14	0.042
Benzo(b)fluoranthene	1	1	ND		0.12	0.034	ND		0.12	0.033	ND		0.11	0.031	0.39		0.12	0.032	ND		0.13	0.036	ND		0.11	0.031	0.58		0.11	0.032	0.38		0.1	0.029
Benzo(ghi)perylene	100	100	ND		0.16	0.024	ND		0.16	0.023	ND		0.15	0.022	0.28		0.15	0.022	ND		0.17	0.025	ND		0.15	0.022	0.33		0.15	0.022	0.2		0.14	0.02
Benzo(k)fluoranthene	0.8	3.9	ND		0.12	0.033	ND		0.12	0.032	ND		0.11	0.03	0.14		0.12	0.031	ND		0.13	0.034	ND		0.11	0.03	0.17		0.11	0.03	0.087	J	0.1	0.028
Benzoic Acid	NS	NS	ND		0.66	0.21	ND		0.64	0.2	ND		0.6	0.19	ND		0.62	0.19	ND		0.68	0.21	ND		0.6	0.19	0.28	J	0.61	0.19	ND		0.56	0.18
Benzyl Alcohol	NS	NS	ND		0.2	0.062	ND		0.2	0.061	ND		0.19	0.057	ND		0.19	0.059	ND		0.21	0.064	ND		0.19	0.057	ND		0.19	0.057	ND		0.17	0.053
Biphenyl	NS	NS	ND		0.46	0.047	ND		0.45	0.046	ND		0.42	0.043	ND		0.44	0.044	ND		0.48	0.049	ND		0.42	0.043	ND		0.43	0.043	ND		0.4	0.04
Bis(2-chloroethoxy)methane	NS	NS	ND		0.22	0.02	ND		0.21	0.02	ND		0.2	0.019	ND		0.21	0.019	ND		0.23	0.021	ND		0.2	0.019	ND		0.2	0.019	ND		0.19	0.017
Bis(2-chloroethyl)ether	NS	NS	ND		0.18	0.028	ND		0.18	0.027	ND		0.17	0.025	ND		0.17	0.026	ND		0.19	0.029	ND		0.17	0.025	ND		0.17	0.025	ND		0.16	0.024
Bis(2-chloroisopropyl)ether	NS	NS	ND		0.24	0.035	ND		0.24	0.034	ND		0.22	0.032	ND		0.23	0.033	ND		0.25	0.036	ND		0.22	0.032	ND		0.22	0.032	ND		0.21	0.03
Bis(2-ethylhexyl)phthalate	NS	NS	ND		0.2	0.07	ND		0.2	0.069	ND		0.19	0.064	ND		0.19	0.066	ND		0.21	0.073	ND		0.19	0.064	0.48		0.19	0.065	0.18		0.17	0.06
Butyl benzyl phthalate	NS	NS	ND		0.2	0.051	ND		0.2	0.05	ND		0.19	0.047	ND		0.19	0.048	ND		0.21	0.053	ND		0.19	0.047	ND		0.19	0.047	ND		0.17	0.044
Carbazole	NS	NS	ND		0.2	0.02	ND		0.2	0.019	ND		0.19	0.018	0.054	J	0.19	0.019	ND		0.21	0.02	ND		0.19	0.018	0.036	J	0.19	0.018	0.035	J	0.17	0.017
Chrysene	1	3.9	ND		0.12	0.021	ND		0.12	0.021	ND		0.11	0.019	0.3		0.12	0.02	ND		0.13	0.022	ND		0.11	0.019	0.36		0.11	0.019	0.26		0.1	0.018
Dibenzo(a,h)anthracene	0.33	0.33	ND		0.12	0.024	ND		0.12	0.023	ND		0.11	0.022	0.06	J	0.12	0.022	ND		0.13	0.024	ND		0.11	0.022	0.079	J	0.11	0.022	0.051	J	0.1	0.02
Dibenzofuran	7	59	ND		0.2	0.019	ND		0.2	0.019	ND		0.19	0.018	0.058	J	0.19	0.018	ND		0.21	0.02	ND		0.19	0.018	ND		0.19	0.018	0.016	J	0.17	0.016
Diethyl phthalate	NS	NS	ND		0.2	0.019	ND		0.2	0.018	ND		0.19	0.017	ND		0.19	0.018	ND		0.21	0.02	ND		0.19	0.017	ND		0.19	0.017	ND		0.17	0.016
Dimethyl phthalate	NS	NS	ND		0.2	0.043	ND		0.2	0.042	ND		0.19	0.039	ND		0.19	0.04	ND		0.21	0.044	ND		0.19	0.039	ND		0.19	0.039	ND		0.17	0.037
Di-n-butylphthalate	NS	NS	ND		0.2	0.039	ND		0.2	0.038	ND		0.19	0.035	ND		0.19	0.036	ND		0.21	0.04	ND		0.19	0.035	ND		0.19	0.036	ND		0.17	0.033
Di-n-octylphthalate	NS	NS	ND		0.2	0.069	ND		0.2	0.068	ND		0.19	0.063	ND		0.19	0.065	ND		0.21	0.072	ND		0.19	0.063	ND		0.19	0.064	ND		0.17	0.059
Fluoranthene	100	100	ND		0.12	0.023	ND		0.12	0.023	ND		0.11	0.021	0.56		0.12	0.022	ND		0.13	0.024	ND		0.11	0.021	0.57		0.11	0.021	0.52		0.1	0.02
Fluorene	30	100	ND		0.2	0.02	ND		0.2	0.019	ND		0.19	0.018	0.048	J	0.19	0.019	ND		0.21	0.02	ND		0.19	0.018	0.018	J	0.19	0.018	0.027	J	0.17	0.017
Hexachlorobenzene	0.33	1.2	ND		0.12	0.023	ND		0.12	0.022	ND		0.11	0.021	ND		0.12	0.022	ND		0.13	0.024	ND		0.11	0.021	ND		0.11	0.021	ND		0.1	0.02
Hexachlorobutadiene	NS	NS	ND		0.2	0.03	ND		0.2	0.029	ND		0.19	0.027	ND		0.19	0.028	ND		0.21	0.031	ND		0.19	0.027	ND		0.19	0.027	ND		0.17	0.026
Hexachlorocyclopentadiene	NS	NS	ND		0.58	0.18	ND		0.57	0.18	ND		0.53	0.17	ND		0.55	0.17	ND		0.6	0.19	ND		0.53	0.17	ND		0.54	0.17	ND		0.5	0.16
Hexachloroethane	NS	NS	ND		0.16	0.033	ND		0.16	0.032	ND		0.15	0.03	ND		0.15	0.031	ND		0.17	0.034	ND		0.15	0.03	ND		0.15	0.03	ND		0.14	0.028
Indeno(1,2,3-cd)pyrene	0.5	0.5	ND		0.16	0.028	ND		0.16	0.028	ND		0.15	0.026	0.28		0.15	0.027	ND		0.17	0.029	ND		0.15	0.026	0.35		0.15	0.026	0.21		0.14	0.024
Isophorone	NS	NS	ND		0.18	0.026	ND		0.18	0.026	ND		0.17	0.024	ND		0.17	0.025	ND		0.19	0.027	ND		0.17	0.024	ND		0.17	0.024	ND		0.16	0.023
Naphthalene	12	100	ND		0.2	0.025	ND		0.2	0.024	ND		0.19	0.023	0.13	J	0.19	0.023	ND		0.21	0.026	ND		0.19	0.023	ND		0.19	0.023	0.03	J	0.17	0.021
NDPA/DPA	NS	NS	ND		0.16	0.023	ND		0.16	0.023	ND		0.15	0.021	ND		0.15	0.022	ND		0.17	0.024	ND		0.15	0.021	ND		0.15	0.021	ND		0.14	0.02
Nitrobenzene	NS	NS	ND		0.18	0.03	ND		0.18	0.029	ND		0.17	0.028	ND		0.17	0.028	ND		0.19	0.031	ND		0.17	0.028	ND		0.17	0.028	ND		0.16	0.026
n-Nitrosodi-n-propylamine	NS	NS	ND		0.2	0.032	ND		0.2	0.031	ND		0.19	0.029	ND		0.19	0.03	ND		0.21	0.032	ND		0.19	0.029	ND		0.19	0.029	ND		0.17	0.027
p-Chloro-m-cresol	NS	NS	ND		0.2	0.03	ND		0.2	0.03	ND		0.19	0.028	ND		0.19	0.029	ND		0.21	0.031	ND		0.19	0.028	ND		0.19	0.028	ND		0.17	0.026
Pentachlorophenol	0.8	6.7	ND		0.16	0.045	ND		0.16	0.044	ND		0.15	0.041	ND		0.15	0.042	ND		0.17	0.046	ND		0.15	0.041	ND		0.15	0.041	ND		0.14	0.038
Phenanthrene	100	100	ND		0.12	0.025	ND		0.12	0.024	ND		0.11	0.023	0.39		0.12	0.023	ND		0.13	0.026	ND		0.11	0.023	0.19		0.11	0.023	0.3		0.1	0.021
Phenol	0.33	100	ND		0.2	0.031	ND		0.2	0.03	ND		0.19	0.028	ND		0.19	0.029	ND		0.21	0.032	ND		0.19	0.028	ND		0.19	0.028	ND		0.17	0.026
Pyrene	100	100	ND		0.12	0.02	ND		0.12	0.02	ND		0.11	0.018	0.54		0.12	0.019	ND		0.13	0.021	ND		0.11	0.018	0.52		0.11	0.019	0.46		0.1	0.017
Total SVOCs	NS	NS	-	-	-	-	-	-	-	-	-	-	-	-	4.127	-	-	-	-	-	-	-	-	-	-	-	4.976	-	-	-	3.465	-	-	-
Total TICs	NS	NS	ND		0	0	ND		0	0	ND		0	0	1.43	J	0	0	ND		0	0	ND		0	0	12.4	J	0	0	5.09	J	0	0

Results in Yellow Highlight displays exceedance above the NYSDEC Unrestricted Use Soil Cleanup Objective
Results in Green Highlight displays exceedance above both NYSDEC Unrestricted Use & Restricted Residential Soil Cleanup Objectives
J = Concentration detected at a value below the RL and above the MDL for target compounds

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 3 - Soil Results - SVOCs (continued)

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Target Compounds	NYSDEC Unrestricted Use SCO	NYSDEC Restricted Residential Use SCO	S9 Sample Depth: 0.5-1.0'				S10 Sample Depth: 0.5-1.0'				S11 Sample Depth: 0.5-1.0'				S12 Sample Depth: 0.5-1.0'				S13 Sample Depth: 0.5-1.0'				S14 Sample Depth: 0.5-1.0'				S15 Sample Depth: 0.5-1.0'				S16 Sample Depth: 0.5-1.0'			
Semivolatiles - BNA (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,2,4,5-Tetrachlorobenzene	NS	NS	ND		0.22	0.023	ND		0.18	0.019	ND		0.17	0.018	ND		0.17	0.018	ND		0.18	0.019	ND		0.2	0.02	ND		0.21	0.022	ND		0.2	0.02
1,2,4-Trichlorobenzene	NS	NS	ND		0.22	0.025	ND		0.18	0.02	ND		0.17	0.02	ND		0.17	0.02	ND		0.18	0.02	ND		0.2	0.022	ND		0.21	0.024	ND		0.2	0.022
1,2-Dichlorobenzene	1.1	100	ND		0.22	0.039	ND		0.18	0.032	ND		0.17	0.031	ND		0.17	0.031	ND		0.18	0.032	ND		0.2	0.035	ND		0.21	0.037	ND		0.2	0.035
1,3-Dichlorobenzene	2.4	49	ND		0.22	0.038	ND		0.18	0.031	ND		0.17	0.03	ND		0.17	0.03	ND		0.18	0.031	ND		0.2	0.034	ND		0.21	0.035	ND		0.2	0.034
1,4-Dichlorobenzene	1.8	13	ND		0.22	0.038	ND		0.18	0.031	ND		0.17	0.03	ND		0.17	0.03	ND		0.18	0.031	ND		0.2	0.034	ND		0.21	0.036	ND		0.2	0.034
1,4-Dioxane	0.1	13	ND		0.033	0.01	ND		0.027	0.0082	ND		0.026	0.008	ND		0.026	0.0079	ND		0.027	0.0083	ND		0.03	0.0091	ND		0.031	0.0095	ND		0.03	0.0091
2,4,5-Trichlorophenol	NS	NS	ND		0.22	0.042	ND		0.18	0.034	ND		0.17	0.033	ND		0.17	0.033	ND		0.18	0.034	ND		0.2	0.038	ND		0.21	0.039	ND		0.2	0.038
2,4,6-Trichlorophenol	NS	NS	ND		0.13	0.041	ND		0.11	0.034	ND		0.1	0.033	ND		0.1	0.033	ND		0.11	0.034	ND		0.12	0.037	ND		0.12	0.039	ND		0.12	0.037
2,4-Dichlorophenol	NS	NS	ND		0.2	0.035	ND		0.16	0.029	ND		0.16	0.028	ND		0.16	0.028	ND		0.16	0.029	ND		0.18	0.032	ND		0.18	0.033	ND		0.18	0.032
2,4-Dimethylphenol	NS	NS	ND		0.22	0.072	ND		0.18	0.059	ND		0.17	0.057	ND		0.17	0.057	ND		0.18	0.059	ND		0.2	0.065	ND		0.21	0.068	ND		0.2	0.065
2,4-Dinitrophenol	NS	NS	ND		1	0.1	ND		0.86	0.083	ND		0.84	0.081	ND		0.83	0.08	ND		0.86	0.084	ND		0.95	0.092	ND		0.99	0.096	ND		0.95	0.092
2,4-Dinitrotoluene	NS	NS	ND		0.22	0.044	ND		0.18	0.036	ND		0.17	0.035	ND		0.17	0.034	ND		0.18	0.036	ND		0.2	0.039	ND		0.21	0.041	ND		0.2	0.039
2,6-Dinitrotoluene	NS	NS	ND		0.22	0.037	ND		0.18	0.031	ND		0.17	0.03	ND		0.17	0.03	ND		0.18	0.031	ND		0.2	0.034	ND		0.21	0.035	ND		0.2	0.034
2-Chloronaphthalene	NS	NS	ND		0.22	0.022	ND		0.18	0.018	ND		0.17	0.017	ND		0.17	0.017	ND		0.18	0.018	ND		0.2	0.02	ND		0.21	0.02	ND		0.2	0.02
2-Chlorophenol	NS	NS	ND		0.22	0.026	ND		0.18	0.021	ND		0.17	0.02	ND		0.17	0.02	ND		0.18	0.021	ND		0.2	0.023	ND		0.21	0.024	ND		0.2	0.023
2-Methylnaphthalene	NS	NS	ND		0.26	0.026	ND		0.21	0.022	ND		0.21	0.021	ND		0.21	0.021	ND		0.22	0.022	ND		0.24	0.024	ND		0.25	0.025	ND		0.24	0.024
2-Methylphenol	0.33	100	ND		0.22	0.034	ND		0.18	0.028	ND		0.17	0.027	ND		0.17	0.027	ND		0.18	0.028	ND		0.2	0.03	ND		0.21	0.032	ND		0.2	0.03
2-Nitroaniline	NS	NS	ND		0.22	0.042	ND		0.18	0.034	ND		0.17	0.034	ND		0.17	0.033	ND		0.18	0.035	ND		0.2	0.038	ND		0.21	0.04	ND		0.2	0.038
2-Nitrophenol	NS	NS	ND		0.47	0.082	ND		0.38	0.067	ND		0.38	0.065	ND		0.37	0.065	ND		0.39	0.068	ND		0.43	0.074	ND		0.44	0.078	ND		0.43	0.074
3,3'-Dichlorobenzidine	NS	NS	ND		0.22	0.058	ND		0.18	0.048	ND		0.17	0.046	ND		0.17	0.046	ND		0.18	0.048	ND		0.2	0.052	ND		0.21	0.055	ND		0.2	0.052
3-Methylphenol/4-Methylphenol	0.33	100	ND		0.31	0.034	ND		0.26	0.028	ND		0.25	0.027	ND		0.25	0.027	ND		0.26	0.028	ND		0.28	0.031	ND		0.3	0.032	ND		0.28	0.031
3-Nitroaniline	NS	NS	ND		0.22	0.041	ND		0.18	0.034	ND		0.17	0.033	ND		0.17	0.032	ND		0.18	0.034	ND		0.2	0.037	ND		0.21	0.039	ND		0.2	0.037
4,6-Dinitro-o-cresol	NS	NS	ND		0.57	0.1	ND		0.46	0.086	ND		0.45	0.084	ND		0.45	0.083	ND		0.47	0.086	ND		0.51	0.095	ND		0.54	0.099	ND		0.51	0.095
4-Bromophenyl phenyl ether	NS	NS	ND		0.22	0.033	ND		0.18	0.027	ND		0.17	0.026	ND		0.17	0.026	ND		0.18	0.027	ND		0.2	0.03	ND		0.21	0.031	ND		0.2	0.03
4-Chloroaniline	NS	NS	ND		0.22	0.04	ND		0.18	0.032	ND		0.17	0.032	ND		0.17	0.031	ND		0.18	0.033	ND		0.2	0.036	ND		0.21	0.038	ND		0.2	0.036
4-Chlorophenyl phenyl ether	NS	NS	ND		0.22	0.023	ND		0.18	0.019	ND		0.17	0.019	ND		0.17	0.018	ND		0.18	0.019	ND		0.2	0.021	ND		0.21	0.022	ND		0.2	0.021
4-Nitroaniline	NS	NS	ND		0.22	0.09	ND		0.18	0.074	ND		0.17	0.072	ND		0.17	0.071	ND		0.18	0.074	ND		0.2	0.082	ND		0.21	0.085	ND		0.2	0.082
4-Nitrophenol	NS	NS	ND		0.3	0.089	ND		0.25	0.073	ND		0.24	0.071	ND		0.24	0.07	ND		0.25	0.073	ND		0.28	0.08	ND		0.29	0.084	ND		0.28	0.08
Acenaphthene	20	100	0.067	J	0.17	0.023	0.023	J	0.14	0.018	0.026	J	0.14	0.018	ND		0.14	0.018	0.041	J	0.14	0.019	0.022	J	0.16	0.02	ND		0.16	0.021	0.18		0.16	0.02
Acenaphthylene	100	100	0.04	J	0.17	0.034	0.035	J	0.14	0.028	0.043	J	0.14	0.027	0.047	J	0.14	0.027	0.04	J	0.14	0.028	ND		0.16	0.03	ND		0.16	0.032	0.057	J	0.16	0.03
Acetophenone	NS	NS	0.072	J	0.22	0.027	ND		0.18	0.022	0.036	J	0.17	0.022	0.027	J	0.17	0.021	0.025	J	0.18	0.022	0.027	J	0.2	0.024	0.09	J	0.21	0.026	0.24		0.2	0.024
Anthracene	100	100	0.18		0.13	0.042	0.09	J	0.11	0.035	0.11		0.1	0.034	0.073	J	0.1	0.034	0.12		0.11	0.035	0.065	J	0.12	0.038	0.04	J	0.12	0.04	0.49		0.12	0.038
Benzo(a)anthracene	1	1	1.2		0.13	0.024	0.59		0.11	0.02	0.61		0.1	0.02	0.42		0.1	0.019	0.46		0.11	0.02	0.26		0.12	0.022	0.26		0.12	0.023	2.6		0.12	0.022
Benzo(a)pyrene	1	1	1.1		0.17	0.053	0.59		0.14	0.044	0.59		0.14	0.042	0.39		0.14	0.042	0.38		0.14	0.044	0.23		0.16	0.048	0.23		0.16	0.05	2.3		0.16	0.048
Benzo(b)fluoranthene	1	1	1.6		0.13	0.037	0.84		0.11	0.03	0.9		0.1	0.029	0.54		0.1	0.029	0.58		0.11	0.03	0.32		0.12	0.033	0.32		0.12	0.035	3.5		0.12	0.033
Benzo(ghi)perylene	100	100	0.86		0.17	0.026	0.47		0.14	0.021	0.5		0.14	0.02	0.3		0.14	0.02	0.29		0.14	0.021	0.17		0.16	0.023	0.17		0.16	0.024	1.8		0.16	0.023
Benzo(k)fluoranthene	0.8	3.9	0.48		0.13	0.035	0.25		0.11	0.028	0.21		0.1	0.028	0.16		0.1	0.028	0.13		0.11	0.029	0.12		0.12	0.032	0.12		0.12	0.033	0.76		0.12	0.032
Benzoic Acid	NS	NS	ND		0.71	0.22	ND		0.58	0.18	ND		0.56	0.18	ND		0.56	0.17	ND		0.58	0.18	ND		0.64	0.2	ND		0.67	0.21	0.23	J	0.64	0.2
Benzyl Alcohol	NS	NS	ND		0.22	0.067	ND		0.18	0.055	ND		0.17	0.053	ND		0.17	0.053	ND		0.18	0.055	ND		0.2	0.06	ND		0.21	0.063	ND		0.2	0.06
Biphenyl	NS	NS	ND		0.5	0.051	ND		0.41	0.041	ND		0.4	0.04	ND		0.39	0.04	ND		0.41	0.042	ND		0.45	0.046	ND		0.47	0.048	ND		0.45	0.046
Bis(2-chloroethoxy)methane	NS	NS	ND		0.24	0.022	ND		0.19	0.018	ND		0.19	0.017	ND		0.19	0.017	ND		0.19	0.018	ND		0.21	0.02	ND		0.22	0.021	ND		0.21	0.02
Bis(2-chloroethyl)ether	NS	NS	ND		0.2	0.03	ND		0.16	0.024	ND		0.16	0.024	ND		0.16	0.023	ND		0.16	0.024	ND		0.18	0.027	ND		0.18	0.028	ND		0.18	0.027
Bis(2-chloroisopropyl)ether	NS	NS	ND		0.26	0.037	ND		0.21	0.03	ND		0.21	0.03	ND		0.21	0.029	ND		0.22	0.031	ND		0.24	0.034	ND		0.25	0.035	ND		0.24	0.034
Bis(2-ethylhexyl)phthalate	NS	NS	0.99		0.22	0.076	0.32		0.18	0.062	0.43		0.17	0.06	0.16	J	0.17	0.06	0.41		0.18	0.062	0.3		0.2	0.068	0.26		0.21	0.071	0.98		0.2	0.068
Butyl benzyl phthalate	NS	NS	0.07	J	0.22	0.055	ND		0.18	0.045	ND		0.17	0.044	0.075	J	0.17	0.044	0.11	J	0.18	0.045	ND		0.2	0.05	ND		0.21	0.052	ND		0.2	0.05
Carbazole	NS	NS	0.11	J	0.22	0.021	0.056	J	0.18	0.017	0.059	J	0.17	0.017	0.034	J	0.17	0.017	0.059	J	0.18	0.017	0.028	J	0.2	0.019	0.027	J	0.21	0.02	0.24		0.2	0.019
Chrysene	1	3.9	1.1		0.13	0.023	0.58		0.11	0.018	0.54		0.1	0.018	0.38		0.1	0.018	0.42		0.11	0.019	0.24		0.12	0.02	0.25		0.12	0.021	2.3		0.12	0.02
Dibenzo(a,h)anthracene	0.33	0.33	0.2		0.13	0.025	0.1	J	0.11	0.021	0.11		0.1	0.02	0.082	J	0.1	0.02	0.076	J	0.11	0.021	0.042	J	0.12	0.023	0.044	J	0.12	0.024	0.4		0.12	0.023
Dibenzofuran	7	59	0.035	J	0.22	0.021	ND		0.18	0.017	0.017	J	0.17	0.016	ND		0.17	0.016	0.025	J	0.18	0.017	ND		0.2	0.019	ND		0.21	0.019	0.1	J	0.2	0.019
Diethyl phthalate	NS	NS	ND		0.22	0.02	ND		0.18	0.016	ND		0.17	0.016	ND		0.17	0.016	ND		0.18	0.017	ND		0.2	0.018	ND		0.21	0.019	ND		0.2	0.018
Dimethyl phthalate	NS	NS	ND		0.22	0.046	ND		0.18	0.038	ND		0.17	0.036	ND		0.17	0.036	ND		0.18	0.038	ND		0.2	0.041	ND		0.21	0.043	ND		0.2	0.041
Di-n-butylphthalate	NS	NS	ND		0.22	0.041	ND		0.18	0.034	ND		0.17	0.033	ND		0.17	0.033	0.19		0.18	0.034	ND		0.2	0.037	ND		0.21	0.039	0.13	J	0.2	0.037
Di-n-octylphthalate	NS	NS	ND		0.22	0.074	ND		0.18	0.061	ND		0.17	0.059	ND		0.17	0.059	ND		0.18	0.061	ND		0.2	0.067	ND		0.21	0.07	ND		0.2	0.067
Fluoranthene	100	100	2.4		0.13	0.025	1.1		0.11	0.02	1.1		0.1	0.02	0.62		0.1	0.02	0.77		0.11	0.021	0.47		0.12	0.023	0.48		0.12	0.024	4.6		0.12	0.023
Fluorene	30	100	0.057	J	0.22	0.021	0.023	J	0.18	0.017	0.032	J	0.17	0.017	0.017	J	0.17	0.017	0.04	J	0.18	0.017	0.021	J	0.2	0.019	ND		0.21	0.02	0.16	J	0.2	0.019
Hexachlorobenzene	0.33	1.2	ND		0.13	0.024	ND		0.11	0.02	ND		0.1	0.019	ND		0.1	0.019	ND		0.11	0.02	ND		0.12	0.022	ND		0.12	0.023	ND		0.12	0.022
Hexachlorobutadiene	NS	NS	ND		0.22	0.032	ND		0.18	0.026	ND		0.17	0.025	ND		0.17	0.025	ND		0.18	0.026	ND		0.2	0.029	ND		0.21	0.03	ND		0.2	0.029
Hexachlorocyclopentadiene	NS	NS	ND		0.62	0.2	ND		0.51	0.16	ND		0.5	0.16	ND		0.49	0.16	ND		0.51	0.16	ND		0.56	0.18	ND		0.59	0.19	ND		0.56	0.18
Hexachloroethane	NS	NS	ND		0.17	0.035	ND		0.14	0.029	ND		0.14	0.028	ND		0.14	0.028	ND		0.14	0.029	ND		0.16	0.032	ND		0.16	0.033	ND		0.16	0.032
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.98		0.17	0.03	0.52		0.14	0.025	0.54		0.14	0.024	0.32		0.14	0.024	0.32		0.14	0.025	0.19		0.16	0.027	0.19		0.16	0.029	2		0.16	0.028
Isophorone	NS	NS	ND		0.2	0.028	ND		0.16	0.023	ND		0.16	0.022	ND		0.16	0.022	ND		0.16	0.023	ND		0.18	0.026	ND		0.18	0.027	ND		0.18	0.026
Naphthalene	12	100	ND		0.22	0.026	ND		0.18	0.022	ND		0.17	0.021	0.022	J	0.17	0.021	0.028	J	0.18	0.022	ND		0.2	0.024	ND		0.21	0.025	ND		0.2	0.024
NDPA/DPA	NS	NS	ND		0.17	0.025	ND		0.14	0.02	ND		0.14	0.02	ND		0.14	0.02	ND		0.14	0.02	ND		0.16	0.022	ND		0.16	0.023	ND		0.16	0.022
Nitrobenzene	NS	NS	ND		0.2	0.032	ND		0.16	0.026	ND		0.16	0.026	ND		0.16	0.026	ND		0.16	0.026	ND		0.18	0.029	ND		0.18	0.03	ND		0.18	0.029
n-Nitrosodi-n-propylamine	NS	NS	ND		0.22	0.034	ND		0.18	0.028	ND		0.17	0.027	ND		0.17	0.027	ND		0.18	0.028	ND		0.2	0.03	ND		0.21	0.032	ND		0.2	0.03
p-Chloro-m-cresol	NS	NS	ND		0.22	0.032	ND		0.18	0.027	ND		0.17	0.026	ND		0.17	0.026	ND		0.18	0.027	ND		0.2	0.029	ND		0.21	0.031	ND		0.2	0.029
Pentachlorophenol	0.8	6.7	ND		0.17	0.048	ND		0.14	0.039	ND		0.14	0.038	ND		0.14	0.038	ND		0.14	0.04	ND		0.16	0.043	ND		0.16	0.045	ND		0.16	0.043
Phenanthrene	100	100	0.84		0.13	0.026	0.37		0.11	0.022	0.39		0.1	0.021	0.26		0.1	0.021	0.44		0.11	0.022	0.22		0.12	0.024	0.2		0.12	0.025	2.1		0.12	0.024
Phenol	0.33	100	ND		0.22	0.033	ND		0.18	0.027	ND		0.17	0.026	ND		0.17	0.026	ND		0.18	0.027	ND		0.2	0.03	ND		0.21	0.031	0.03	J	0.2	0.03
Pyrene	100	100	1.9		0.13	0.022	0.91		0.11	0.018	0.9		0.1	0.017	0.56		0.1	0.017	0.68		0.11	0.018	0.4		0.12	0.02	0.41		0.12	0.02	3.7		0.12	0.02
Total SVOCs	NS	NS	14.281	-	-	-	6.867	-	-	-	7.143	-	-	-	4.487	-	-	-	5.634	-	-	-	3.125	-	-	-	3.091	-	-	-	28.897	-	-	-
Total TICs	NS	NS	2.59	J	0	0	1.02	J	0	0	1.81	J	0	0	6.34	J	0	0	7.63	J	0	0	6.06	J	0	0	1.84	J	0	0	9.09	J	0	0

Results in Yellow Highlight displays exceedance above the NYSDEC Unrestricted Use Soil Cleanup Objective
Results in Green Highlight displays exceedance above both NYSDEC Unrestricted Use & Restricted Residential Soil Cleanup Objectives
J = Concentration detected at a value below the RL and above the MDL for target compounds

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 4 - Soil Results - PCBs, Pesticides, Metals and PFAS

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Target Compounds	NYSDEC Unrestricted Use SCO	NYSDEC Restricted Residential Use SCO	S1 Sample Depth: 15.0-16.0'				S2 Sample Depth: 14.0-15.0'				S3 Sample Depth: 9.0-10.0'				S4 Sample Depth: 9.0-10.0'				S5 Sample Depth: 13.0-14.0'				S6 Sample Depth: 14.0-15.0'				S7 Sample Depth: 0.5-1.0'				S8 Sample Depth: 0.5-1.0'			
PCB's (mg/Kg)			Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
Aroclor 1016	**0.1**	**1**	ND		0.0409	0.00363	ND		0.0401	0.00356	ND		0.0358	0.00318	ND		0.0375	0.00333	ND		0.0423	0.00375	ND		0.0362	0.00321	ND		0.0374	0.00332	ND		0.0345	0.00306
Aroclor 1221	**0.1**	**1**	ND		0.0409	0.0041	ND		0.0401	0.00402	ND		0.0358	0.00358	ND		0.0375	0.00376	ND		0.0423	0.00424	ND		0.0362	0.00362	ND		0.0374	0.00374	ND		0.0345	0.00345
Aroclor 1232	**0.1**	**1**	ND		0.0409	0.00867	ND		0.0401	0.0085	ND		0.0358	0.00758	ND		0.0375	0.00795	ND		0.0423	0.00896	ND		0.0362	0.00767	ND		0.0374	0.00792	ND		0.0345	0.00731
Aroclor 1242	**0.1**	**1**	ND		0.0409	0.00552	ND		0.0401	0.0054	ND		0.0358	0.00482	ND		0.0375	0.00505	ND		0.0423	0.0057	ND		0.0362	0.00488	ND		0.0374	0.00504	ND		0.0345	0.00465
Aroclor 1248	**0.1**	**1**	ND		0.0409	0.00614	ND		0.0401	0.00602	ND		0.0358	0.00536	ND		0.0375	0.00562	ND		0.0423	0.00634	ND		0.0362	0.00543	ND		0.0374	0.00561	ND		0.0345	0.00517
Aroclor 1254	**0.1**	**1**	ND		0.0409	0.00448	ND		0.0401	0.00439	ND		0.0358	0.00391	ND		0.0375	0.0041	ND		0.0423	0.00462	ND		0.0362	0.00396	0.0344	J	0.0374	0.00409	ND		0.0345	0.00377
Aroclor 1260	**0.1**	**1**	ND		0.0409	0.00756	ND		0.0401	0.00741	ND		0.0358	0.00661	ND		0.0375	0.00693	ND		0.0423	0.00781	ND		0.0362	0.00668	0.0193	J	0.0374	0.00691	ND		0.0345	0.00637
Aroclor 1262	**0.1**	**1**	ND		0.0409	0.0052	ND		0.0401	0.00509	ND		0.0358	0.00454	ND		0.0375	0.00476	ND		0.0423	0.00537	ND		0.0362	0.00459	ND		0.0374	0.00475	ND		0.0345	0.00438
Aroclor 1268	**0.1**	**1**	ND		0.0409	0.00424	ND		0.0401	0.00415	ND		0.0358	0.0037	ND		0.0375	0.00388	ND		0.0423	0.00438	ND		0.0362	0.00375	ND		0.0374	0.00387	ND		0.0345	0.00357
PCBs, Total	**0.1**	**1**	ND		0.0409	0.00363	ND		0.0401	0.00356	ND		0.0358	0.00318	ND		0.0375	0.00333	ND		0.0423	0.00375	ND		0.0362	0.00321	0.0537	J	0.0374	0.00332	ND		0.0345	0.00306
Pesticides (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
4,4'-DDD	**0.0033**	**13**	ND		0.00187	0.000668	ND		0.00192	0.000686	ND		0.00171	0.000609	0.0014	J	0.00189	0.000673	ND		0.00202	0.000721	ND		0.00175	0.000625	ND		0.00176	0.000628	**0.005**	P	0.00167	0.000597
4,4'-DDE	**0.0033**	**8.9**	ND		0.00187	0.000433	ND		0.00192	0.000445	ND		0.00171	0.000395	0.00186	J	0.00189	0.000436	ND		0.00202	0.000467	ND		0.00175	0.000405	**0.0345**		0.00176	0.000407	**0.0229**		0.00167	0.000387
4,4'-DDT	**0.0033**	**7.9**	ND		0.00351	0.0015	ND		0.00361	0.00155	ND		0.0032	0.00137	**0.00809**		0.00354	0.00152	ND		0.00379	0.00162	ND		0.00328	0.00141	**0.0446**		0.0033	0.00142	**0.0414**		0.00314	0.00135
Aldrin	**0.005**	**0.097**	ND		0.00187	0.000659	ND		0.00192	0.000678	ND		0.00171	0.000601	ND		0.00189	0.000665	ND		0.00202	0.000712	ND		0.00175	0.000617	ND		0.00176	0.00062	ND		0.00167	0.00059
Alpha-BHC	**0.02**	**0.48**	ND		0.00078	0.000222	ND		0.000802	0.000228	ND		0.000711	0.000202	ND		0.000786	0.000223	ND		0.000842	0.000239	ND		0.00073	0.000207	ND		0.000734	0.000208	ND		0.000698	0.000198
Beta-BHC	**0.036**	**0.36**	ND		0.00187	0.00071	ND		0.00192	0.00073	ND		0.00171	0.000647	ND		0.00189	0.000716	ND		0.00202	0.000766	ND		0.00175	0.000664	ND		0.00176	0.000667	ND		0.00167	0.000635
Chlordane	**NS**	**NS**	ND		0.0152	0.0062	ND		0.0156	0.00638	ND		0.0139	0.00565	ND		0.0153	0.00625	ND		0.0164	0.00669	ND		0.0142	0.0058	ND		0.0143	0.00583	ND		0.0136	0.00555
cis-Chlordane	**0.094**	**4.2**	ND		0.00234	0.000652	ND		0.00241	0.00067	ND		0.00213	0.000594	0.00203	J	0.00236	0.000658	ND		0.00253	0.000704	ND		0.00219	0.00061	0.0175	IP	0.0022	0.000613	0.0021	IP	0.00209	0.000583
Delta-BHC	**0.04**	**100**	ND		0.00187	0.000367	ND		0.00192	0.000377	ND		0.00171	0.000334	ND		0.00189	0.00037	ND		0.00202	0.000396	ND		0.00175	0.000343	ND		0.00176	0.000345	ND		0.00167	0.000328
Dieldrin	**0.005**	**0.2**	ND		0.00117	0.000585	ND		0.0012	0.000602	ND		0.00107	0.000533	0.00093	J	0.00118	0.00059	ND		0.00126	0.000632	ND		0.0011	0.000548	0.00395		0.0011	0.00055	0.00229		0.00105	0.000523
Endosulfan I	**2.4**	**24**	ND		0.00187	0.000442	ND		0.00192	0.000455	ND		0.00171	0.000403	ND		0.00189	0.000446	ND		0.00202	0.000477	ND		0.00175	0.000414	ND		0.00176	0.000416	ND		0.00167	0.000396
Endosulfan II	**2.4**	**24**	ND		0.00187	0.000626	ND		0.00192	0.000643	ND		0.00171	0.00057	ND		0.00189	0.000631	ND		0.00202	0.000675	ND		0.00175	0.000586	ND		0.00176	0.000588	ND		0.00167	0.00056
Endosulfan sulfate	**2.4**	**24**	ND		0.00078	0.000371	ND		0.000802	0.000382	ND		0.000711	0.000338	ND		0.000786	0.000374	ND		0.000842	0.000401	ND		0.00073	0.000348	ND		0.000734	0.000349	ND		0.000698	0.000332
Endrin	**0.014**	**11**	ND		0.00078	0.00032	ND		0.000802	0.000329	ND		0.000711	0.000292	ND		0.000786	0.000322	ND		0.000842	0.000345	ND		0.00073	0.000299	ND		0.000734	0.000301	ND		0.000698	0.000286
Endrin aldehyde	**NS**	**NS**	ND		0.00234	0.000819	ND		0.00241	0.000842	ND		0.00213	0.000747	ND		0.00236	0.000826	ND		0.00253	0.000884	ND		0.00219	0.000766	ND		0.0022	0.00077	ND		0.00209	0.000733
Endrin ketone	**NS**	**NS**	ND		0.00187	0.000482	ND		0.00192	0.000496	ND		0.00171	0.000439	ND		0.00189	0.000486	ND		0.00202	0.00052	ND		0.00175	0.000451	ND		0.00176	0.000453	ND		0.00167	0.000431
Heptachlor	**0.042**	**2.1**	ND		0.000936	0.00042	ND		0.000962	0.000431	ND		0.000853	0.000382	ND		0.000944	0.000423	ND		0.00101	0.000453	ND		0.000876	0.000393	ND		0.00088	0.000395	ND		0.000837	0.000375
Heptachlor epoxide	**NS**	**NS**	ND		0.00351	0.00105	ND		0.00361	0.00108	ND		0.0032	0.00096	ND		0.00354	0.00106	ND		0.00379	0.00114	ND		0.00328	0.000986	0.00377		0.0033	0.00099	0.00149	JP	0.00314	0.000942
Lindane	**0.1**	**1.3**	ND		0.00078	0.000349	ND		0.000802	0.000358	ND		0.000711	0.000318	ND		0.000786	0.000352	ND		0.000842	0.000376	ND		0.00073	0.000326	ND		0.000734	0.000328	ND		0.000698	0.000312
Methoxychlor	**NS**	**NS**	ND		0.00351	0.00109	ND		0.00361	0.00112	ND		0.0032	0.000996	ND		0.00354	0.0011	ND		0.00379	0.00118	ND		0.00328	0.00102	ND		0.0033	0.00103	ND		0.00314	0.000977
Toxaphene	**NS**	**NS**	ND		0.0351	0.00983	ND		0.0361	0.0101	ND		0.032	0.00896	ND		0.0354	0.00991	ND		0.0379	0.0106	ND		0.0328	0.0092	ND		0.033	0.00924	ND		0.0314	0.00879
trans-Chlordane	**NS**	**NS**	ND		0.00234	0.000618	ND		0.00241	0.000635	ND		0.00213	0.000563	0.00149	JIP	0.00236	0.000623	ND		0.00253	0.000667	ND		0.00219	0.000578	0.0136		0.0022	0.000581	0.00158	JIP	0.00209	0.000553
Metals (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aluminum, Total	**NS**	**NS**	6810		9.35	2.52	10200		9.57	2.58	3810		8.85	2.39	3830		9.07	2.45	7850		9.85	2.66	5560		8.58	2.32	7200		9.02	2.44	7130		7.87	2.12
Antimony, Total	**NS**	**NS**	ND		4.68	0.355	ND		4.79	0.364	ND		4.42	0.336	ND		4.53	0.344	ND		4.92	0.374	ND		4.29	0.326	ND		4.51	0.343	ND		3.94	0.299
Arsenic, Total	**13**	**16**	0.496	J	0.935	0.194	1.79		0.957	0.199	0.336	J	0.885	0.184	0.363	J	0.907	0.188	2.69		0.985	0.205	1.07		0.858	0.178	10.6		0.902	0.188	8.05		0.787	0.164
Barium, Total	**350**	**400**	43.3		0.935	0.163	73		0.957	0.166	25.4		0.885	0.154	26.1		0.907	0.158	61		0.985	0.171	38.2		0.858	0.149	82.2		0.902	0.157	48.6		0.787	0.137
Beryllium, Total	**7.2**	**72**	0.084	J	0.468	0.031	0.22	J	0.479	0.032	0.115	J	0.442	0.029	0.118	J	0.453	0.03	0.236	J	0.492	0.033	0.137	J	0.429	0.028	0.207	J	0.451	0.03	0.212	J	0.394	0.026
Cadmium, Total	**2.5**	**4.3**	ND		0.935	0.092	ND		0.957	0.094	ND		0.885	0.087	ND		0.907	0.089	0.197	J	0.985	0.097	ND		0.858	0.084	0.307	J	0.902	0.088	0.165	J	0.787	0.077
Calcium, Total	**NS**	**NS**	3210		9.35	3.27	4730		9.57	3.35	1050		8.85	3.1	912		9.07	3.17	36800		9.85	3.45	1260		8.58	3	4750		9.02	3.16	2590		7.87	2.76
Chromium, Total	**NS**	**NS**	20.8		0.935	0.09	45.8		0.957	0.092	10.2		0.885	0.085	11		0.907	0.087	20.4		0.985	0.095	14.5		0.858	0.082	24.7		0.902	0.087	27.7		0.787	0.076
Cobalt, Total	**NS**	**NS**	8.29		1.87	0.155	9.18		1.91	0.159	1.97		1.77	0.147	2.64		1.81	0.15	4.88		1.97	0.164	3.38		1.72	0.142	5.07		1.8	0.15	5.1		1.57	0.131
Copper, Total	**50**	**270**	30.4		0.935	0.241	37.1		0.957	0.247	6.96		0.885	0.228	9.78		0.907	0.234	32.3		0.985	0.254	17		0.858	0.221	**51.2**		0.902	0.233	31.1		0.787	0.203
Iron, Total	**NS**	**NS**	11700		4.68	0.844	15100		4.79	0.864	4960		4.42	0.799	8330		4.53	0.819	20100		4.92	0.889	9830		4.29	0.774	13000		4.51	0.814	11700		3.94	0.711
Lead, Total	**63**	**400**	3.59	J	4.68	0.251	8.96		4.79	0.256	2.19	J	4.42	0.237	5.45		4.53	0.243	60.8		4.92	0.264	5.82		4.29	0.23	**110**		4.51	0.242	45.7		3.94	0.211
Magnesium, Total	**NS**	**NS**	4700		9.35	1.44	5170		9.57	1.47	1010		8.85	1.36	1040		9.07	1.4	3560		9.85	1.52	1940		8.58	1.32	2260		9.02	1.39	2650		7.87	1.21
Manganese, Total	**1600**	**2000**	813		0.935	0.149	420		0.957	0.152	77.2		0.885	0.141	52.8		0.907	0.144	255		0.985	0.157	73.1		0.858	0.136	254		0.902	0.143	247		0.787	0.125
Mercury, Total	**0.18**	**0.81**	0.054	J	0.082	0.053	**0.263**		0.097	0.063	ND		0.094	0.061	ND		0.078	0.051	**0.98**		0.102	0.067	ND		0.08	0.052	**0.678**		0.094	0.061	**0.774**		0.089	0.058
Nickel, Total	**30**	**310**	**34.4**		2.34	0.226	24.9		2.39	0.232	5.01		2.21	0.214	5.4		2.27	0.219	13.4		2.46	0.238	8.67		2.14	0.208	10.7		2.25	0.218	15		1.97	0.19
Potassium, Total	**NS**	**NS**	801		234	13.5	1260		239	13.8	391		221	12.7	516		227	13	682		246	14.2	673		214	12.4	966		225	13	649		197	11.3
Selenium, Total	**3.9**	**180**	0.402	J	1.87	0.241	ND		1.91	0.247	ND		1.77	0.228	ND		1.81	0.234	0.305	J	1.97	0.254	ND		1.72	0.221	0.352	J	1.8	0.233	ND		1.57	0.203
Silver, Total	**2**	**180**	ND		0.935	0.265	ND		0.957	0.271	ND		0.885	0.25	ND		0.907	0.256	ND		0.985	0.279	ND		0.858	0.243	ND		0.902	0.255	ND		0.787	0.223
Sodium, Total	**NS**	**NS**	512		187	2.94	318		191	3.02	48.1	J	177	2.79	158	J	181	2.86	552		197	3.1	100	J	172	2.7	108	J	180	2.84	92.4	J	157	2.48
Thallium, Total	**NS**	**NS**	ND		1.87	0.294	ND		1.91	0.302	ND		1.77	0.279	ND		1.81	0.286	ND		1.97	0.31	ND		1.72	0.27	ND		1.8	0.284	ND		1.57	0.248
Vanadium, Total	**NS**	**NS**	24.4		0.935	0.19	33		0.957	0.194	6.27		0.885	0.18	11.2		0.907	0.184	24.4		0.985	0.2	19.2		0.858	0.174	19.7		0.902	0.183	20.4		0.787	0.16
Zinc, Total	**109**	**10000**	21.3		4.68	0.274	34.8		4.79	0.28	11.7		4.42	0.259	14.1		4.53	0.266	54.3		4.92	0.289	25.7		4.29	0.251	**145**		4.51	0.264	59.2		3.94	0.231
General Analytical (mg/kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**4.73**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Cyanide, Total	**27**	**27**	ND		1.2	0.25	ND		1.2	0.25	ND		1	0.22	ND		1.1	0.24	ND		1.2	0.25	ND		1.1	0.23	ND		1.1	0.24	ND		1	0.22
PFAAS (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	**NS**	**NS**	ND		0.00113	0.000325	ND		0.00115	0.00033	ND		0.00112	0.00032	ND		0.00118	0.000337	ND		0.0011	0.000315	ND		0.00103	0.000295	ND		0.000982	0.000282	ND		0.000953	0.000274
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	**NS**	**NS**	ND		0.00113	0.000203	ND		0.00115	0.000207	ND		0.00112	0.0002	ND		0.00118	0.000211	ND		0.0011	0.000197	ND		0.00103	0.000185	ND		0.000982	0.000176	ND		0.000953	0.000171
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	**NS**	**NS**	ND		0.00113	0.000096	ND		0.00115	0.000097	ND		0.00112	0.000094	ND		0.00118	0.000099	ND		0.0011	0.000093	ND		0.00103	0.000087	ND		0.000982	0.000083	ND		0.000953	0.000081
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	**NS**	**NS**	ND		0.00113	0.000228	ND		0.00115	0.000232	ND		0.00112	0.000225	ND		0.00118	0.000237	ND		0.0011	0.000221	ND		0.00103	0.000207	ND		0.000982	0.000198	ND		0.000953	0.000192
Perfluorobutanesulfonic Acid (PFBS)	**NS**	**NS**	ND		0.00113	0.000044	ND		0.00115	0.000045	ND		0.00112	0.000044	ND		0.00118	0.000046	ND		0.0011	0.000043	ND		0.00103	0.00004	ND		0.000982	0.000038	ND		0.000953	0.000037
Perfluorobutanoic Acid (PFBA)	**NS**	**NS**	ND		0.00113	0.000026	ND		0.00115	0.000026	ND		0.00112	0.000025	ND		0.00118	0.000027	ND		0.0011	0.000025	ND		0.00103	0.000023	0.00011	J	0.000982	0.000022	0.000078	J	0.000953	0.000022
Perfluorodecanesulfonic Acid (PFDS)	**NS**	**NS**	ND		0.00113	0.000173	ND		0.00115	0.000176	ND		0.00112	0.000171	ND		0.00118	0.00018	ND		0.0011	0.000168	ND		0.00103	0.000157	0.000202	J	0.000982	0.00015	ND		0.000953	0.000146
Perfluorodecanoic Acid (PFDA)	**NS**	**NS**	ND		0.00113	0.000076	ND		0.00115	0.000077	ND		0.00112	0.000075	ND		0.00118	0.000079	ND		0.0011	0.000074	ND		0.00103	0.000069	0.000487	J	0.000982	0.000066	0.000336	J	0.000953	0.000064
Perfluorododecanoic Acid (PFDoA)	**NS**	**NS**	ND		0.00113	0.000079	ND		0.00115	0.000081	ND		0.00112	0.000078	ND		0.00118	0.000082	ND		0.0011	0.000077	ND		0.00103	0.000072	0.00035	J	0.000982	0.000069	0.00018	J	0.000953	0.000067
Perfluoroheptanesulfonic Acid (PFHpS)	**NS**	**NS**	ND		0.00113	0.000155	ND		0.00115	0.000157	ND		0.00112	0.000152	ND		0.00118	0.00016	ND		0.0011	0.00015	ND		0.00103	0.00014	ND		0.000982	0.000134	ND		0.000953	0.00013
Perfluoroheptanoic Acid (PFHpA)	**NS**	**NS**	ND		0.00113	0.000051	ND		0.00115	0.000052	ND		0.00112	0.00005	ND		0.00118	0.000053	ND		0.0011	0.00005	ND		0.00103	0.000046	0.000069	J	0.000982	0.000044	0.000046	J	0.000953	0.000043
Perfluorohexanesulfonic Acid (PFHxS)	**NS**	**NS**	ND		0.00113	0.000069	ND		0.00115	0.00007	ND		0.00112	0.000068	ND		0.00118	0.000071	ND		0.0011	0.000066	ND		0.00103	0.000062	ND		0.000982	0.000059	ND		0.000953	0.000058
Perfluorohexanoic Acid (PFHxA)	**NS**	**NS**	0.000061	J	0.00113	0.00006	0.000064	J	0.00115	0.00006	ND		0.00112	0.000059	0.000067	J	0.00118	0.000062	0.000079	J	0.0011	0.000058	0.000066	J	0.00103	0.000054	0.000112	J	0.000982	0.000052	0.000106	J	0.000953	0.00005
Perfluorononanoic Acid (PFNA)	**NS**	**NS**	ND		0.00113	0.000085	ND		0.00115	0.000086	ND		0.00112	0.000084	ND		0.00118	0.000088	ND		0.0011	0.000082	ND		0.00103	0.000077	0.000138	J	0.000982	0.000074	0.000117	J	0.000953	0.000072
Perfluorooctanesulfonamide (FOSA)	**NS**	**NS**	ND		0.00113	0.000111	ND		0.00115	0.000113	ND		0.00112	0.000109	ND		0.00118	0.000115	ND		0.0011	0.000108	ND		0.00103	0.000101	ND		0.000982	0.000096	ND		0.000953	0.000093
Perfluorooctanesulfonic Acid (PFOS)	**NS**	**NS**	ND		0.00113	0.000147	ND		0.00115	0.00015	ND		0.00112	0.000145	0.000323	J	0.00118	0.000153	0.00019	J	0.0011	0.000143	ND		0.00103	0.000134	0.00149		0.000982	0.000128	0.000763	J	0.000953	0.000124
Perfluorooctanoic Acid (PFOA)	**NS**	**NS**	ND		0.00113	0.000048	ND		0.00115	0.000048	ND		0.00112	0.000047	ND		0.00118	0.000049	0.000073	J	0.0011	0.000046	0.000094	J	0.00103	0.000043	0.000178	J	0.000982	0.000041	0.000183	J	0.000953	0.00004
Perfluoropentanoic Acid (PFPeA)	**NS**	**NS**	ND		0.00113	0.000052	ND		0.00115	0.000053	ND		0.00112	0.000051	ND		0.00118	0.000054	ND		0.0011	0.000051	ND		0.00103	0.000047	0.000127	J	0.000982	0.000045	0.0001	J	0.000953	0.000044
Perfluorotetradecanoic Acid (PFTA)	**NS**	**NS**	ND		0.00113	0.000061	ND		0.00115	0.000062	ND		0.00112	0.00006	ND		0.00118	0.000064	ND		0.0011	0.000059	ND		0.00103	0.000056	0.000176	J	0.000982	0.000053	0.000086	J	0.000953	0.000052
Perfluorotridecanoic Acid (PFTrDA)	**NS**	**NS**	ND		0.00113	0.000232	ND		0.00115	0.000235	ND		0.00112	0.000228	ND		0.00118	0.00024	ND		0.0011	0.000224	ND		0.00103	0.00021	0.000218	J	0.000982	0.000201	ND		0.000953	0.000195
Perfluoroundecanoic Acid (PFUnA)	**NS**	**NS**	ND		0.00113	0.000053	ND		0.00115	0.000054	ND		0.00112	0.000052	ND		0.00118	0.000055	ND		0.0011	0.000051	ND		0.00103	0.000048	0.000339	J	0.000982	0.000046	0.000124	J	0.000953	0.000045
PFOA/PFOS, Total	**NS**	**NS**	ND		0.00113	0.000048	ND		0.00115	0.000048	ND		0.00112	0.000047	0.000323	J	0.00118	0.000049	0.000263	J	0.0011	0.000046	0.000094	J	0.00103	0.000043	0.00167	J	0.000982	0.000041	0.000946	J	0.000953	0.00004

Results in Yellow Highlight displays exceedance above the NYSDEC Unrestricted Use Soil Cleanup Objective
Results in Green Highlight displays exceedance above both NYSDEC Unrestricted Use & Restricted Residential Soil Cleanup Objectives
J = Concentration detected at a value below the RL and above the MDL for target compounds

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 4 - Soil Results - PCBs, Pesticides, Metals, and PFAS (continued)

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Target Compounds	NYSDEC Unrestricted Use SCO	NYSDEC Restricted Residential Use SCO	S9 Sample Depth: 0.5-1.0'				S10 Sample Depth: 0.5-1.0'				S11 Sample Depth: 0.5-1.0'				S12 Sample Depth: 0.5-1.0'				S13 Sample Depth: 0.5-1.0'				S14 Sample Depth: 0.5-1.0'				S15 Sample Depth: 0.5-1.0'				S16 Sample Depth: 0.5-1.0'			
PCB's (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aroclor 1016	**0.1**	**1**	ND		0.0409	0.00363	ND		0.0401	0.00356	ND		0.0358	0.00318	ND		0.0375	0.00333	ND		0.0423	0.00375	ND		0.0362	0.00321	ND		0.0411	0.00365	ND		0.04	0.00356
Aroclor 1221	**0.1**	**1**	ND		0.0409	0.0041	ND		0.0401	0.00402	ND		0.0358	0.00358	ND		0.0375	0.00376	ND		0.0423	0.00424	ND		0.0362	0.00362	ND		0.0411	0.00412	ND		0.04	0.00401
Aroclor 1232	**0.1**	**1**	ND		0.0409	0.00867	ND		0.0401	0.0085	ND		0.0358	0.00758	ND		0.0375	0.00795	ND		0.0423	0.00896	ND		0.0362	0.00767	ND		0.0411	0.00871	ND		0.04	0.00849
Aroclor 1242	**0.1**	**1**	ND		0.0409	0.00552	ND		0.0401	0.0054	ND		0.0358	0.00482	ND		0.0375	0.00505	ND		0.0423	0.0057	ND		0.0362	0.00488	ND		0.0411	0.00554	ND		0.04	0.0054
Aroclor 1248	**0.1**	**1**	ND		0.0409	0.00614	ND		0.0401	0.00602	ND		0.0358	0.00536	ND		0.0375	0.00562	ND		0.0423	0.00634	ND		0.0362	0.00543	ND		0.0411	0.00616	ND		0.04	0.00601
Aroclor 1254	**0.1**	**1**	ND		0.0409	0.00448	ND		0.0401	0.00439	ND		0.0358	0.00391	ND		0.0375	0.0041	ND		0.0423	0.00462	ND		0.0362	0.00396	ND		0.0411	0.0045	0.0145	J	0.04	0.00438
Aroclor 1260	**0.1**	**1**	ND		0.0409	0.00756	ND		0.0401	0.00741	ND		0.0358	0.00661	ND		0.0375	0.00693	ND		0.0423	0.00781	ND		0.0362	0.00668	0.0166	J	0.0411	0.0076	0.00837	J	0.04	0.0074
Aroclor 1262	**0.1**	**1**	ND		0.0409	0.0052	ND		0.0401	0.00509	ND		0.0358	0.00454	ND		0.0375	0.00476	ND		0.0423	0.00537	ND		0.0362	0.00459	ND		0.0411	0.00522	ND		0.04	0.00508
Aroclor 1268	**0.1**	**1**	ND		0.0409	0.00424	ND		0.0401	0.00415	ND		0.0358	0.0037	ND		0.0375	0.00388	ND		0.0423	0.00438	ND		0.0362	0.00375	ND		0.0411	0.00426	ND		0.04	0.00415
PCBs, Total	**0.1**	**1**	ND		0.0409	0.00363	ND		0.0401	0.00356	ND		0.0358	0.00318	ND		0.0375	0.00333	ND		0.0423	0.00375	ND		0.0362	0.00321	0.0166	J	0.0411	0.00365	0.0229	J	0.04	0.00356
Pesticides (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
4,4'-DDD	**0.0033**	**13**	ND		0.00205	0.000732	**0.00397**		0.00174	0.000619	0.000666	JIP	0.00163	0.000582	0.00303	IP	0.00165	0.000588	**0.00672**		0.00172	0.000614	ND		0.00182	0.00065	ND		0.00196	0.000698	**0.00449**	IP	0.0019	0.000678
4,4'-DDE	**0.0033**	**8.9**	**0.0186**		0.00205	0.000474	**0.0385**		0.00174	0.000401	**0.0112**		0.00163	0.000378	**0.0319**		0.00165	0.000381	**0.049**		0.00172	0.000398	**0.022**	P	0.00182	0.000421	**0.012**		0.00196	0.000452	**0.0358**		0.0019	0.00044
4,4'-DDT	**0.0033**	**7.9**	**0.034**		0.00385	0.00165	**0.0476**		0.00325	0.0014	**0.0173**		0.00306	0.00131	**0.0283**		0.00309	0.00132	**0.0526**		0.00323	0.00138	**0.0221**		0.00342	0.00146	**0.0204**	P	0.00367	0.00157	**0.0502**		0.00356	0.00153
Aldrin	**0.005**	**0.097**	ND		0.00205	0.000722	ND		0.00174	0.000611	ND		0.00163	0.000575	ND		0.00165	0.00058	ND		0.00172	0.000606	ND		0.00182	0.000642	ND		0.00196	0.000689	ND		0.0019	0.000669
Alpha-BHC	**0.02**	**0.48**	ND		0.000855	0.000243	ND		0.000723	0.000205	ND		0.00068	0.000193	ND		0.000687	0.000195	ND		0.000718	0.000204	ND		0.000759	0.000216	ND		0.000815	0.000232	ND		0.000792	0.000225
Beta-BHC	**0.036**	**0.36**	ND		0.00205	0.000778	ND		0.00174	0.000658	ND		0.00163	0.000619	ND		0.00165	0.000625	ND		0.00172	0.000653	ND		0.00182	0.000691	ND		0.00196	0.000742	ND		0.0019	0.000721
Chlordane	**NS**	**NS**	ND		0.0167	0.0068	ND		0.0141	0.00575	ND		0.0133	0.00541	ND		0.0134	0.00546	ND		0.014	0.0057	ND		0.0148	0.00604	ND		0.0159	0.00648	ND		0.0154	0.0063
cis-Chlordane	**0.094**	**4.2**	0.0117	IP	0.00256	0.000715	0.0039	IP	0.00217	0.000604	0.00406	IP	0.00204	0.000569	0.00226	IP	0.00206	0.000574	ND		0.00215	0.0006	0.0061	IP	0.00228	0.000635	ND		0.00244	0.000681	0.0089	IP	0.00238	0.000662
Delta-BHC	**0.04**	**100**	ND		0.00205	0.000402	ND		0.00174	0.00034	ND		0.00163	0.00032	ND		0.00165	0.000323	ND		0.00172	0.000337	ND		0.00182	0.000357	ND		0.00196	0.000383	ND		0.0019	0.000372
Dieldrin	**0.005**	**0.2**	**0.00518**		0.00128	0.000641	0.00313		0.00108	0.000542	0.0037		0.00102	0.00051	0.0019	P	0.00103	0.000515	0.00339		0.00108	0.000538	0.00306		0.00114	0.000569	ND		0.00122	0.000611	**0.00517**		0.00119	0.000594
Endosulfan I	**2.4**	**24**	ND		0.00205	0.000485	ND		0.00174	0.00041	ND		0.00163	0.000386	ND		0.00165	0.000389	ND		0.00172	0.000407	ND		0.00182	0.00043	ND		0.00196	0.000462	ND		0.0019	0.000449
Endosulfan II	**2.4**	**24**	ND		0.00205	0.000686	ND		0.00174	0.00058	ND		0.00163	0.000546	ND		0.00165	0.000551	ND		0.00172	0.000576	ND		0.00182	0.000609	ND		0.00196	0.000654	ND		0.0019	0.000635
Endosulfan sulfate	**2.4**	**24**	ND		0.000855	0.000407	ND		0.000723	0.000344	ND		0.00068	0.000324	ND		0.000687	0.000327	ND		0.000718	0.000342	ND		0.000759	0.000361	ND		0.000815	0.000388	ND		0.000792	0.000377
Endrin	**0.014**	**11**	ND		0.000855	0.000351	ND		0.000723	0.000296	ND		0.00068	0.000279	ND		0.000687	0.000282	ND		0.000718	0.000294	ND		0.000759	0.000311	ND		0.000815	0.000334	ND		0.000792	0.000325
Endrin aldehyde	**NS**	**NS**	ND		0.00256	0.000898	ND		0.00217	0.000759	ND		0.00204	0.000714	ND		0.00206	0.000721	ND		0.00215	0.000754	ND		0.00228	0.000797	ND		0.00244	0.000856	ND		0.00238	0.000832
Endrin ketone	**NS**	**NS**	ND		0.00205	0.000528	ND		0.00174	0.000447	ND		0.00163	0.00042	ND		0.00165	0.000424	ND		0.00172	0.000444	ND		0.00182	0.000469	ND		0.00196	0.000504	ND		0.0019	0.000489
Heptachlor	**0.042**	**2.1**	ND		0.00103	0.00046	ND		0.000868	0.000389	ND		0.000816	0.000366	ND		0.000824	0.00037	ND		0.000861	0.000386	ND		0.000911	0.000408	ND		0.000978	0.000438	ND		0.00095	0.000426
Heptachlor epoxide	**NS**	**NS**	0.00231	J	0.00385	0.00115	0.0017	J	0.00325	0.000976	ND		0.00306	0.000918	0.00135	J	0.00309	0.000927	0.00275	J	0.00323	0.000969	0.00213	JP	0.00342	0.00102	0.00559		0.00367	0.0011	0.00275	J	0.00356	0.00107
Lindane	**0.1**	**1.3**	ND		0.000855	0.000382	ND		0.000723	0.000323	ND		0.00068	0.000304	ND		0.000687	0.000307	ND		0.000718	0.000321	ND		0.000759	0.000339	ND		0.000815	0.000364	ND		0.000792	0.000354
Methoxychlor	**NS**	**NS**	ND		0.00385	0.0012	ND		0.00325	0.00101	ND		0.00306	0.000952	ND		0.00309	0.000962	ND		0.00323	0.001	ND		0.00342	0.00106	ND		0.00367	0.00114	ND		0.00356	0.00111
Toxaphene	**NS**	**NS**	ND		0.0385	0.0108	ND		0.0325	0.00911	ND		0.0306	0.00857	ND		0.0309	0.00865	ND		0.0323	0.00904	ND		0.0342	0.00957	ND		0.0367	0.0103	ND		0.0356	0.00998
trans-Chlordane	**NS**	**NS**	0.0087		0.00256	0.000677	0.00178	JIP	0.00217	0.000573	0.00291		0.00204	0.000539	0.00194	JIP	0.00206	0.000544	ND		0.00215	0.000568	0.0029	IP	0.00228	0.000601	0.00188	JP	0.00244	0.000646	0.00428	IP	0.00238	0.000627
Metals (mg/Kg)			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aluminum, Total	**NS**	**NS**	6820		10.4	2.8	7820		8.35	2.25	10700		8	2.16	8500		8.22	2.22	8790		8.39	2.26	6150		9.02	2.44	8640		9.76	2.64	5720		9.15	2.47
Antimony, Total	**NS**	**NS**	ND		5.19	0.394	ND		4.18	0.317	0.344	J	4	0.304	ND		4.11	0.312	0.512	J	4.19	0.319	0.388	J	4.51	0.343	ND		4.88	0.371	ND		4.57	0.348
Arsenic, Total	**13**	**16**	11		1.04	0.216	5.38		0.835	0.174	**13**		0.8	0.166	5.38		0.822	0.171	8.9		0.839	0.174	3.95		0.902	0.188	4.32		0.976	0.203	**24.6**		0.915	0.19
Barium, Total	**350**	**400**	41.8		1.04	0.18	50.8		0.835	0.145	43.1		0.8	0.139	68.8		0.822	0.143	75.8		0.839	0.146	75		0.902	0.157	102		0.976	0.17	38.3		0.915	0.159
Beryllium, Total	**7.2**	**72**	0.519		0.519	0.034	0.25	J	0.418	0.028	0.312	J	0.4	0.026	0.32	J	0.411	0.027	0.31	J	0.419	0.028	0.18	J	0.451	0.03	0.244	J	0.488	0.032	0.174	J	0.457	0.03
Cadmium, Total	**2.5**	**4.3**	0.228	J	1.04	0.102	0.134	J	0.835	0.082	0.128	J	0.8	0.078	0.436	J	0.822	0.081	0.453	J	0.839	0.082	0.316	J	0.902	0.088	0.371	J	0.976	0.096	0.284	J	0.915	0.09
Calcium, Total	**NS**	**NS**	7620		10.4	3.63	3210		8.35	2.92	2710		8	2.8	15900		8.22	2.88	7240		8.39	2.94	3160		9.02	3.16	5420		9.76	3.42	8450		9.15	3.2
Chromium, Total	**NS**	**NS**	21.2		1.04	0.1	15.9		0.835	0.08	23.2		0.8	0.077	19.2		0.822	0.079	23.6		0.839	0.081	18.2		0.902	0.087	29.7		0.976	0.094	70.4		0.915	0.088
Cobalt, Total	**NS**	**NS**	5.08		2.08	0.172	4.76		1.67	0.139	4.22		1.6	0.133	6.4		1.64	0.136	5.98		1.68	0.139	5.12		1.8	0.15	7.18		1.95	0.162	3.7		1.83	0.152
Copper, Total	**50**	**270**	**57**		1.04	0.268	23.9		0.835	0.215	27.9		0.8	0.206	34.2		0.822	0.212	38.8		0.839	0.216	37.5		0.902	0.233	40.2		0.976	0.252	**74.3**		0.915	0.236
Iron, Total	**NS**	**NS**	11200		5.19	0.937	12000		4.18	0.754	13700		4	0.722	13200		4.11	0.742	14100		4.19	0.758	15100		4.51	0.814	15400		4.88	0.882	9950		4.57	0.826
Lead, Total	**63**	**400**	49.6		5.19	0.278	38.6		4.18	0.224	**66.8**		4	0.214	**75.8**		4.11	0.22	**94.9**		4.19	0.225	**105**		4.51	0.242	**126**		4.88	0.262	56.6		4.57	0.245
Magnesium, Total	**NS**	**NS**	3000		10.4	1.6	2420		8.35	1.29	1790		8	1.23	9120		8.22	1.26	4120		8.39	1.29	2000		9.02	1.39	2820		9.76	1.5	1860		9.15	1.41
Manganese, Total	**1600**	**2000**	226		1.04	0.165	219		0.835	0.133	194		0.8	0.127	292		0.822	0.131	262		0.839	0.133	246		0.902	0.143	337		0.976	0.155	184		0.915	0.145
Mercury, Total	**0.18**	**0.81**	**0.393**		0.092	0.06	**1.04**		0.078	0.051	**0.634**		0.073	0.048	**1.1**		0.072	0.047	**0.958**		0.071	0.046	**0.803**		0.085	0.055	**0.793**		0.081	0.053	**0.325**		0.077	0.051
Nickel, Total	**30**	**310**	12.9		2.59	0.251	11		2.09	0.202	12		2	0.194	13.5		2.06	0.199	14.7		2.1	0.203	11.5		2.25	0.218	17.6		2.44	0.236	9.22		2.29	0.221
Potassium, Total	**NS**	**NS**	860		259	14.9	706		209	12	606		200	11.5	1590		206	11.8	1210		210	12.1	940		225	13	1700		244	14	581		229	13.2
Selenium, Total	**3.9**	**180**	0.571	J	2.08	0.268	0.292	J	1.67	0.215	0.504	J	1.6	0.206	0.411	J	1.64	0.212	0.646	J	1.68	0.216	0.532	J	1.8	0.233	0.498	J	1.95	0.252	0.256	J	1.83	0.236
Silver, Total	**2**	**180**	ND		1.04	0.294	ND		0.835	0.236	ND		0.8	0.226	ND		0.822	0.233	ND		0.839	0.237	ND		0.902	0.255	ND		0.976	0.276	ND		0.915	0.259
Sodium, Total	**NS**	**NS**	78.9	J	208	3.27	140	J	167	2.63	75.9	J	160	2.52	179		164	2.59	81.8	J	168	2.64	66.6	J	180	2.84	83.5	J	195	3.08	50.6	J	183	2.88
Thallium, Total	**NS**	**NS**	ND		2.08	0.327	ND		1.67	0.263	ND		1.6	0.252	ND		1.64	0.259	ND		1.68	0.264	ND		1.8	0.284	ND		1.95	0.308	ND		1.83	0.288
Vanadium, Total	**NS**	**NS**	18.4		1.04	0.211	19.9		0.835	0.17	22.9		0.8	0.162	21.5		0.822	0.167	21.6		0.839	0.17	22.5		0.902	0.183	26.8		0.976	0.198	13.8		0.915	0.186
Zinc, Total	**109**	**10000**	**185**		5.19	0.304	55		4.18	0.245	64		4	0.234	106		4.11	0.241	**120**		4.19	0.246	**121**		4.51	0.264	**189**		4.88	0.286	**126**		4.57	0.268
General Analytical			**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	4.73	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Cyanide, Total	**27**	**27**	ND		1.3	0.27	ND		1.1	0.23	ND		0.98	0.21	ND		0.99	0.21	ND		1	0.22	ND		1.2	0.25	ND		1.2	0.25	ND		1.2	0.25

PFAAS (mg/Kg)			Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	**NS**	**NS**	ND		0.00129	0.000369	ND		0.00104	0.000298	ND		0.00102	0.000293	ND		0.000955	0.000274	ND		0.00096	0.000275	ND		0.00108	0.000311	ND		0.00111	0.000318	ND		0.00118	0.000339
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	**NS**	**NS**	ND		0.00129	0.000231	ND		0.00104	0.000186	ND		0.00102	0.000183	ND		0.000955	0.000171	ND		0.00096	0.000172	ND		0.00108	0.000194	ND		0.00111	0.000199	ND		0.00118	0.000212
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	**NS**	**NS**	0.000298	J	0.00129	0.000109	0.000213	J	0.00104	0.000088	0.000257	J	0.00102	0.000086	ND		0.000955	0.000081	0.000246	J	0.00096	0.000081	0.000144	J	0.00108	0.000091	ND		0.00111	0.000094	0.000118	J	0.00118	0.0001
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	**NS**	**NS**	ND		0.00129	0.000259	ND		0.00104	0.000209	ND		0.00102	0.000206	ND		0.000955	0.000192	ND		0.00096	0.000193	ND		0.00108	0.000218	ND		0.00111	0.000223	ND		0.00118	0.000238
Perfluorobutanesulfonic Acid (PFBS)	**NS**	**NS**	ND		0.00129	0.00005	ND		0.00104	0.000041	ND		0.00102	0.00004	ND		0.000955	0.000037	ND		0.00096	0.000037	ND		0.00108	0.000042	ND		0.00111	0.000043	ND		0.00118	0.000046
Perfluorobutanoic Acid (PFBA)	**NS**	**NS**	0.000094	J	0.00129	0.000029	0.00014	J	0.00104	0.000024	0.000191	J	0.00102	0.000023	ND		0.000955	0.000022	0.000148	J	0.00096	0.000022	0.00027	J	0.00108	0.000025	ND		0.00111	0.000025	0.000107	J	0.00118	0.000027
Perfluorodecanesulfonic Acid (PFDS)	**NS**	**NS**	0.00166		0.00129	0.000197	0.00656		0.00104	0.000159	0.000236	J	0.00102	0.000156	0.000179	J	0.000955	0.000146	0.000542	J	0.00096	0.000147	0.000173	J	0.00108	0.000166	0.000182	J	0.00111	0.000169	0.00103	J	0.00118	0.000181
Perfluorodecanoic Acid (PFDA)	**NS**	**NS**	0.000643	J	0.00129	0.000086	0.00137		0.00104	0.00007	0.000299	J	0.00102	0.000068	0.000281	J	0.000955	0.000064	0.000789	J	0.00096	0.000064	0.000832	J	0.00108	0.000073	0.000727	J	0.00111	0.000074	0.00033	J	0.00118	0.000079
Perfluorododecanoic Acid (PFDoA)	**NS**	**NS**	0.000738	J	0.00129	0.00009	0.000588	J	0.00104	0.000073	0.00019	J	0.00102	0.000071	0.000169	J	0.000955	0.000067	0.000386	J	0.00096	0.000067	0.000423	J	0.00108	0.000076	0.000721	J	0.00111	0.000078	0.000283	J	0.00118	0.000083
Perfluoroheptanesulfonic Acid (PFHpS)	**NS**	**NS**	ND		0.00129	0.000176	ND		0.00104	0.000142	ND		0.00102	0.000139	ND		0.000955	0.00013	ND		0.00096	0.000131	ND		0.00108	0.000148	ND		0.00111	0.000151	ND		0.00118	0.000161
Perfluoroheptanoic Acid (PFHpA)	**NS**	**NS**	0.000083	J	0.00129	0.000058	0.000096	J	0.00104	0.000047	0.000135	J	0.00102	0.000046	ND		0.000955	0.000043	0.000123	J	0.00096	0.000043	0.00014	J	0.00108	0.000049	ND		0.00111	0.00005	0.000068	J	0.00118	0.000053
Perfluorohexanesulfonic Acid (PFHxS)	**NS**	**NS**	ND		0.00129	0.000078	ND		0.00104	0.000063	ND		0.00102	0.000062	ND		0.000955	0.000058	ND		0.00096	0.000058	ND		0.00108	0.000066	ND		0.00111	0.000067	ND		0.00118	0.000071
Perfluorohexanoic Acid (PFHxA)	**NS**	**NS**	0.00022	J	0.00129	0.000068	0.000312	J	0.00104	0.000055	0.000266	J	0.00102	0.000054	0.000076	J	0.000955	0.00005	0.0002	J	0.00096	0.00005	0.000232	J	0.00108	0.000057	0.000106	J	0.00111	0.000058	0.000343	J	0.00118	0.000062
Perfluorononanoic Acid (PFNA)	**NS**	**NS**	0.000242	J	0.00129	0.000097	0.000299	J	0.00104	0.000078	0.00028	J	0.00102	0.000077	0.000204	J	0.000955	0.000072	0.000379	J	0.00096	0.000072	0.000242	J	0.00108	0.000081	0.000089	J	0.00111	0.000083	0.000138	J	0.00118	0.000089
Perfluorooctanesulfonamide (FOSA)	**NS**	**NS**	ND		0.00129	0.000126	ND		0.00104	0.000102	ND		0.00102	0.0001	ND		0.000955	0.000094	ND		0.00096	0.000094	ND		0.00108	0.000106	ND		0.00111	0.000108	ND		0.00118	0.000116
Perfluorooctanesulfonic Acid (PFOS)	**NS**	**NS**	0.00258		0.00129	0.000167	0.00611		0.00104	0.000135	0.00204		0.00102	0.000133	0.00198		0.000955	0.000124	0.00535		0.00096	0.000125	0.00287		0.00108	0.000141	0.00197		0.00111	0.000144	0.00083	J	0.00118	0.000154
Perfluorooctanoic Acid (PFOA)	**NS**	**NS**	0.000287	J	0.00129	0.000054	0.000371	J	0.00104	0.000044	0.000594	J	0.00102	0.000043	0.000422	J	0.000955	0.00004	0.000663	J	0.00096	0.00004	0.000552	J	0.00108	0.000045	0.000129	J	0.00111	0.000046	0.000207	J	0.00118	0.00005
Perfluoropentanoic Acid (PFPeA)	**NS**	**NS**	0.000205	J	0.00129	0.000059	0.000319	J	0.00104	0.000048	0.000284	J	0.00102	0.000047	ND		0.000955	0.000044	0.000161	J	0.00096	0.000044	0.000342	J	0.00108	0.00005	0.000089	J	0.00111	0.000051	0.000285	J	0.00118	0.000054
Perfluorotetradecanoic Acid (PFTA)	**NS**	**NS**	0.00029	J	0.00129	0.000069	0.000202	J	0.00104	0.000056	0.000095	J	0.00102	0.000055	0.000058	J	0.000955	0.000052	0.000157	J	0.00096	0.000052	0.00018	J	0.00108	0.000058	0.000255	J	0.00111	0.00006	0.000117	J	0.00118	0.000064
Perfluorotridecanoic Acid (PFTrDA)	**NS**	**NS**	0.00035	J	0.00129	0.000263	0.00025	J	0.00104	0.000212	ND		0.00102	0.000209	ND		0.000955	0.000195	ND		0.00096	0.000196	ND		0.00108	0.000221	0.00032	J	0.00111	0.000226	ND		0.00118	0.000242
Perfluoroundecanoic Acid (PFUnA)	**NS**	**NS**	0.000586	J	0.00129	0.00006	0.000458	J	0.00104	0.000049	0.000215	J	0.00102	0.000048	0.000228	J	0.000955	0.000045	0.000464	J	0.00096	0.000045	0.000465	J	0.00108	0.000051	0.000709	J	0.00111	0.000052	0.000227	J	0.00118	0.000055
PFOA/PFOS, Total	**NS**	**NS**	0.00287	J	0.00129	0.000054	0.00648	J	0.00104	0.000044	0.00263	J	0.00102	0.000043	0.0024	J	0.000955	0.00004	0.00601	J	0.00096	0.00004	0.00342	J	0.00108	0.000045	0.0021	J	0.00111	0.000046	0.00104	J	0.00118	0.00005

Results in Yellow Highlight displays exceedance above the NYSDEC Unrestricted Use Soil Cleanup Objective
Results in Green Highlight displays exceedance above both NYSDEC Unrestricted Use & Restricted Residential Soil Cleanup Objectives
J = Concentration detected at a value below the RL and above the MDL for target compounds

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 5 - Groundwater Results - SVOCs, PFAS

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 10/16/2019

Target Compounds	NYSDEC Groundwater Quality Standards	MW-2				MW-3				MW-4				MW-5				FIELD BLANK				TRIP BLANK			
Semivolatiles - BNA (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,2,4,5-Tetrachlorobenzene	5	ND		10	0.44	ND		10	0.44	ND		10	0.44	ND		10	0.44	ND		10	0.44	-	-	-	-
1,2,4-Trichlorobenzene	5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	-	-	-	-
1,2-Dichlorobenzene	3	ND		2	0.45	ND		2	0.45	ND		2	0.45	ND		2	0.45	ND		2	0.45	-	-	-	-
1,3-Dichlorobenzene	3	ND		2	0.4	ND		2	0.4	ND		2	0.4	ND		2	0.4	ND		2	0.4	-	-	-	-
1,4-Dichlorobenzene	3	ND		2	0.43	ND		2	0.43	ND		2	0.43	ND		2	0.43	ND		2	0.43	-	-	-	-
2,4,5-Trichlorophenol	NS	ND		5	0.77	ND		5	0.77	ND		5	0.77	ND		5	0.77	ND		5	0.77	-	-	-	-
2,4,6-Trichlorophenol	NS	ND		5	0.61	ND		5	0.61	ND		5	0.61	ND		5	0.61	ND		5	0.61	-	-	-	-
2,4-Dichlorophenol	1	ND		5	0.41	ND		5	0.41	ND		5	0.41	ND		5	0.41	ND		5	0.41	-	-	-	-
2,4-Dimethylphenol	50	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	-	-	-	-
2,4-Dinitrophenol	10	ND		20	6.6	ND		20	6.6	ND		20	6.6	ND		20	6.6	ND		20	6.6	-	-	-	-
2,4-Dinitrotoluene	5	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	-	-	-	-
2,6-Dinitrotoluene	5	ND		5	0.93	ND		5	0.93	ND		5	0.93	ND		5	0.93	ND		5	0.93	-	-	-	-
2-Chlorophenol	NS	ND		2	0.48	ND		2	0.48	ND		2	0.48	ND		2	0.48	ND		2	0.48	-	-	-	-
2-Methylphenol	NS	ND		5	0.49	ND		5	0.49	ND		5	0.49	ND		5	0.49	ND		5	0.49	-	-	-	-
2-Nitroaniline	5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	-	-	-	-
2-Nitrophenol	NS	ND		10	0.85	ND		10	0.85	ND		10	0.85	ND		10	0.85	ND		10	0.85	-	-	-	-
3,3'-Dichlorobenzidine	5	ND		5	1.6	ND		5	1.6	ND		5	1.6	ND		5	1.6	ND		5	1.6	-	-	-	-
3-Methylphenol/4-Methylphenol	NS	ND		5	0.48	ND		5	0.48	ND		5	0.48	ND		5	0.48	ND		5	0.48	-	-	-	-
3-Nitroaniline	5	ND		5	0.81	ND		5	0.81	ND		5	0.81	ND		5	0.81	ND		5	0.81	-	-	-	-
4,6-Dinitro-o-cresol	NS	ND		10	1.8	ND		10	1.8	ND		10	1.8	ND		10	1.8	ND		10	1.8	-	-	-	-
4-Bromophenyl phenyl ether	NS	ND		2	0.38	ND		2	0.38	ND		2	0.38	ND		2	0.38	ND		2	0.38	-	-	-	-
4-Chloroaniline	5	ND		5	1.1	ND		5	1.1	ND		5	1.1	ND		5	1.1	ND		5	1.1	-	-	-	-
4-Chlorophenyl phenyl ether	NS	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	-	-	-	-
4-Nitroaniline	5	ND		5	0.8	ND		5	0.8	ND		5	0.8	ND		5	0.8	ND		5	0.8	-	-	-	-
4-Nitrophenol	NS	ND		10	0.67	ND		10	0.67	ND		10	0.67	ND		10	0.67	ND		10	0.67	-	-	-	-
Acetophenone	NS	ND		5	0.53	ND		5	0.53	ND		5	0.53	ND		5	0.53	ND		5	0.53	-	-	-	-
Benzoic Acid	NS	ND		50	2.6	ND		50	2.6	ND		50	2.6	ND		50	2.6	ND		50	2.6	-	-	-	-
Benzyl Alcohol	NS	ND		2	0.59	ND		2	0.59	ND		2	0.59	ND		2	0.59	ND		2	0.59	-	-	-	-
Biphenyl	NS	ND		2	0.46	ND		2	0.46	ND		2	0.46	ND		2	0.46	ND		2	0.46	-	-	-	-
Bis(2-chloroethoxy)methane	5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	-	-	-	-
Bis(2-chloroethyl)ether	1	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	-	-	-	-
Bis(2-chloroisopropyl)ether	5	ND		2	0.53	ND		2	0.53	ND		2	0.53	ND		2	0.53	ND		2	0.53	-	-	-	-
Bis(2-ethylhexyl)phthalate	5	1.8	J	3	1.5	ND		3	1.5	1.8	J	3	1.5	1.8	J	3	1.5	1.7	J	3	1.5	-	-	-	-
Butyl benzyl phthalate	50	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	-	-	-	-
Carbazole	NS	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	-	-	-	-
Dibenzofuran	NS	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	-	-	-	-
Diethyl phthalate	50	ND		5	0.38	ND		5	0.38	0.97	J	5	0.38	ND		5	0.38	ND		5	0.38	-	-	-	-
Dimethyl phthalate	50	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	-	-	-	-
Di-n-butylphthalate	50	ND		5	0.39	ND		5	0.39	ND		5	0.39	ND		5	0.39	ND		5	0.39	-	-	-	-
Di-n-octylphthalate	50	ND		5	1.3	ND		5	1.3	ND		5	1.3	ND		5	1.3	ND		5	1.3	-	-	-	-
Hexachlorocyclopentadiene	5	ND		20	0.69	ND		20	0.69	ND		20	0.69	ND		20	0.69	ND		20	0.69	-	-	-	-
Isophorone	50	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	-	-	-	-
NDPA/DPA	50	ND		2	0.42	ND		2	0.42	ND		2	0.42	ND		2	0.42	ND		2	0.42	-	-	-	-
Nitrobenzene	0.4	ND		2	0.77	ND		2	0.77	ND		2	0.77	ND		2	0.77	ND		2	0.77	-	-	-	-
n-Nitrosodi-n-propylamine	NS	ND		5	0.64	ND		5	0.64	ND		5	0.64	ND		5	0.64	ND		5	0.64	-	-	-	-
p-Chloro-m-cresol	NS	ND		2	0.35	ND		2	0.35	ND		2	0.35	ND		2	0.35	ND		2	0.35	-	-	-	-
Phenol	1	ND		5	0.57	ND		5	0.57	ND		5	0.57	ND		5	0.57	ND		5	0.57	-	-	-	-
Total SVOCs	NS	1.8	-	-	-	-	-	-	-	2.77	-	-	-	1.8	-	-	-	1.7	-	-	-	-	-	-	-
Total TICs - SVOCs	NS	37.8	J	0	0	186	J	0	0	27.5	J	0	0	139	J	0	0	33.1	J	0	0	-	-	-	-
Semivolatiles - BNA (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
2-Chloronaphthalene	10	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	-	-	-	-
2-Methylnaphthalene	NS	0.04	J	0.1	0.02	0.04	J	0.1	0.02	ND		0.1	0.02	0.03	J	0.1	0.02	ND		0.1	0.02	-	-	-	-
Acenaphthene	20	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Acenaphthylene	NS	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Anthracene	50	0.01	J	0.1	0.01	ND		0.1	0.01	0.02	J	0.1	0.01	0.02	J	0.1	0.01	ND		0.1	0.01	-	-	-	-
Benzo(a)anthracene	0.002	**0.11**		0.1	0.02	ND		0.1	0.02	**0.06**	J	0.1	0.02	**0.09**	J	0.1	0.02	ND		0.1	0.02	-	-	-	-
Benzo(a)pyrene	NS	**0.15**		0.1	0.02	ND		0.1	0.02	**0.04**	J	0.1	0.02	**0.09**	J	0.1	0.02	ND		0.1	0.02	-	-	-	-
Benzo(b)fluoranthene	0.002	**0.21**		0.1	0.01	ND		0.1	0.01	**0.06**	J	0.1	0.01	**0.15**		0.1	0.01	**0.02**	J	0.1	0.01	-	-	-	-
Benzo(ghi)perylene	NS	0.18		0.1	0.01	ND		0.1	0.01	0.03	J	0.1	0.01	0.12		0.1	0.01	0.02	J	0.1	0.01	-	-	-	-
Benzo(k)fluoranthene	0.002	**0.09**	J	0.1	0.01	ND		0.1	0.01	**0.03**	J	0.1	0.01	**0.05**	J	0.1	0.01	ND		0.1	0.01	-	-	-	-
Chrysene	0.002	**0.08**	J	0.1	0.01	ND		0.1	0.01	**0.04**	J	0.1	0.01	**0.02**	J	0.1	0.01	ND		0.1	0.01	-	-	-	-
Dibenzo(a,h)anthracene	NS	0.04	J	0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	0.02	J	0.1	0.01	ND		0.1	0.01	-	-	-	-
Fluoranthene	50	0.04	J	0.1	0.02	ND		0.1	0.02	0.09	J	0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	-	-	-	-
Fluorene	50	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Hexachlorobenzene	0.04	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	-	-	-	-
Hexachlorobutadiene	0.5	ND		0.5	0.05	ND		0.5	0.05	ND		0.5	0.05	ND		0.5	0.05	ND		0.5	0.05	-	-	-	-
Hexachloroethane	5	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.002	**0.2**		0.1	0.01	ND		0.1	0.01	**0.04**	J	0.1	0.01	**0.13**		0.1	0.01	**0.02**	J	0.1	0.01	-	-	-	-
Naphthalene	10	0.11		0.1	0.05	0.15		0.1	0.05	0.09	J	0.1	0.05	ND		0.1	0.05	ND		0.1	0.05	-	-	-	-
Pentachlorophenol	1	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	-	-	-	-
Phenanthrene	50	0.03	J	0.1	0.02	0.03	J	0.1	0.02	0.06	J	0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	-	-	-	-
Pyrene	50	0.04	J	0.1	0.02	ND		0.1	0.02	0.1		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	-	-	-	-
Total SVOCs	NS	1.33	-	-	-	0.22	-	-	-	0.66	-	-	-	0.72	-	-	-	0.06	-	-	-	-	-	-	-

Target Compounds	NYSDEC 2018 Drinking Water Quality Council Level	MW-2				MW-3				MW-4				MW-5				FIELD BLANK				TRIP BLANK			
PFAAs - Isotope Dilution - ng/L		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Perfluorobutanoic Acid (PFBA)	NS	12		1.89	0.385	13.8		1.75	0.358	16.1		1.78	0.364	18.1		1.74	0.355	ND		1.75	0.358				
Perfluoropentanoic Acid (PFPeA)	NS	18.3		1.89	0.374	20.4		1.75	0.347	14		1.78	0.354	33.2		1.74	0.345	ND		1.75	0.347				
Perfluorobutanesulfonic Acid (PFBS)	NS	5.75		1.89	0.224	8.82		1.75	0.209	8.66		1.78	0.212	9.18		1.74	0.207	ND		1.75	0.209				
Perfluorohexanoic Acid (PFHxA)	NS	18.2		1.89	0.309	21		1.75	0.288	13.1		1.78	0.293	32.5		1.74	0.286	0.333	J	1.75	0.288				
Perfluoroheptanoic Acid (PFHpA)	NS	8.67		1.89	0.212	11.6		1.75	0.198	6.26		1.78	0.201	17.2		1.74	0.196	ND		1.75	0.198				
Perfluorohexanesulfonic Acid (PFHxS)	NS	1.5	J	1.89	0.355	4		1.75	0.33	4.88		1.78	0.336	4.77		1.74	0.328	ND		1.75	0.33				
Perfluorooctanoic Acid (PFOA)	10	**24.2**		1.89	0.223	**47.2**		1.75	0.207	**32**		1.78	0.211	**45.1**		1.74	0.206	ND		1.75	0.207				
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	NS	ND		1.89	1.26	ND		1.75	1.17	ND		1.78	1.19	ND		1.74	1.16	ND		1.75	1.17				
Perfluoroheptanesulfonic Acid (PFHpS)	NS	ND		1.89	0.649	ND		1.75	0.604	ND		1.78	0.614	ND		1.74	0.599	ND		1.75	0.604				
Perfluorononanoic Acid (PFNA)	NS	3.33		1.89	0.294	1.12	J	1.75	0.274	1.37	J	1.78	0.278	2.24		1.74	0.272	ND		1.75	0.274				
Perfluorooctanesulfonic Acid (PFOS)	10	**16.9**		1.89	0.475	**11.1**		1.75	0.442	5.1		1.78	0.45	**14.3**		1.74	0.439	ND		1.75	0.442				
Perfluorodecanoic Acid (PFDA)	NS	0.408	J	1.89	0.287	ND		1.75	0.267	ND		1.78	0.271	ND		1.74	0.265	ND		1.75	0.267				
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	NS	ND		1.89	1.14	ND		1.75	1.06	ND		1.78	1.08	ND		1.74	1.06	ND		1.75	1.06				
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NS	ND		1.89	0.611	ND		1.75	0.568	ND		1.78	0.578	ND		1.74	0.564	ND		1.75	0.568				
Perfluoroundecanoic Acid (PFUnA)	NS	ND		1.89	0.245	ND		1.75	0.228	ND		1.78	0.232	ND		1.74	0.226	ND		1.75	0.228				
Perfluorodecanesulfonic Acid (PFDS)	NS	ND		1.89	0.924	ND		1.75	0.86	ND		1.78	0.875	ND		1.74	0.854	ND		1.75	0.86				
Perfluorooctanesulfonamide (FOSA)	NS	ND		1.89	0.547	ND		1.75	0.509	ND		1.78	0.518	ND		1.74	0.505	ND		1.75	0.509				
N-Ethyl Perfluorooctanesulfonamidoacetic	NS	ND		1.89	0.758	ND		1.75	0.705	ND		1.78	0.718	ND		1.74	0.7	ND		1.75	0.705				
Perfluorododecanoic Acid (PFDoA)	NS	ND		1.89	0.351	ND		1.75	0.326	ND		1.78	0.332	ND		1.74	0.324	ND		1.75	0.326				
Perfluorotridecanoic Acid (PFTrDA)	NS	ND		1.89	0.309	ND		1.75	0.287	ND		1.78	0.292	ND		1.74	0.285	ND		1.75	0.287				
Perfluorotetradecanoic Acid (PFTA)	NS	ND		1.89	0.234	ND		1.75	0.218	ND		1.78	0.221	ND		1.74	0.216	ND		1.75	0.218				
PFOA/PFOS, Total	NS	41.1		1.89	0.223	58.3		1.75	0.207	37.1		1.78	0.211	59.4		1.74	0.206	ND		1.75	0.207				

Results in Blue Highlight displays exceedance above the NYSDEC Groundwater Quality Standards
J = Concentration detected at a value below the RL and above the MDL for target compounds

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 5 - Groundwater Results - SVOCs & PFAS (continued)

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 03/18/2020

Target Compounds	NYSDEC Groundwater Quality Standards	MW-1A				MW-6				MW-7				FIELD BLANK				TRIP BLANK			
Semivolatiles - BNA (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,2,4,5-Tetrachlorobenzene	**5**	ND		10	0.44	ND		10	0.44	ND		10	0.44	ND		10	0.44	-	-	-	-
1,2,4-Trichlorobenzene	**5**	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	-	-	-	-
1,2-Dichlorobenzene	**3**	ND		2	0.45	ND		2	0.45	ND		2	0.45	ND		2	0.45	-	-	-	-
1,3-Dichlorobenzene	**3**	ND		2	0.4	ND		2	0.4	ND		2	0.4	ND		2	0.4	-	-	-	-
1,4-Dichlorobenzene	**3**	ND		2	0.43	ND		2	0.43	ND		2	0.43	ND		2	0.43	-	-	-	-
2,4,5-Trichlorophenol	**NS**	ND		5	0.77	ND		5	0.77	ND		5	0.77	ND		5	0.77	-	-	-	-
2,4,6-Trichlorophenol	**NS**	ND		5	0.61	ND		5	0.61	ND		5	0.61	ND		5	0.61	-	-	-	-
2,4-Dichlorophenol	**1**	ND		5	0.41	ND		5	0.41	ND		5	0.41	ND		5	0.41	-	-	-	-
2,4-Dimethylphenol	**50**	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	-	-	-	-
2,4-Dinitrophenol	**10**	ND		20	6.6	ND		20	6.6	ND		20	6.6	ND		20	6.6	-	-	-	-
2,4-Dinitrotoluene	**5**	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	-	-	-	-
2,6-Dinitrotoluene	**5**	ND		5	0.93	ND		5	0.93	ND		5	0.93	ND		5	0.93	-	-	-	-
2-Chlorophenol	**NS**	ND		2	0.48	ND		2	0.48	ND		2	0.48	ND		2	0.48	-	-	-	-
2-Methylphenol	**NS**	ND		5	0.49	ND		5	0.49	ND		5	0.49	ND		5	0.49	-	-	-	-
2-Nitroaniline	**5**	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	-	-	-	-
2-Nitrophenol	**NS**	ND		10	0.85	ND		10	0.85	ND		10	0.85	ND		10	0.85	-	-	-	-
3,3'-Dichlorobenzidine	**5**	ND		5	1.6	ND		5	1.6	ND		5	1.6	ND		5	1.6	-	-	-	-
3-Methylphenol/4-Methylphenol	**NS**	ND		5	0.48	ND		5	0.48	ND		5	0.48	ND		5	0.48	-	-	-	-
3-Nitroaniline	**5**	ND		5	0.81	ND		5	0.81	ND		5	0.81	ND		5	0.81	-	-	-	-
4,6-Dinitro-o-cresol	**NS**	ND		10	1.8	ND		10	1.8	ND		10	1.8	ND		10	1.8	-	-	-	-
4-Bromophenyl phenyl ether	**NS**	ND		2	0.38	ND		2	0.38	ND		2	0.38	ND		2	0.38	-	-	-	-
4-Chloroaniline	**5**	ND		5	1.1	ND		5	1.1	ND		5	1.1	ND		5	1.1	-	-	-	-
4-Chlorophenyl phenyl ether	**NS**	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	-	-	-	-
4-Nitroaniline	**5**	ND		5	0.8	ND		5	0.8	ND		5	0.8	ND		5	0.8	-	-	-	-
4-Nitrophenol	**NS**	ND		10	0.67	ND		10	0.67	ND		10	0.67	ND		10	0.67	-	-	-	-
Acetophenone	**NS**	ND		5	0.53	ND		5	0.53	ND		5	0.53	ND		5	0.53	-	-	-	-
Benzoic Acid	**NS**	ND		50	2.6	ND		50	2.6	ND		50	2.6	ND		50	2.6	-	-	-	-
Benzyl Alcohol	**NS**	ND		2	0.59	ND		2	0.59	ND		2	0.59	ND		2	0.59	-	-	-	-
Biphenyl	**NS**	ND		2	0.46	ND		2	0.46	ND		2	0.46	ND		2	0.46	-	-	-	-
Bis(2-chloroethoxy)methane	**5**	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	-	-	-	-
Bis(2-chloroethyl)ether	**1**	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	-	-	-	-
Bis(2-chloroisopropyl)ether	**5**	ND		2	0.53	ND		2	0.53	ND		2	0.53	ND		2	0.53	-	-	-	-
Bis(2-ethylhexyl)phthalate	**5**	2.1	J	3	1.5	1.5	J	3	1.5	ND		3	1.5	ND		3	1.5	-	-	-	-
Butyl benzyl phthalate	**50**	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	-	-	-	-
Carbazole	**NS**	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	-	-	-	-
Dibenzofuran	**NS**	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	-	-	-	-
Diethyl phthalate	**50**	7.9		5	0.38	ND		5	0.38	ND		5	0.38	ND		5	0.38	-	-	-	-
Dimethyl phthalate	**50**	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	-	-	-	-
Di-n-butylphthalate	**50**	ND		5	0.39	ND		5	0.39	2.4	J	5	0.39	ND		5	0.39	-	-	-	-
Di-n-octylphthalate	**50**	ND		5	1.3	ND		5	1.3	ND		5	1.3	ND		5	1.3	-	-	-	-
Hexachlorocyclopentadiene	**5**	ND		20	0.69	ND		20	0.69	ND		20	0.69	ND		20	0.69	-	-	-	-
Isophorone	**50**	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	-	-	-	-
NDPA/DPA	**50**	ND		2	0.42	ND		2	0.42	ND		2	0.42	ND		2	0.42	-	-	-	-
Nitrobenzene	**0.4**	ND		2	0.77	ND		2	0.77	ND		2	0.77	ND		2	0.77	-	-	-	-
n-Nitrosodi-n-propylamine	**NS**	ND		5	0.64	ND		5	0.64	ND		5	0.64	ND		5	0.64	-	-	-	-
p-Chloro-m-cresol	**NS**	ND		2	0.35	ND		2	0.35	ND		2	0.35	ND		2	0.35	-	-	-	-
Phenol	**1**	ND		5	0.57	ND		5	0.57	ND		5	0.57	ND		5	0.57	-	-	-	-
Total SVOCs	**NS**	10	-	-	-	1.5	-	-	-	2.4	-	-	-	-	-	-	-	-	-	-	
Total TICs - SVOCs	**NS**	113	J	0	0	30.2	J	0	0	181	J	0	0	49.8	J	0	0	-	-	-	-
Semivolatiles - BNA (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
2-Chloronaphthalene	**10**	0.23		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	-	-	-	-
2-Methylnaphthalene	**NS**	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	-	-	-	-
Acenaphthene	**20**	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Acenaphthylene	**NS**	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Anthracene	**50**	0.01	J	0.1	0.01	0.05	J	0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Benzo(a)anthracene	**0.002**	**0.02**	J	0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	-	-	-	-
Benzo(a)pyrene	**NS**	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	-	-	-	-
Benzo(b)fluoranthene	**0.002**	**0.02**	J	0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	**0.01**	J	0.1	0.01	-	-	-	-
Benzo(ghi)perylene	**NS**	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Benzo(k)fluoranthene	**0.002**	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Chrysene	**0.002**	**0.01**	J	0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Dibenzo(a,h)anthracene	**NS**	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Fluoranthene	**50**	0.03	J	0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	-	-	-	-
Fluorene	**50**	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Hexachlorobenzene	**0.04**	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	-	-	-	-
Hexachlorobutadiene	**0.5**	ND		0.5	0.05	ND		0.5	0.05	ND		0.5	0.05	ND		0.5	0.05	-	-	-	-
Hexachloroethane	**5**	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	-	-	-	-
Indeno(1,2,3-cd)pyrene	**0.002**	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	-	-	-	-
Naphthalene	**10**	0.05	J	0.1	0.05	ND		0.1	0.05	0.06	J	0.1	0.05	ND		0.1	0.05	-	-	-	-
Pentachlorophenol	**1**	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	-	-	-	-
Phenanthrene	**50**	0.03	J	0.1	0.02	ND		0.1	0.02	0.03	J	0.1	0.02	ND		0.1	0.02	-	-	-	-
Pyrene	**50**	0.06	J	0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	-	-	-	-
Total SVOCs	**NS**	0.46	-	-	-	0.05	-	-	-	0.09	-	-	-	0.01	-	-	-	-	-	-	

Target Compounds	NYSDEC 2018 Drinking Water Quality Council Level	MW-1A				MW-6				MW-7				FIELD BLANK				TRIP BLANK			
PFAAs - Isotope Dilution - ng/L		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Perfluorobutanoic Acid (PFBA)	**NS**	22.3		1.92	0.392	10.3		1.7	0.347	23.2		1.86	0.38	ND		1.96	0.4	-	-	-	-
Perfluoropentanoic Acid (PFPeA)	**NS**	51.0		1.92	0.381	16.2		1.7	0.337	46.4		1.86	0.369	ND		1.96	0.388	-	-	-	-
Perfluorobutanesulfonic Acid (PFBS)	**NS**	10.2		1.92	0.229	6.11		1.7	0.202	8.79		1.86	0.222	ND		1.96	0.233	-	-	-	-
Perfluorohexanoic Acid (PFHxA)	**NS**	38.7		1.92	0.315	16.2		1.7	0.279	42.4		1.86	0.306	0.408	J	1.96	0.322	-	-	-	-
Perfluoroheptanoic Acid (PFHpA)	**NS**	25.7		1.92	0.216	7.27		1.7	0.191	23.1		1.86	0.21	ND		1.96	0.221	-	-	-	-
Perfluorohexanesulfonic Acid (PFHxS)	**NS**	4.82		1.92	0.362	3.01		1.7	0.32	4.18		1.86	0.351	ND		1.96	0.369	-	-	-	-
Perfluorooctanoic Acid (PFOA)	**10**	**140**		1.92	0.227	**19.7**		1.7	0.201	**48.5**		1.86	0.22	ND		1.96	0.231	-	-	-	-
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	**NS**	ND		1.92	1.28	ND		1.7	1.13	ND		1.86	1.24	ND		1.96	1.3	-	-	-	-
Perfluoroheptanesulfonic Acid (PFHpS)	**NS**	ND		1.92	0.662	ND		1.7	0.585	0.642	J	1.86	0.642	ND		1.96	0.674	-	-	-	-
Perfluorononanoic Acid (PFNA)	**NS**	6.49		1.92	0.3	4.32		1.7	0.265	3.97		1.86	0.291	ND		1.96	0.306	-	-	-	-
Perfluorooctanesulfonic Acid (PFOS)	**10**	**11.5**		1.92	0.485	**34.3**		1.7	0.428	**15.7**		1.86	0.47	ND		1.96	0.494	-	-	-	-
Perfluorodecanoic Acid (PFDA)	**NS**	ND		1.92	0.292	2.49		1.7	0.258	ND		1.86	0.284	ND		1.96	0.298	-	-	-	-
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	**NS**	ND		1.92	1.16	ND		1.7	1.03	ND		1.86	1.13	ND		1.96	1.19	-	-	-	-
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	**NS**	ND		1.92	0.623	ND		1.7	0.551	ND		1.86	0.604	ND		1.96	0.635	-	-	-	-
Perfluoroundecanoic Acid (PFUnA)	**NS**	ND		1.92	0.25	ND		1.7	0.221	ND		1.86	0.242	ND		1.96	0.255	-	-	-	-
Perfluorodecanesulfonic Acid (PFDS)	**NS**	ND		1.92	0.942	ND		1.7	0.833	ND		1.86	0.914	ND		1.96	0.961	-	-	-	-
Perfluorooctanesulfonamide (FOSA)	**NS**	ND		1.92	0.558	ND		1.7	0.493	ND		1.86	0.541	ND		1.96	0.569	-	-	-	-
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	**NS**	ND		1.92	0.773	ND		1.7	0.684	ND		1.86	0.75	ND		1.96	0.788	-	-	-	-
Perfluorododecanoic Acid (PFDoA)	**NS**	ND		1.92	0.358	ND		1.7	0.316	ND		1.86	0.347	ND		1.96	0.365	-	-	-	-
Perfluorotridecanoic Acid (PFTrDA)	**NS**	ND		1.92	0.315	ND		1.7	0.278	ND		1.86	0.305	ND		1.96	0.321	-	-	-	-
Perfluorotetradecanoic Acid (PFTA)	**NS**	ND		1.92	0.238	ND		1.7	0.211	ND		1.86	0.231	ND		1.96	0.243	-	-	-	-
PFOA/PFOS, Total	**NS**	152		1.92	0.227	54		1.7	0.201	64.2		1.86	0.22	ND		1.96	0.231	-	-	-	-

Results in Blue Highlight displays exceedance above the NYSDEC Groundwater/Drinking Water Quality Standards
J = Concentration detected at a value below the RL and above the MDL for target compounds

Table 6 - Groundwater Results - PCBs, Pesticides, Metals

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 10/16/2019

Target Compounds	NYSDEC Groundwater Quality Standards	MW-2				MW-3				MW-4				MW-5				FIELD BLANK				TRIP BLANK			
PCB's (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aroclor 1016	**0.09**	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	-	-	-	-
Aroclor 1221	**0.09**	ND		0.083	0.067	ND		0.083	0.067	ND		0.083	0.067	ND		0.083	0.067	ND		0.083	0.067	-	-	-	-
Aroclor 1232	**0.09**	ND		0.083	0.046	ND		0.083	0.046	ND		0.083	0.046	ND		0.083	0.046	ND		0.083	0.046	-	-	-	-
Aroclor 1242	**0.09**	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	-	-	-	-
Aroclor 1248	**0.09**	ND		0.083	0.049	ND		0.083	0.049	ND		0.083	0.049	ND		0.083	0.049	ND		0.083	0.049	-	-	-	-
Aroclor 1254	**0.09**	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	-	-	-	-
Aroclor 1260	**0.09**	ND		0.083	0.032	ND		0.083	0.032	ND		0.083	0.032	ND		0.083	0.032	ND		0.083	0.032	-	-	-	-
Aroclor 1262	**0.09**	ND		0.083	0.035	ND		0.083	0.035	ND		0.083	0.035	ND		0.083	0.035	ND		0.083	0.035	-	-	-	-
Aroclor 1268	**0.09**	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	-	-	-	-
PCBs, Total	**NS**	ND		0.083	0.032	ND		0.083	0.032	ND		0.083	0.032	ND		0.083	0.032	ND		0.083	0.032	-	-	-	-
Pesticides (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
4,4'-DDD	**0.3**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
4,4'-DDE	**0.2**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
4,4'-DDT	**0.2**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Aldrin	**0**	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	-	-	-	-
Alpha-BHC	**0.01**	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	-	-	-	-
Beta-BHC	**0.04**	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	-	-	-	-
Chlordane	**0.05**	ND		0.143	0.033	ND		0.143	0.033	ND		0.143	0.033	ND		0.143	0.033	ND		0.143	0.033	-	-	-	-
cis-Chlordane	**NS**	ND		0.014	0.005	ND		0.014	0.005	ND		0.014	0.005	ND		0.014	0.005	ND		0.014	0.005	-	-	-	-
Delta-BHC	**0.04**	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	-	-	-	-
Dieldrin	**0.004**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Endosulfan I	**NS**	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	-	-	-	-
Endosulfan II	**NS**	ND		0.029	0.004	ND		0.029	0.004	ND		0.029	0.004	ND		0.029	0.004	ND		0.029	0.004	-	-	-	-
Endosulfan sulfate	**NS**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Endrin	**0**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Endrin aldehyde	**5**	ND		0.029	0.006	ND		0.029	0.006	ND		0.029	0.006	ND		0.029	0.006	ND		0.029	0.006	-	-	-	-
Endrin ketone	**5**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Heptachlor	**0.04**	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	-	-	-	-
Heptachlor epoxide	**0.03**	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	-	-	-	-
Lindane	**0.05**	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	-	-	-	-
Methoxychlor	**35**	ND		0.143	0.005	ND		0.143	0.005	ND		0.143	0.005	ND		0.143	0.005	ND		0.143	0.005	-	-	-	-
Toxaphene	**0.06**	ND		0.143	0.045	ND		0.143	0.045	ND		0.143	0.045	ND		0.143	0.045	ND		0.143	0.045	-	-	-	-
trans-Chlordane	**NS**	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	-	-	-	-
Metals (Total) (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aluminum	**NS**	10.7		10	3.27	ND		10	3.27	11.9		10	3.27	4.41	J	10	3.27	ND		10	3.27	-	-	-	-
Antimony	**3**	0.57	J	4	0.42	ND		4	0.42	ND		4	0.42	ND		4	0.42	ND		4	0.42	-	-	-	-
Arsenic	**25**	0.3	J	0.5	0.16	0.21	J	0.5	0.16	0.29	J	0.5	0.16	0.57		0.5	0.16	ND		0.5	0.16	-	-	-	-
Barium	**1000**	214.6		0.5	0.17	76.6		0.5	0.17	167.4		0.5	0.17	40.9		0.5	0.17	0.64		0.5	0.17	-	-	-	-
Beryllium	**3**	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1	-	-	-	-
Cadmium	**5**	ND		0.2	0.05	ND		0.2	0.05	0.23		0.2	0.05	ND		0.2	0.05	ND		0.2	0.05	-	-	-	-
Calcium	**NS**	132000		100	39.4	162000		100	39.4	173000		100	39.4	107000		100	39.4	52.9	J	100	39.4	-	-	-	-
Chromium	**50**	ND		1	0.17	ND		1	0.17	ND		1	0.17	39.44		1	0.17	ND		1	0.17	-	-	-	-
Cobalt	**NS**	2.78		0.5	0.16	2.85		0.5	0.16	7.63		0.5	0.16	ND		0.5	0.16	ND		0.5	0.16	-	-	-	-
Copper	**200**	0.49	J	1	0.38	0.4	J	1	0.38	2.62		1	0.38	0.74	J	1	0.38	1.62		1	0.38	-	-	-	-
Iron	**300**	55.7		50	19.1	**1640**		50	19.1	39	J	50	19.1	ND		50	19.1	ND		50	19.1	-	-	-	-
Lead	**25**	ND		1	0.34	ND		1	0.34	ND		1	0.34	ND		1	0.34	ND		1	0.34	-	-	-	-
Magnesium	**35000**	**42600**		70	24.2	30700		70	24.2	**98700**		70	24.2	**53600**		70	24.2	ND		70	24.2	-	-	-	-
Manganese	**300**	**434.3**		1	0.44	**26060**		50	22	**2860**		1	0.44	55.96		1	0.44	ND		1	0.44	-	-	-	-
Mercury	**0.7**	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	-	-	-	-
Nickel	**100**	1.85	J	2	0.55	10.29		2	0.55	18.64		2	0.55	ND		2	0.55	ND		2	0.55	-	-	-	-
Potassium	**NS**	18000		100	30.9	27300		100	30.9	12500		100	30.9	164000		100	30.9	ND		100	30.9	-	-	-	-
Selenium	**10**	2.63	J	5	1.73	ND		5	1.73	2.64	J	5	1.73	ND		5	1.73	ND		5	1.73	-	-	-	-
Silver	**50**	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	-	-	-	-
Sodium	**20000**	**210000**		100	29.3	**163000**		100	29.3	**76900**		100	29.3	**78800**		100	29.3	235		100	29.3	-	-	-	-
Thallium	**0.5**	0.44	J	1	0.14	0.26	J	1	0.14	0.24	J	1	0.14	0.15	J	1	0.14	0.23	J	0.5	0.14	-	-	-	-
Vanadium	**NS**	ND		5	1.57	ND		5	1.57	ND		5	1.57	ND		5	1.57	ND		5	1.57	-	-	-	-
Zinc	**2000**	ND		10	3.41	4.15	J	10	3.41	17.84		10	3.41	53.39		10	3.41	ND		10	3.41	-	-	-	-
General Analytical (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Cyanide, Total	**200**	4	J	5	1	6		5	1	ND		5	1	ND		5	1	ND		5	1				
Metals (Dissolved) (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aluminum	**NS**	456		10	3.27	ND		10	3.27	890		10	3.27	84.4		10	3.27	ND		10	3.27				
Antimony	**3**	0.76	J	4	0.42	0.43	J	4	0.42	ND		4	0.42	ND		4	0.42	ND		4	0.42				
Arsenic	**25**	0.61		0.5	0.16	0.19	J	0.5	0.16	0.75		0.5	0.16	0.62		0.5	0.16	ND		0.5	0.16				
Barium	**1000**	243.2		0.5	0.17	76.88		0.5	0.17	165.6		0.5	0.17	46.44		0.5	0.17	1.45		0.5	0.17				
Beryllium	**3**	ND		0.5	0.1	ND		0.5	0.1	0.46	J	0.5	0.1	ND		0.5	0.1	ND		0.5	0.1				
Cadmium	**5**	0.09	J	0.2	0.05	ND		0.2	0.05	0.19	J	0.2	0.05	ND		0.2	0.05	ND		0.2	0.05				
Calcium	**NS**	140000		100	39.4	160000		100	39.4	172000		100	39.4	115000		100	39.4	42.6	J	100	39.4				
Chromium	**50**	1.73		1	0.17	ND		1	0.17	4.58		1	0.17	45.96		1	0.17	ND		1	0.17				
Cobalt	**NS**	5.94		0.5	0.16	2.78		0.5	0.16	7.47		0.5	0.16	ND		0.5	0.16	ND		0.5	0.16				
Copper	**200**	4.82		1	0.38	1.53		1	0.38	6.07		1	0.38	1.69		1	0.38	1.55		1	0.38				
Iron	**300**	**1250**		50	19.1	**2130**		50	19.1	**1090**		50	19.1	155		50	19.1	ND		50	19.1				
Lead	**25**	3.16		1	0.34	ND		1	0.34	0.49	J	1	0.34	ND		1	0.34	ND		1	0.34				
Magnesium	**35000**	**45200**		70	24.2	29900		70	24.2	**99000**		70	24.2	**57100**		70	24.2	ND		70	24.2				
Manganese	**300**	**615**		1	0.44	**25400**		50	22	**2837**		1	0.44	176		1	0.44	ND		1	0.44				
Mercury	**0.7**	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09				
Nickel	**100**	3.95		2	0.55	9.92		2	0.55	19.23		2	0.55	0.73	J	2	0.55	ND		2	0.55				
Potassium	**NS**	18800		100	30.9	26600		100	30.9	12600		100	30.9	183000		100	30.9	ND		100	30.9				
Selenium	**10**	2.1	J	5	1.73	ND		5	1.73	4.85	J	5	1.73	ND		5	1.73	ND		5	1.73				
Silver	**50**	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16				
Sodium	**20000**	**216000**		100	29.3	**160000**		100	29.3	**76300**		100	29.3	**84400**		100	29.3	300		100	29.3				
Thallium	**0.5**	0.4	J	1	0.14	0.24	J	1	0.14	0.18	J	1	0.14	0.15	J	1	0.14	0.38	J	1	0.14				
Vanadium	**NS**	1.84	J	5	1.57	ND		5	1.57	ND		5	1.57	1.79	J	5	1.57	ND		5	1.57				
Zinc	**2000**	6.83	J	10	3.41	ND		10	3.41	17.35		10	3.41	63.88		10	3.41	ND		10	3.41				

Results in Blue Highlight displays exceedance above the NYSDEC Groundwater Quality Standards
J = Concentration detected at a value below the RL and above the MDL for target compounds

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 6 - Groundwater Results - PCBs, Pesticides, Metals (continued)

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 03/18/2020

Target Compounds	NYSDEC Groundwater Quality Standards	MW-1A				MW-6				MW-7				FIELD BLANK				TRIP BLANK			
PCB's (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aroclor 1016	**0.09**	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	-	-	-	-
Aroclor 1221	**0.09**	ND		0.083	0.067	ND		0.083	0.067	ND		0.083	0.067	ND		0.083	0.067	-	-	-	-
Aroclor 1232	**0.09**	ND		0.083	0.046	ND		0.083	0.046	ND		0.083	0.046	ND		0.083	0.046	-	-	-	-
Aroclor 1242	**0.09**	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	-	-	-	-
Aroclor 1248	**0.09**	0.054	J	0.083	0.049	0.051	J	0.083	0.049	0.062	J	0.083	0.049	ND		0.083	0.049	-	-	-	-
Aroclor 1254	**0.09**	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	ND		0.083	0.039	-	-	-	-
Aroclor 1260	**0.09**	ND		0.083	0.032	ND		0.083	0.032	ND		0.083	0.032	ND		0.083	0.032	-	-	-	-
Aroclor 1262	**0.09**	ND		0.083	0.035	ND		0.083	0.035	ND		0.083	0.035	ND		0.083	0.035	-	-	-	-
Aroclor 1268	**0.09**	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	ND		0.083	0.034	-	-	-	-
PCBs, Total	**NS**	0.054	J	0.083	0.032	0.051	J	0.083	0.032	0.062	J	0.083	0.032	ND		0.083	0.032	-	-	-	-
Pesticides (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
4,4'-DDD	**0.3**	ND		0.029	0.003	0.179		0.029	0.003	0.192		0.029	0.003	ND		0.029	0.003	-	-	-	-
4,4'-DDE	**0.2**	ND		0.029	0.003	0.003	J	0.029	0.003	0.003	J	0.029	0.003	ND		0.029	0.003	-	-	-	-
4,4'-DDT	**0.2**	ND		0.029	0.003	0.034		0.029	0.003	0.095		0.029	0.003	ND		0.029	0.003	-	-	-	-
Aldrin	**0**	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	-	-	-	-
Alpha-BHC	**0.01**	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	-	-	-	-
Beta-BHC	**0.04**	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	-	-	-	-
Chlordane	**0.05**	ND		0.143	0.033	ND		0.143	0.033	ND		0.143	0.033	ND		0.143	0.033	-	-	-	-
cis-Chlordane	**NS**	ND		0.014	0.005	ND		0.014	0.005	ND		0.014	0.005	ND		0.014	0.005	-	-	-	-
Delta-BHC	**0.04**	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	-	-	-	-
Dieldrin	**0.004**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Endosulfan I	**NS**	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	-	-	-	-
Endosulfan II	**NS**	ND		0.029	0.004	ND		0.029	0.004	ND		0.029	0.004	ND		0.029	0.004	-	-	-	-
Endosulfan sulfate	**NS**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Endrin	**0**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Endrin aldehyde	**5**	ND		0.029	0.006	ND		0.029	0.006	ND		0.029	0.006	ND		0.029	0.006	-	-	-	-
Endrin ketone	**5**	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	ND		0.029	0.003	-	-	-	-
Heptachlor	**0.04**	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	ND		0.014	0.002	-	-	-	-
Heptachlor epoxide	**0.03**	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	-	-	-	-
Lindane	**0.05**	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	ND		0.014	0.003	-	-	-	-
Methoxychlor	**35**	ND		0.143	0.005	ND		0.143	0.005	ND		0.143	0.005	ND		0.143	0.005	-	-	-	-
Toxaphene	**0.06**	ND		0.143	0.045	ND		0.143	0.045	ND		0.143	0.045	ND		0.143	0.045	-	-	-	-
trans-Chlordane	**NS**	0.005	JIP	0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	ND		0.014	0.004	-	-	-	-
Metals (Total) (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aluminum	**NS**	666		10	3.27	122		10	3.27	22.4		10	3.27	ND		10	3.27	-	-	-	-
Antimony	**3**	0.69	J	4	0.42	ND		4	0.42	0.6	J	4	0.42	ND		4	0.42	-	-	-	-
Arsenic	**25**	0.43	J	0.5	0.16	0.43	J	0.5	0.16	1		0.5	0.16	ND		0.5	0.16	-	-	-	-
Barium	**1000**	240.2		0.5	0.17	213.1		0.5	0.17	345.4		0.5	0.17	0.38	J	0.5	0.17	-	-	-	-
Beryllium	**3**	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1	-	-	-	-
Cadmium	**5**	ND		0.2	0.05	0.13	J	0.2	0.05	ND		0.2	0.05	ND		0.2	0.05	-	-	-	-
Calcium	**NS**	272000		100	39.4	117000		100	39.4	166000		100	39.4	66.1	J	100	39.4	-	-	-	-
Chromium	**50**	2.49		1	0.17	0.52	J	1	0.17	0.21	J	1	0.17	ND		1	0.17	-	-	-	-
Cobalt	**NS**	1.1		0.5	0.16	6.17		0.5	0.16	0.81		0.5	0.16	ND		0.5	0.16	-	-	-	-
Copper	**200**	5.33		1	0.38	1.13		1	0.38	ND		1	0.38	ND		1	0.38	-	-	-	-
Iron	**300**	**1220**		50	19.1	**2940**		50	19.1	**360**		50	19.1	ND		50	19.1	-	-	-	-
Lead	**25**	0.96	J	1	0.34	0.44	J	1	0.34	ND		1	0.34	ND		1	0.34	-	-	-	-
Magnesium	**35000**	30100		70	24.2	20100		70	24.2	**73800**		70	24.2	ND		70	24.2	-	-	-	-
Manganese	**300**	**3933**		1	0.44	**2453**		1	0.44	**1299**		1	0.44	0.58	J	1	0.44	-	-	-	-
Mercury	**0.7**	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	-	-	-	-
Nickel	**100**	2.73		2	0.55	2.8		2	0.55	1.19	J	2	0.55	ND		2	0.55	-	-	-	-
Potassium	**NS**	24900		100	30.9	10400		100	30.9	9420		100	30.9	ND		100	30.9	-	-	-	-
Selenium	**10**	ND		5	1.73	ND		5	1.73	ND		5	1.73	ND		5	1.73	-	-	-	-
Silver	**50**	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	-	-	-	-
Sodium	**20000**	**397000**		100	29.3	**563000**		5000	1460	**63000**		100	29.3	292		100	29.3	-	-	-	-
Thallium	**0.5**	ND		1	0.14	0.16	J	1	0.14	0.21	J	1	0.14	ND		1	0.14	-	-	-	-
Vanadium	**NS**	3.65	J	5	1.57	ND		5	1.57	ND		5	1.57	ND		5	1.57	-	-	-	-
Zinc	**2000**	7.72	J	10	3.41	6.01	J	10	3.41	ND		10	3.41	ND		10	3.41	-	-	-	-
General Analytical (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Cyanide, Total	**200**	ND		5	1	3	J	5	1	5		5	1	ND		5	1	-	-	-	-
Metals (Dissolved) (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Aluminum	**NS**	10		10	3.27	10.2		10	3.27	ND		10	3.27	3.49	J	10	3.27	-	-	-	-
Antimony	**3**	0.62	J	4	0.42	ND		4	0.42	0.71	J	4	0.42	ND		4	0.42	-	-	-	-
Arsenic	**25**	0.24	J	0.5	0.16	0.29	J	0.5	0.16	0.88		0.5	0.16	ND		0.5	0.16	-	-	-	-
Barium	**1000**	219.8		0.5	0.17	206		0.5	0.17	331.6		0.5	0.17	0.3	J	0.5	0.17	-	-	-	-
Beryllium	**3**	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1	-	-	-	-
Cadmium	**5**	ND		0.2	0.05	0.08	J	0.2	0.05	ND		0.2	0.05	ND		0.2	0.05	-	-	-	-
Calcium	**NS**	256000		100	39.4	118000		100	39.4	158000		100	39.4	56.3	J	100	39.4	-	-	-	-
Chromium	**50**	1.29		1	0.17	0.94	J	1	0.17	0.88	J	1	0.17	0.88	J	1	0.17	-	-	-	-
Cobalt	**NS**	0.25	J	0.5	0.16	6.03		0.5	0.16	0.74		0.5	0.16	ND		0.5	0.16	-	-	-	-
Copper	**200**	ND		1	0.38	2.09		1	0.38	1.02		1	0.38	2.03		1	0.38	-	-	-	-
Iron	**300**	33.5	J	50	19.1	**1290**		50	19.1	ND		50	19.1	ND		50	19.1	-	-	-	-
Lead	**25**	ND		1	0.34	ND		1	0.34	ND		1	0.34	ND		1	0.34	-	-	-	-
Magnesium	**35000**	27900		70	24.2	19500		70	24.2	**70100**		70	24.2	ND		70	24.2	-	-	-	-
Manganese	**300**	**3669**		1	0.44	**2439**		1	0.44	**1253**		1	0.44	ND		1	0.44	-	-	-	-
Mercury	**0.7**	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	-	-	-	-
Nickel	**100**	1.61	J	2	0.55	2.94		2	0.55	1.37	J	2	0.55	ND		2	0.55	-	-	-	-
Potassium	**NS**	23200		100	30.9	10400		100	30.9	8960		100	30.9	ND		100	30.9	-	-	-	-
Selenium	**10**	ND		5	1.73	ND		5	1.73	ND		5	1.73	ND		5	1.73	-	-	-	-
Silver	**50**	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	-	-	-	-
Sodium	**20000**	**374000**		100	29.3	**547000**		5000	1460	**60000**		100	29.3	266		100	29.3	-	-	-	-
Thallium	**0.5**	0.15	J	1	0.14	ND		1	0.14	0.21	J	1	0.14	0.15	J	1	0.14	-	-	-	-
Vanadium	**NS**	ND		5	1.57	ND		5	1.57	ND		5	1.57	ND		5	1.57	-	-	-	-
Zinc	**2000**	ND		10	3.41	4.16	J	10	3.41	ND		10	3.41	ND		10	3.41	-	-	-	-

Results in Blue Highlight displays exceedance above the NYSDEC Groundwater Quality Standards
J = Concentration detected at a value below the RL and above the MDL for target compounds

Table 7 - Groundwater Results - Sumps - VOCs
Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY
Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: October 17, 2019

Target Compounds	NYSDEC Groundwater Quality Standards	SP-2				SP-3				SP-4			
VOLATILE ORGANICS BY GC/MS (µg/l)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,1,1,2-Tetrachloroethane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,1,1-Trichloroethane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,1,2,2-Tetrachloroethane	5	ND		1	0.33	ND		0.5	0.17	ND		0.5	0.17
1,1,2-Trichloroethane	1	ND		3	1	ND		1.5	0.5	ND		1.5	0.5
1,1-Dichloroethane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,1-Dichloroethene	5	ND		1	0.34	ND		0.5	0.17	ND		0.5	0.17
1,1-Dichloropropene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,2,3-Trichlorobenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,2,3-Trichloropropane	0.04	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,2,4,5-Tetramethylbenzene	5	ND		4	1.1	ND		2	0.54	ND		2	0.54
1,2,4-Trichlorobenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,2,4-Trimethylbenzene	5	ND		5	1.4	ND		2.5	0.7	1.2	J	2.5	0.7
1,2-Dibromo-3-chloropropane	0.04	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,2-Dibromoethane	0.0006	ND		4	1.3	ND		2	0.65	ND		2	0.65
1,2-Dichlorobenzene	3	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,2-Dichloroethane	0.6	ND		1	0.26	ND		0.5	0.13	ND		0.5	0.13
1,2-Dichloroethene, Total	NS	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,2-Dichloropropane	1	ND		2	0.27	ND		1	0.14	ND		1	0.14
1,3,5-Trimethylbenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,3-Dichlorobenzene	3	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,3-Dichloropropane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
1,3-Dichloropropene, Total		ND		1	0.29	ND		0.5	0.14	ND		0.5	0.14
1,4-Dichlorobenzene	3	ND		5	1.4	ND		2.5	0.7	1.6	J	2.5	0.7
1,4-Dioxane	NS	ND		500	120	ND		250	61	ND		250	61
2,2-Dichloropropane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
2-Butanone	50	6.3	J	10	3.9	ND		5	1.9	3	J	5	1.9
2-Hexanone	50	ND		10	2	ND		5	1	ND		5	1
4-Methyl-2-pentanone	NS	ND		10	2	ND		5	1	ND		5	1
Acetone	50	**180**		10	2.9	3.4	J	5	1.5	34		5	1.5
Acrylonitrile	5	ND		10	3	ND		5	1.5	ND		5	1.5
Benzene	1	ND		1	0.32	ND		0.5	0.16	ND		0.5	0.16
Bromobenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Bromochloromethane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Bromodichloromethane	50	0.84	J	1	0.38	ND		0.5	0.19	ND		0.5	0.19
Bromoform	50	ND		4	1.3	ND		2	0.65	ND		2	0.65
Bromomethane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Carbon disulfide	60	ND		10	2	ND		5	1	ND		5	1
Carbon tetrachloride	5	ND		1	0.27	ND		0.5	0.13	ND		0.5	0.13
Chlorobenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Chloroethane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Chloroform	7	**9.3**		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Chloromethane		ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
cis-1,2-Dichloroethene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
cis-1,3-Dichloropropene	0.4	ND		1	0.29	ND		0.5	0.14	ND		0.5	0.14
Dibromochloromethane	50	ND		1	0.3	ND		0.5	0.15	ND		0.5	0.15
Dibromomethane	5	ND		10	2	ND		5	1	ND		5	1
Dichlorodifluoromethane	5	ND		10	2	ND		5	1	ND		5	1
Ethyl ether	NS	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Ethylbenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Hexachlorobutadiene	0.5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Isopropylbenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Methyl tert butyl ether	10	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Methylene chloride	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Naphthalene	10	ND		5	1.4	ND		2.5	0.7	0.73	J	2.5	0.7
n-Butylbenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
n-Propylbenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
o-Chlorotoluene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
o-Xylene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
p/m-Xylene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
p-Chlorotoluene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
p-Diethylbenzene	NS	ND		4	1.4	ND		2	0.7	ND		2	0.7
p-Ethyltoluene	NS	ND		4	1.4	ND		2	0.7	1.8	J	2	0.7
p-Isopropyltoluene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
sec-Butylbenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Styrene	930	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
tert-Butylbenzene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Tetrachloroethene	5	ND		1	0.36	ND		0.5	0.18	ND		0.5	0.18
Toluene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
trans-1,2-Dichloroethene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
trans-1,3-Dichloropropene	0.4	ND		1	0.33	ND		0.5	0.16	ND		0.5	0.16
trans-1,4-Dichloro-2-butene	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Trichloroethene	5	ND		1	0.35	ND		0.5	0.18	ND		0.5	0.18
Trichlorofluoromethane	5	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Vinyl acetate	NS	ND		10	2	ND		5	1	ND		5	1
Vinyl chloride	2	ND		2	0.14	ND		1	0.07	ND		1	0.07
Xylenes, Total	NS	ND		5	1.4	ND		2.5	0.7	ND		2.5	0.7
Total VOCs		196.44	-	-	-	3.4	-	-	-	42.33	-	-	-
VOLATILE ORGANICS BY GC/MS-TIC		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
No Tentatively Identified Compounds	NS	-		-	-	ND		0	0	-	-	-	-
Unknown	NS	2.02	J	0	0	-		-	-	2.1	J	0	0
Unknown	NS	6.92	J	0	0	-		-	-	6.92	J	0	0
Unknown	NS	-		-	-	-		-	-	2.21	J	0	0
Total TIC Compounds	NS	8.94	J	0	0	-		-	-	11.2	J	0	0

Results in Blue Highlight displays exceedance above the NYSDEC Ambient Groundwater Quality Standards
NS = No Standard Available
J = Concentration detected at a value below the RL and above the MDL for target compounds
ND = Analyzed for but Not Detected at the MDL
NA = No applicable standard

Table 8
Well Gauging Data Summary
Buena Vista Apartments
85 Riverdale Avenue
Yonkers, New York

Well ID	SCRN (ft)	TOC (ft)	Date	DTW (ft)	GWE (ft)	Comments
MW-1A	10-20	62.88	4/13/2023	14.10	48.78	
			1/24/2024	11.97	50.91	
MW-2	4.5-14.5	59.56	4/14/2023	11.47	48.09	
			1/24/2024	9.46	50.10	
MW-3	10-20	59.31	4/13/2023	11.60	47.71	
			1/24/2024	10.05	49.26	
MW-4	10.3-20.3	58.95	4/13/2023	11.74	47.21	
			1/24/2024	10.47	48.48	
MW-5	23-33	59.29	4/14/2023	11.68	47.61	
			1/24/2024	10.31	48.98	
MW-6	10-20	78.74	4/13/2023	11.64	67.10	
			1/24/2024	NA	NA	
MW-7	29-39	59.58	4/13/2023	12.30	47.28	
			1/24/2024	10.82	48.76	
MW-8	50-60	59.39	4/14/2023	16.26	43.13	
			1/24/2024	14.98	44.41	
MW-9	50-60	63.39	4/14/2023	15.20	48.19	
			1/24/2024	13.81	49.58	
MW-10	50-60	59.55	4/13/2023	12.71	46.84	
			1/24/2024	10.48	49.07	
MW-11	10-20	59.68	4/13/2023	12.00	47.68	
			1/24/2024	10.68	49.00	
MW-12	40-50	59.56	4/13/2023	15.98	43.58	
			1/24/2024	15.34	44.22	
MW-13	50-60	58.93	4/13/2023	14.15	44.78	
			1/24/2024	12.69	46.24	0.85' of oil at 13.54'

Notes:

SCRN - Screen interval feet below grade; TOC - Top of casing/measuring point elevation, feet above MSL

DTW - Depth to water, feet below TOC; GWE - Groundwater elevation, feet above MSL

NA - not available

Table 9 - April 2023 Groundwater Analytical Results
Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

HK Engineering & Geology, D.P.C.
Project #: HK-2420
Sample Date: 4/13/2023 - 4/14/2023

Target Compounds	NYSDEC Groundwater Quality Standards	MW-1A				MW-2				MW-3				MW-4				MW-5			
Volatiles (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,1,1-Trichloroethane	**5**	ND		0.500	0.381	ND		0.500	0.381	ND		5.00	3.81	ND		0.500	0.381	ND		5.00	3.81
1,1,2,2-Tetrachloroethane	**0.2**	ND		0.500	0.284	ND		0.500	0.284	ND		5.00	2.84	ND		0.500	0.284	ND		5.00	2.84
1,1,2-Trichloro-1,2,2-trifluoroethane	**5**	ND		1.00	0.538	ND		1.00	0.538	ND		10.0	5.38	ND		1.00	0.538	ND		10.0	5.38
1,1,2-Trichloroethane	**1**	ND		0.500	0.313	ND		0.500	0.313	ND		5.00	3.13	ND		0.500	0.313	ND		5.00	3.13
1,1-Dichloroethane	**5**	ND		0.500	0.285	ND		0.500	0.285	ND		5.00	2.85	ND		0.500	0.285	ND		5.00	2.85
1,1-Dichloroethene	**0.07**	ND		0.500	0.363	ND		0.500	0.363	ND		5.00	3.63	ND		0.500	0.363	ND		5.00	3.63
1,2,3-Trichlorobenzene	**5**	ND		0.500	0.406	ND		0.500	0.406	ND		5.00	4.06	ND		0.500	0.406	ND		5.00	4.06
1,2,4-Trichlorobenzene	**5**	ND		0.500	0.358	ND		0.500	0.358	ND		5.00	3.58	ND		0.500	0.358	ND		5.00	3.58
1,2-Dibromo-3-chloropropane	**0.04**	ND		0.500	0.410	ND		0.500	0.410	ND		5.00	4.10	ND		0.500	0.410	ND		5.00	4.10
1,2-Dibromoethane (EDB)	**0.0006**	ND		0.500	0.289	ND		0.500	0.289	ND		5.00	2.89	ND		0.500	0.289	ND		5.00	2.89
1,2-Dichlorobenzene	**3**	ND		0.500	0.354	ND		0.500	0.354	ND		5.00	3.54	ND		0.500	0.354	ND		5.00	3.54
1,2-Dichloroethane (EDC)	**0.6**	ND		0.500	0.273	ND		0.500	0.273	ND		5.00	2.73	ND		0.500	0.273	ND		5.00	2.73
1,2-Dichloropropane	**1**	ND		0.500	0.272	ND		0.500	0.272	ND		5.00	2.72	ND		0.500	0.272	ND		5.00	2.72
1,3-Dichlorobenzene	**3**	ND		0.500	0.386	ND		0.500	0.386	ND		5.00	3.86	ND		0.500	0.386	ND		5.00	3.86
1,3-Dichloropropene (cis- and trans-)	**0.4**	ND		0.500	0.264	ND		0.500	0.264	ND		5.00	2.64	ND		0.500	0.264	ND		5.00	2.64
1,4-Dichlorobenzene	**3**	ND		0.500	0.397	ND		0.500	0.397	ND		5.00	3.97	ND		0.500	0.397	ND		5.00	3.97
2-Butanone (MEK)	**50**	2.32		1.00	0.802	ND		1.00	0.802	ND		10.0	8.02	ND		1.00	0.802	ND		10.0	8.02
2-Hexanone	**50**	ND		1.00	0.818	ND		1.00	0.818	ND		10.0	8.18	ND		1.00	0.818	ND		10.0	8.18
4-Methyl-2-pentanone (MIBK)	**NS**	ND		1.00	0.611	ND		1.00	0.611	ND		10.0	6.11	ND		1.00	0.611	ND		10.0	6.11
Acetone	**50**	7.83		1.00	0.847	ND		1.00	0.847	ND		10.0	8.47	16.3		1.00	0.847	ND		10.0	8.47
Benzene	**1**	ND		0.500	0.270	ND		0.500	0.270	ND		5.00	2.70	**1.19**		0.500	0.270	ND		5.00	2.70
Bromochloromethane	**5**	ND		0.500	0.379	ND		0.500	0.379	ND		5.00	3.79	ND		0.500	0.379	ND		5.00	3.79
Bromodichloromethane	**50**	ND		0.500	0.258	ND		0.500	0.258	ND		5.00	2.58	ND		0.500	0.258	ND		5.00	2.58
Bromoform	**50**	ND		0.500	0.328	ND		0.500	0.328	ND		5.00	3.28	ND		0.500	0.328	ND		5.00	3.28
Bromomethane	**5**	ND		0.500	0.386	ND		0.500	0.386	ND		5.00	3.86	ND		0.500	0.386	ND		5.00	3.86
Carbon disulfide	**60**	ND		0.500	0.403	ND		0.500	0.403	ND		5.00	4.03	ND		0.500	0.403	ND		5.00	4.03
Carbon tetrachloride	**0.4**	ND		0.500	0.349	ND		0.500	0.349	ND		5.00	3.49	ND		0.500	0.349	ND		5.00	3.49
Chlorobenzene	**5**	ND		0.500	0.304	ND		0.500	0.304	ND		5.00	3.04	ND		0.500	0.304	ND		5.00	3.04
Chloroethane	**5**	ND		0.500	0.324	ND		0.500	0.324	ND		5.00	3.24	ND		0.500	0.324	ND		5.00	3.24
Chloroform	**7**	ND		0.500	0.285	ND		0.500	0.285	ND		5.00	2.85	3.15		0.500	0.285	ND		5.00	2.85
Chloromethane	**5**	ND		0.500	0.309	ND		0.500	0.309	ND		5.00	3.09	ND		0.500	0.309	ND		5.00	3.09
cis-1,2-Dichloroethene	**5**	ND		0.500	0.277	ND		0.500	0.277	**203**	D	5.00	2.77	ND		0.500	0.277	**230**	D	5.00	2.77
cis-1,3-Dichloropropene	**NS**	ND		0.500	0.264	ND		0.500	0.264	ND		5.00	2.64	ND		0.500	0.264	ND		5.00	2.64
Cyclohexane	**NS**	ND		1.00	0.469	ND		1.00	0.469	ND		10.0	4.69	ND		1.00	0.469	90.9	D	10.0	4.69
Dibromochloromethane	**50**	ND		0.500	0.263	ND		0.500	0.263	ND		5.00	2.63	ND		0.500	0.263	ND		5.00	2.63
Dichlorodifluoromethane	**5**	ND		1.00	0.552	ND		1.00	0.552	ND		10.0	5.52	ND		1.00	0.552	ND		10.0	5.52
Ethylbenzene	**5**	ND		0.500	0.313	ND		0.500	0.313	ND		5.00	3.13	ND		0.500	0.313	ND		5.00	3.13
Isopropylbenzene	**5**	ND		0.500	0.332	ND		0.500	0.332	ND		5.00	3.32	ND		0.500	0.332	ND		5.00	3.32
Methyl acetate	**NS**	ND		0.500	0.345	ND		0.500	0.345	ND		5.00	3.45	ND		0.500	0.345	ND		5.00	3.45
Methyl tert-butyl ether (MTBE)	**10**	ND		0.500	0.245	ND		0.500	0.245	ND		5.00	2.45	ND		0.500	0.245	ND		5.00	2.45
Methylcyclohexane	**NS**	ND		0.500	0.421	ND		0.500	0.421	ND		5.00	4.21	ND		0.500	0.421	12.7	D	5.00	4.21
Methylene chloride	**5**	ND		1.00	0.500	ND		1.00	0.500	ND		10.0	5.00	ND		1.00	0.500	ND		10.0	5.00
Styrene	**5**	ND		0.500	0.317	ND		0.500	0.317	ND		5.00	3.17	ND		0.500	0.317	ND		5.00	3.17
Tetrachloroethene	**0.7**	ND		0.500	0.365	ND		0.500	0.365	**1810**	D	10.0	7.30	0.577		0.500	0.365	**1970**	D	5.00	3.65
Toluene	**5**	ND		0.500	0.302	ND		0.500	0.302	ND		5.00	3.02	ND		0.500	0.302	ND		5.00	3.02
Total Xylenes	**NS**	ND		1.00	0.345	ND		1.00	0.345	ND		10.0	3.45	ND		1.00	0.345	ND		10.0	3.45
trans-1,2-Dichloroethene	**5**	ND		0.500	0.372	ND		0.500	0.372	**27.9**	D	5.00	3.72	0.574		0.500	0.372	**77.6**	D	5.00	3.72
trans-1,3-Dichloropropene	**NS**	ND		0.500	0.330	ND		0.500	0.330	ND		5.00	3.30	ND		0.500	0.330	ND		5.00	3.30
Trichloroethene	**5**	ND		0.500	0.347	ND		0.500	0.347	**583**	D	5.00	3.47	ND		0.500	0.347	**722**	D	5.00	3.47
Trichlorofluoromethane	**5**	ND		1.00	0.503	ND		1.00	0.503	ND		10.0	5.03	ND		1.00	0.503	ND		10.0	5.03
Vinyl chloride	**2**	ND		0.500	0.352	ND		0.500	0.352	ND		5.00	3.52	ND		0.500	0.352	**29.2**	D	5.00	3.52
TOTAL VO's:	**NS**	10.1			NA	ND			NA	2620	D		NA	21.8			NA	3130	D		NA
TOTAL TIC's:	**NS**	ND			NA	ND			NA	ND			NA	ND			NA	516	DJN		NA
TOTAL VO's & TIC's:	**NS**	10.1			NA	ND			NA	2620	D		NA	21.8			NA	3650	DJN		NA

Results in Blue Highlight displays exceedance above the NYSDEC Groundwater Quality Standards
J = Indicates an estimated value either when the concentration in the sample is greater than MDL and less than RL, or for qualification of TICs
D = The compound was reported from the Diluted analysis
N = Presumptive evidence of a compound from the use of GC/MS library search.
NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL
~ = Sample not analyzed for

Table 9 (cont'd) - April 2023 Groundwater Analytical Results Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

HK Engineering & Geology, D.P.C.
Project #: HK-2420
Sample Date: 4/13/2023 - 4/14/2023

Target Compounds	NYSDEC Groundwater Quality Standards	MW-6				MW-7				MW-8				MW-9				MW-10			
Volatiles (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,1,1-Trichloroethane	**5**	ND		0.500	0.381	ND		0.500	0.381	ND		2.50	1.91	ND		0.500	0.381	ND		0.500	0.381
1,1,2,2-Tetrachloroethane	**0.2**	ND		0.500	0.284	ND		0.500	0.284	ND		2.50	1.42	ND		0.500	0.284	ND		0.500	0.284
1,1,2-Trichloro-1,2,2-trifluoroethane	**5**	ND		1.00	0.538	ND		1.00	0.538	ND		5.00	2.69	ND		1.00	0.538	ND		1.00	0.538
1,1,2-Trichloroethane	**1**	ND		0.500	0.313	ND		0.500	0.313	ND		2.50	1.57	ND		0.500	0.313	ND		0.500	0.313
1,1-Dichloroethane	**5**	ND		0.500	0.285	ND		0.500	0.285	ND		2.50	1.43	ND		0.500	0.285	ND		0.500	0.285
1,1-Dichloroethene	**0.07**	ND		0.500	0.363	**0.472**	J	0.500	0.363	ND		2.50	1.82	ND		0.500	0.363	ND		0.500	0.363
1,2,3-Trichlorobenzene	**5**	ND		0.500	0.406	ND		0.500	0.406	ND		2.50	2.03	ND		0.500	0.406	ND		0.500	0.406
1,2,4-Trichlorobenzene	**5**	ND		0.500	0.358	ND		0.500	0.358	ND		2.50	1.79	ND		0.500	0.358	ND		0.500	0.358
1,2-Dibromo-3-chloropropane	**0.04**	ND		0.500	0.410	ND		0.500	0.410	ND		2.50	2.05	ND		0.500	0.410	ND		0.500	0.410
1,2-Dibromoethane (EDB)	**0.0006**	ND		0.500	0.289	ND		0.500	0.289	ND		2.50	1.45	ND		0.500	0.289	ND		0.500	0.289
1,2-Dichlorobenzene	**3**	ND		0.500	0.354	ND		0.500	0.354	ND		2.50	1.77	ND		0.500	0.354	ND		0.500	0.354
1,2-Dichloroethane (EDC)	**0.6**	ND		0.500	0.273	ND		0.500	0.273	ND		2.50	1.37	ND		0.500	0.273	ND		0.500	0.273
1,2-Dichloropropane	**1**	ND		0.500	0.272	ND		0.500	0.272	ND		2.50	1.36	ND		0.500	0.272	ND		0.500	0.272
1,3-Dichlorobenzene	**3**	ND		0.500	0.386	ND		0.500	0.386	ND		2.50	1.93	ND		0.500	0.386	ND		0.500	0.386
1,3-Dichloropropene (cis- and trans-)	**0.4**	ND		0.500	0.264	ND		0.500	0.264	ND		2.50	1.32	ND		0.500	0.264	ND		0.500	0.264
1,4-Dichlorobenzene	**3**	ND		0.500	0.397	ND		0.500	0.397	ND		2.50	1.99	ND		0.500	0.397	ND		0.500	0.397
2-Butanone (MEK)	**50**	ND		1.00	0.802	ND		1.00	0.802	8.13	D	5.00	4.01	1.73		1.00	0.802	ND		1.00	0.802
2-Hexanone	**50**	ND		1.00	0.818	ND		1.00	0.818	ND		5.00	4.09	ND		1.00	0.818	ND		1.00	0.818
4-Methyl-2-pentanone (MIBK)	**NS**	ND		1.00	0.611	ND		1.00	0.611	ND		5.00	3.06	ND		1.00	0.611	ND		1.00	0.611
Acetone	**50**	ND		1.00	0.847	ND		1.00	0.847	**93.8**	D	5.00	4.24	7.03		1.00	0.847	6.36		1.00	0.847
Benzene	**1**	ND		0.500	0.270	0.550		0.500	0.270	ND		2.50	1.35	ND		0.500	0.270	ND		0.500	0.270
Bromochloromethane	**5**	ND		0.500	0.379	ND		0.500	0.379	ND		2.50	1.90	ND		0.500	0.379	ND		0.500	0.379
Bromodichloromethane	**50**	ND		0.500	0.258	ND		0.500	0.258	ND		2.50	1.29	ND		0.500	0.258	ND		0.500	0.258
Bromoform	**50**	ND		0.500	0.328	ND		0.500	0.328	ND		2.50	1.64	ND		0.500	0.328	ND		0.500	0.328
Bromomethane	**5**	ND		0.500	0.386	ND		0.500	0.386	ND		2.50	1.93	ND		0.500	0.386	ND		0.500	0.386
Carbon disulfide	**60**	ND		0.500	0.403	ND		0.500	0.403	ND		2.50	2.02	ND		0.500	0.403	ND		0.500	0.403
Carbon tetrachloride	**0.4**	ND		0.500	0.349	ND		0.500	0.349	ND		2.50	1.75	ND		0.500	0.349	ND		0.500	0.349
Chlorobenzene	**5**	ND		0.500	0.304	ND		0.500	0.304	ND		2.50	1.52	ND		0.500	0.304	ND		0.500	0.304
Chloroethane	**5**	ND		0.500	0.324	0.723		0.500	0.324	ND		2.50	1.62	ND		0.500	0.324	ND		0.500	0.324
Chloroform	**7**	ND		0.500	0.285	ND		0.500	0.285	ND		2.50	1.43	1.89		0.500	0.285	2.07		0.500	0.285
Chloromethane	**5**	ND		0.500	0.309	ND		0.500	0.309	ND		2.50	1.55	0.874		0.500	0.309	1.15		0.500	0.309
cis-1,2-Dichloroethene	**5**	ND		0.500	0.277	**64.1**		0.500	0.277	**174**	D	2.50	1.39	ND		0.500	0.277	ND		0.500	0.277
cis-1,3-Dichloropropene	**NS**	ND		0.500	0.264	ND		0.500	0.264	ND		2.50	1.32	ND		0.500	0.264	ND		0.500	0.264
Cyclohexane	**NS**	ND		1.00	0.469	3.55		1.00	0.469	15.2	D	5.00	2.35	ND		1.00	0.469	ND		1.00	0.469
Dibromochloromethane	**50**	ND		0.500	0.263	ND		0.500	0.263	ND		2.50	1.32	ND		0.500	0.263	ND		0.500	0.263
Dichlorodifluoromethane	**5**	ND		1.00	0.552	ND		1.00	0.552	ND		5.00	2.76	ND		1.00	0.552	ND		1.00	0.552
Ethylbenzene	**5**	ND		0.500	0.313	ND		0.500	0.313	ND		2.50	1.57	ND		0.500	0.313	ND		0.500	0.313
Isopropylbenzene	**5**	ND		0.500	0.332	ND		0.500	0.332	ND		2.50	1.66	ND		0.500	0.332	ND		0.500	0.332
Methyl acetate	**NS**	ND		0.500	0.345	ND		0.500	0.345	ND		2.50	1.73	ND		0.500	0.345	ND		0.500	0.345
Methyl tert-butyl ether (MTBE)	**10**	ND		0.500	0.245	ND		0.500	0.245	ND		2.50	1.23	ND		0.500	0.245	ND		0.500	0.245
Methylcyclohexane	**NS**	ND		0.500	0.421	3.80		0.500	0.421	2.68	D	2.50	2.11	ND		0.500	0.421	ND		0.500	0.421
Methylene chloride	**5**	ND		1.00	0.500	ND		1.00	0.500	ND		5.00	2.50	ND		1.00	0.500	ND		1.00	0.500
Styrene	**5**	ND		0.500	0.317	ND		0.500	0.317	ND		2.50	1.59	ND		0.500	0.317	ND		0.500	0.317
Tetrachloroethene	**0.7**	ND		0.500	0.365	**192**		0.500	0.365	**506**	D	2.50	1.83	ND		0.500	0.365	ND		0.500	0.365
Toluene	**5**	ND		0.500	0.302	ND		0.500	0.302	ND		2.50	1.51	ND		0.500	0.302	ND		0.500	0.302
Total Xylenes	**NS**	ND		1.00	0.345	ND		1.00	0.345	ND		5.00	1.73	ND		1.00	0.345	ND		1.00	0.345
trans-1,2-Dichloroethene	**5**	ND		0.500	0.372	**26.8**		0.500	0.372	**15.7**	D	2.50	1.86	ND		0.500	0.372	ND		0.500	0.372
trans-1,3-Dichloropropene	**NS**	ND		0.500	0.330	ND		0.500	0.330	ND		2.50	1.65	ND		0.500	0.330	ND		0.500	0.330
Trichloroethene	**5**	ND		0.500	0.347	**127**		0.500	0.347	**457**	D	2.50	1.74	ND		0.500	0.347	ND		0.500	0.347
Trichlorofluoromethane	**5**	ND		1.00	0.503	ND		1.00	0.503	ND		5.00	2.52	ND		1.00	0.503	ND		1.00	0.503
Vinyl chloride	**2**	ND		0.500	0.352	**13.0**		0.500	0.352	ND		2.50	1.76	ND		0.500	0.352	ND		0.500	0.352
TOTAL VO's:	**NS**	ND			NA	432	J		NA	1270	D		NA	11.5			NA	9.58			NA
TOTAL TIC's:	**NS**	ND			NA	153	JN		NA	110	DJN		NA	ND			NA	ND			NA
TOTAL VO's & TIC's:	**NS**	ND			NA	585	JN		NA	1380	DJN		NA	11.5			NA	9.58			NA

Results in Blue Highlight displays exceedance above the NYSDEC Groundwater Quality Standards
J = Indicates an estimated value either when the concentration in the sample is greater than MDL and less than RL, or for qualification of TICs
D = The compound was reported from the Diluted analysis
N = Presumptive evidence of a compound from the use of GC/MS library search.
NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL
~ = Sample not analyzed for

Table 9 (cont'd) - April 2023 Groundwater Analytical Results
Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

HK Engineering & Geology, D.P.C.
Project #: HK-2420
Sample Date: 4/13/2023 - 4/14/2023

Target Compounds	NYSDEC Groundwater Quality Standards	MW-11				MW-12				MW-13				FIELD BLANK				TRIP BLANK			
Volatiles (µg/L)		**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
1,1,1-Trichloroethane	**5**	ND		0.500	0.381	ND		0.500	0.381	ND		0.500	0.381	ND		0.500	0.381	ND		0.500	0.381
1,1,2,2-Tetrachloroethane	**0.2**	ND		0.500	0.284	ND		0.500	0.284	ND		0.500	0.284	ND		0.500	0.284	ND		0.500	0.284
1,1,2-Trichloro-1,2,2-trifluoroethane	**5**	ND		1.00	0.538	ND		1.00	0.538	ND		1.00	0.538	ND		1.00	0.538	ND		1.00	0.538
1,1,2-Trichloroethane	**1**	ND		0.500	0.313	ND		0.500	0.313	ND		0.500	0.313	ND		0.500	0.313	ND		0.500	0.313
1,1-Dichloroethane	**5**	ND		0.500	0.285	ND		0.500	0.285	ND		0.500	0.285	ND		0.500	0.285	ND		0.500	0.285
1,1-Dichloroethene	**0.07**	ND		0.500	0.363	ND		0.500	0.363	ND		0.500	0.363	ND		0.500	0.363	ND		0.500	0.363
1,2,3-Trichlorobenzene	**5**	ND		0.500	0.406	ND		0.500	0.406	ND		0.500	0.406	ND		0.500	0.406	ND		0.500	0.406
1,2,4-Trichlorobenzene	**5**	ND		0.500	0.358	ND		0.500	0.358	ND		0.500	0.358	ND		0.500	0.358	ND		0.500	0.358
1,2-Dibromo-3-chloropropane	**0.04**	ND		0.500	0.410	ND		0.500	0.410	ND		0.500	0.410	ND		0.500	0.410	ND		0.500	0.410
1,2-Dibromoethane (EDB)	**0.0006**	ND		0.500	0.289	ND		0.500	0.289	ND		0.500	0.289	ND		0.500	0.289	ND		0.500	0.289
1,2-Dichlorobenzene	**3**	ND		0.500	0.354	ND		0.500	0.354	ND		0.500	0.354	ND		0.500	0.354	ND		0.500	0.354
1,2-Dichloroethane (EDC)	**0.6**	ND		0.500	0.273	ND		0.500	0.273	ND		0.500	0.273	ND		0.500	0.273	ND		0.500	0.273
1,2-Dichloropropane	**1**	ND		0.500	0.272	ND		0.500	0.272	ND		0.500	0.272	ND		0.500	0.272	ND		0.500	0.272
1,3-Dichlorobenzene	**3**	ND		0.500	0.386	ND		0.500	0.386	ND		0.500	0.386	ND		0.500	0.386	ND		0.500	0.386
1,3-Dichloropropene (cis- and trans-)	**0.4**	ND		0.500	0.264	ND		0.500	0.264	ND		0.500	0.264	ND		0.500	0.264	ND		0.500	0.264
1,4-Dichlorobenzene	**3**	ND		0.500	0.397	ND		0.500	0.397	ND		0.500	0.397	ND		0.500	0.397	ND		0.500	0.397
2-Butanone (MEK)	**50**	ND		1.00	0.802	ND		1.00	0.802	ND		1.00	0.802	ND		1.00	0.802	ND		1.00	0.802
2-Hexanone	**50**	ND		1.00	0.818	ND		1.00	0.818	ND		1.00	0.818	ND		1.00	0.818	ND		1.00	0.818
4-Methyl-2-pentanone (MIBK)	**NS**	ND		1.00	0.611	ND		1.00	0.611	ND		1.00	0.611	ND		1.00	0.611	ND		1.00	0.611
Acetone	**50**	ND		1.00	0.847	ND		1.00	0.847	ND		1.00	0.847	ND		1.00	0.847	ND		1.00	0.847
Benzene	**1**	ND		0.500	0.270	ND		0.500	0.270	**1.71**		0.500	0.270	ND		0.500	0.270	ND		0.500	0.270
Bromochloromethane	**5**	ND		0.500	0.379	ND		0.500	0.379	ND		0.500	0.379	ND		0.500	0.379	ND		0.500	0.379
Bromodichloromethane	**50**	ND		0.500	0.258	ND		0.500	0.258	ND		0.500	0.258	ND		0.500	0.258	ND		0.500	0.258
Bromoform	**50**	ND		0.500	0.328	ND		0.500	0.328	ND		0.500	0.328	ND		0.500	0.328	ND		0.500	0.328
Bromomethane	**5**	ND		0.500	0.386	ND		0.500	0.386	ND		0.500	0.386	ND		0.500	0.386	ND		0.500	0.386
Carbon disulfide	**60**	ND		0.500	0.403	ND		0.500	0.403	ND		0.500	0.403	ND		0.500	0.403	ND		0.500	0.403
Carbon tetrachloride	**0.4**	ND		0.500	0.349	ND		0.500	0.349	ND		0.500	0.349	ND		0.500	0.349	ND		0.500	0.349
Chlorobenzene	**5**	ND		0.500	0.304	ND		0.500	0.304	ND		0.500	0.304	ND		0.500	0.304	ND		0.500	0.304
Chloroethane	**5**	ND		0.500	0.324	ND		0.500	0.324	ND		0.500	0.324	ND		0.500	0.324	ND		0.500	0.324
Chloroform	**7**	6.64		0.500	0.285	0.700		0.500	0.285	1.88		0.500	0.285	ND		0.500	0.285	ND		0.500	0.285
Chloromethane	**5**	ND		0.500	0.309	ND		0.500	0.309	ND		0.500	0.309	ND		0.500	0.309	ND		0.500	0.309
cis-1,2-Dichloroethene	**5**	ND		0.500	0.277	2.46		0.500	0.277	0.841		0.500	0.277	ND		0.500	0.277	ND		0.500	0.277
cis-1,3-Dichloropropene	**NS**	ND		0.500	0.264	ND		0.500	0.264	ND		0.500	0.264	ND		0.500	0.264	ND		0.500	0.264
Cyclohexane	**NS**	ND		1.00	0.469	ND		1.00	0.469	1.67		1.00	0.469	ND		1.00	0.469	ND		1.00	0.469
Dibromochloromethane	**50**	ND		0.500	0.263	ND		0.500	0.263	ND		0.500	0.263	ND		0.500	0.263	ND		0.500	0.263
Dichlorodifluoromethane	**5**	ND		1.00	0.552	ND		1.00	0.552	ND		1.00	0.552	ND		1.00	0.552	ND		1.00	0.552
Ethylbenzene	**5**	ND		0.500	0.313	ND		0.500	0.313	0.436	J	0.500	0.313	ND		0.500	0.313	ND		0.500	0.313
Isopropylbenzene	**5**	ND		0.500	0.332	ND		0.500	0.332	0.635		0.500	0.332	ND		0.500	0.332	ND		0.500	0.332
Methyl acetate	**NS**	ND		0.500	0.345	ND		0.500	0.345	ND		0.500	0.345	ND		0.500	0.345	ND		0.500	0.345
Methyl tert-butyl ether (MTBE)	**10**	ND		0.500	0.245	ND		0.500	0.245	ND		0.500	0.245	ND		0.500	0.245	ND		0.500	0.245
Methylcyclohexane	**NS**	ND		0.500	0.421	ND		0.500	0.421	3.52		0.500	0.421	ND		0.500	0.421	ND		0.500	0.421
Methylene chloride	**5**	ND		1.00	0.500	ND		1.00	0.500	ND		1.00	0.500	ND		1.00	0.500	ND		1.00	0.500
Styrene	**5**	ND		0.500	0.317	ND		0.500	0.317	ND		0.500	0.317	ND		0.500	0.317	ND		0.500	0.317
Tetrachloroethene	**0.7**	0.666		0.500	0.365	**18.6**		0.500	0.365	ND		0.500	0.365	ND		0.500	0.365	ND		0.500	0.365
Toluene	**5**	ND		0.500	0.302	ND		0.500	0.302	0.732		0.500	0.302	ND		0.500	0.302	ND		0.500	0.302
Total Xylenes	**NS**	ND		1.00	0.345	ND		1.00	0.345	2.93		1.00	0.345	ND		1.00	0.345	ND		1.00	0.345
trans-1,2-Dichloroethene	**5**	ND		0.500	0.372	0.686		0.500	0.372	**9.31**		0.500	0.372	ND		0.500	0.372	ND		0.500	0.372
trans-1,3-Dichloropropene	**NS**	ND		0.500	0.330	ND		0.500	0.330	ND		0.500	0.330	ND		0.500	0.330	ND		0.500	0.330
Trichloroethene	**5**	ND		0.500	0.347	4.93		0.500	0.347	ND		0.500	0.347	ND		0.500	0.347	ND		0.500	0.347
Trichlorofluoromethane	**5**	ND		1.00	0.503	ND		1.00	0.503	ND		1.00	0.503	ND		1.00	0.503	ND		1.00	0.503
Vinyl chloride	**2**	ND		0.500	0.352	ND		0.500	0.352	ND		0.500	0.352	ND		0.500	0.352	ND		0.500	0.352
TOTAL VO's:	**NS**	7.31			NA	27.4			NA	23.7	J		NA	ND			NA	ND			NA
TOTAL TIC's:	**NS**	ND			NA	ND			NA	6.00	JN		NA	ND			NA	ND			NA
TOTAL VO's & TIC's:	**NS**	7.31			NA	27.4			NA	29.7	JN		NA	ND			NA	ND			NA

Results in Blue Highlight displays exceedance above the NYSDEC Groundwater Quality Standards
J = Indicates an estimated value either when the concentration in the sample is greater than MDL and less than RL, or for qualification of TICs
D = The compound was reported from the Diluted analysis
N = Presumptive evidence of a compound from the use of GC/MS library search.
NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL
~ = Sample not analyzed for

Table 10 - Vapor Intrusion Results - VOCs (TO-15)

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 9/19 - 9/20/2019

Target Compounds	NYSDOH Air Guideline Values	IA-15				SV-15				IA-16				SV-16				IA-17				SV-17				IA-18				SV-18				AA-19			
Volatiles ($\mu g/m^3$)		Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
1,1,1-Trichloroethane	NS	ND		0.109	-	ND		1.82	-	ND		0.109	-	4.19		2.73	-	ND		0.109	-	19.8		5.46	-	ND		0.109	-	ND		1.56	-	ND		0.109	-
1,1,2,2-Tetrachloroethane	NS	ND		1.37	-	ND		2.29	-	ND		1.37	-	ND		3.43	-	ND		1.37	-	ND		6.87	-	ND		1.37	-	ND		1.96	-	ND		1.37	-
1,1,2-Trichloroethane	NS	ND		1.09	-	ND		1.82	-	ND		1.09	-	ND		2.73	-	ND		1.09	-	ND		5.46	-	ND		1.09	-	ND		1.56	-	ND		1.09	-
1,1-Dichloroethane	NS	ND		0.809	-	ND		1.35	-	ND		0.809	-	ND		2.02	-	ND		0.809	-	20.4		4.05	-	ND		0.809	-	ND		1.16	-	ND		0.809	-
1,1-Dichloroethene	NS	ND		0.079	-	ND		1.32	-	ND		0.079	-	ND		1.98	-	ND		0.079	-	ND		3.96	-	ND		0.079	-	ND		1.13	-	ND		0.079	-
1,2,4-Trichlorobenzene	NS	ND		1.48	-	ND		2.47	-	ND		1.48	-	ND		3.71	-	ND		1.48	-	ND		7.42	-	ND		1.48	-	ND		2.12	-	ND		1.48	-
1,2,4-Trimethylbenzene	NS	4.13		0.983	-	2.06		1.64	-	ND		0.983	-	ND		2.46	-	1.02		0.983	-	ND		4.92	-	ND		0.983	-	2.69		1.41	-	ND		0.983	-
1,2-Dibromoethane	NS	ND		1.54	-	ND		2.56	-	ND		1.54	-	ND		3.84	-	ND		1.54	-	ND		7.69	-	ND		1.54	-	ND		2.2	-	ND		1.54	-
1,2-Dichlorobenzene	NS	ND		1.2	-	ND		2	-	ND		1.2	-	ND		3.01	-	ND		1.2	-	ND		6.01	-	ND		1.2	-	ND		1.72	-	ND		1.2	-
1,2-Dichloroethane	NS	ND		0.809	-	ND		1.35	-	ND		0.809	-	ND		2.02	-	ND		0.809	-	ND		4.05	-	ND		0.809	-	ND		1.16	-	ND		0.809	-
1,2-Dichloropropane	NS	ND		0.924	-	ND		1.54	-	ND		0.924	-	ND		2.31	-	ND		0.924	-	ND		4.62	-	ND		0.924	-	ND		1.32	-	ND		0.924	-
1,3,5-Trimethylbenzene	NS	1.08		0.983	-	ND		1.64	-	ND		0.983	-	ND		2.46	-	ND		0.983	-	ND		4.92	-	ND		0.983	-	ND		1.41	-	ND		0.983	-
1,3-Butadiene	NS	ND		0.442	-	ND		0.737	-	ND		0.442	-	2.14		1.11	-	ND		0.442	-	ND		2.21	-	ND		0.442	-	ND		0.633	-	ND		0.442	-
1,3-Dichlorobenzene	NS	ND		1.2	-	ND		2	-	ND		1.2	-	ND		3.01	-	ND		1.2	-	ND		6.01	-	ND		1.2	-	ND		1.72	-	ND		1.2	-
1,4-Dichlorobenzene	NS	4.26		1.2	-	ND		2	-	8.54		1.2	-	ND		3.01	-	1.41		1.2	-	ND		6.01	-	ND		1.2	-	ND		1.72	-	ND		1.2	-
1,4-Dioxane	NS	ND		0.721	-	ND		1.2	-	ND		0.721	-	ND		1.8	-	ND		0.721	-	ND		3.6	-	ND		0.721	-	ND		1.03	-	ND		0.721	-
2,2,4-Trimethylpentane	NS	ND		0.934	-	3.19		1.56	-	1.02		0.934	-	ND		2.34	-	1.28		0.934	-	ND		4.67	-	1.46		0.934	-	5.32		1.34	-	ND		0.934	-
2-Butanone	NS	ND		1.47	-	4.66		2.46	-	ND		1.47	-	12.5		3.69	-	1.99		1.47	-	ND		7.37	-	ND		1.47	-	5.4		2.11	-	ND		1.47	-
2-Hexanone	NS	ND		0.82	-	ND		1.36	-	ND		0.82	-	ND		2.05	-	ND		0.82	-	ND		4.1	-	ND		0.82	-	ND		1.17	-	ND		0.82	-
3-Chloropropene	NS	ND		0.626	-	ND		1.04	-	ND		0.626	-	ND		1.57	-	ND		0.626	-	ND		3.13	-	ND		0.626	-	ND		0.895	-	ND		0.626	-
4-Ethyltoluene	NS	ND		0.983	-	ND		1.64	-	ND		0.983	-	ND		2.46	-	ND		0.983	-	ND		4.92	-	ND		0.983	-	ND		1.41	-	ND		0.983	-
4-Methyl-2-pentanone	NS	ND		2.05	-	ND		3.42	-	ND		2.05	-	8.2		5.12	-	ND		2.05	-	ND		10.2	-	ND		2.05	-	ND		2.93	-	ND		2.05	-
Acetone	NS	16.5		2.38	-	51.3		3.97	-	17.6		2.38	-	122		5.94	-	24.7		2.38	-	76.3		11.9	-	15.5		2.38	-	151		3.4	-	5.82		2.38	-
Benzene	NS	ND		0.639	-	9.01		1.06	-	0.658		0.639	-	3.29		1.6	-	0.712		0.639	-	9.01		3.19	-	0.795		0.639	-	5.88		0.914	-	ND		0.639	-
Benzyl chloride	NS	ND		1.04	-	ND		1.72	-	ND		1.04	-	ND		2.59	-	ND		1.04	-	ND		5.18	-	ND		1.04	-	ND		1.48	-	ND		1.04	-
Bromodichloromethane	NS	ND		1.34	-	ND		2.23	-	ND		1.34	-	ND		3.35	-	ND		1.34	-	ND		6.7	-	ND		1.34	-	ND		1.92	-	ND		1.34	-
Bromoform	NS	ND		2.07	-	ND		3.44	-	ND		2.07	-	ND		5.17	-	ND		2.07	-	ND		10.3	-	ND		2.07	-	ND		2.96	-	ND		2.07	-
Bromomethane	NS	ND		0.777	-	ND		1.29	-	ND		0.777	-	ND		1.94	-	ND		0.777	-	ND		3.88	-	ND		0.777	-	ND		1.11	-	ND		0.777	-
Carbon disulfide	NS	ND		0.623	-	23		1.04	-	ND		0.623	-	22.2		1.56	-	ND		0.623	-	16.2		3.11	-	ND		0.623	-	4.83		0.891	-	ND		0.623	-
Carbon tetrachloride	NS	0.34		0.126	-	ND		2.09	-	0.365		0.126	-	ND		3.15	-	0.346		0.126	-	10.3		6.29	-	0.434		0.126	-	ND		1.8	-	0.327		0.126	-
Chlorobenzene	NS	ND		0.921	-	ND		1.53	-	ND		0.921	-	ND		2.3	-	ND		0.921	-	ND		4.61	-	ND		0.921	-	ND		1.32	-	ND		0.921	-
Chloroethane	NS	ND		0.528	-	ND		0.879	-	ND		0.528	-	ND		1.32	-	ND		0.528	-	ND		2.64	-	ND		0.528	-	ND		0.755	-	ND		0.528	-
Chloroform	NS	ND		0.977	-	49.3		1.63	-	ND		0.977	-	60.1		2.44	-	ND		0.977	-	25.3		4.88	-	1.29		0.977	-	9.33		1.4	-	ND		0.977	-
Chloromethane	NS	0.985		0.413	-	ND		0.688	-	0.96		0.413	-	ND		1.03	-	0.958		0.413	-	ND		2.07	-	1.06		0.413	-	ND		0.591	-	0.919		0.413	-
cis-1,2-Dichloroethene	NS	ND		0.079	-	ND		1.32	-	ND		0.079	-	ND		1.98	-	ND		0.079	-	ND		3.96	-	ND		0.079	-	ND		1.13	-	ND		0.079	-
cis-1,3-Dichloropropene	NS	ND		0.908	-	ND		1.51	-	ND		0.908	-	ND		2.27	-	ND		0.908	-	ND		4.54	-	ND		0.908	-	ND		1.3	-	ND		0.908	-
Cyclohexane	NS	ND		0.688	-	6.09		1.15	-	ND		0.688	-	ND		1.72	-	ND		0.688	-	3.72		3.44	-	ND		0.688	-	1.94		0.984	-	ND		0.688	-
Dibromochloromethane	NS	ND		1.7	-	ND		2.84	-	ND		1.7	-	ND		4.26	-	ND		1.7	-	ND		8.52	-	ND		1.7	-	ND		2.44	-	ND		1.7	-
Dichlorodifluoromethane	NS	2.18		0.989	-	13.7		1.65	-	2		0.989	-	13.4		2.47	-	2.06		0.989	-	2080		4.94	-	2.22		0.989	-	3.37		1.41	-	1.93		0.989	-
Ethanol	NS	129		9.42	-	59.9		15.7	-	84		9.42	-	162		23.6	-	60.9		9.42	-	82.2		47.1	-	43.5		9.42	-	110		13.5	-	21.3		9.42	-
Ethyl Acetate	NS	ND		1.8	-	ND		3.01	-	ND		1.8	-	ND		4.5	-	ND		1.8	-	ND		9.01	-	ND		1.8	-	ND		2.57	-	ND		1.8	-
Ethylbenzene	NS	ND		0.869	-	1.57		1.45	-	ND		0.869	-	ND		2.17	-	ND		0.869	-	ND		4.34	-	ND		0.869	-	4.56		1.24	-	ND		0.869	-
Freon-113	NS	ND		1.53	-	ND		2.55	-	ND		1.53	-	ND		3.83	-	ND		1.53	-	ND		7.66	-	ND		1.53	-	ND		2.19	-	ND		1.53	-
Freon-114	NS	ND		1.4	-	ND		2.33	-	ND		1.4	-	ND		3.49	-	ND		1.4	-	ND		6.99	-	ND		1.4	-	ND		2	-	ND		1.4	-
Heptane	NS	ND		0.82	-	265		1.36	-	0.893		0.82	-	602		2.05	-	1.02		0.82	-	398		4.1	-	ND		0.82	-	315		1.17	-	ND		0.82	-
Hexachlorobutadiene	NS	ND		2.13	-	ND		3.55	-	ND		2.13	-	ND		5.33	-	ND		2.13	-	ND		10.7	-	ND		2.13	-	ND		3.05	-	ND		2.13	-
Isopropanol	NS	5.68		1.23	-	17		2.05	-	6.24		1.23	-	52.6		3.07	-	4.42		1.23	-	25.3		6.15	-	3.39		1.23	-	34.4		1.76	-	2.48		1.23	-
Methyl tert butyl ether	NS	ND		0.721	-	ND		1.2	-	ND		0.721	-	ND		1.8	-	ND		0.721	-	ND		3.61	-	ND		0.721	-	ND		1.03	-	ND		0.721	-
Methylene chloride	60	30.4		1.74	-	8.58		2.9	-	4.48		1.74	-	4.97		4.34	-	7.89		1.74	-	ND		8.69	-	ND		1.74	-	ND		2.48	-	ND		1.74	-
n-Hexane	NS	0.867		0.705	-	6.84		1.17	-	1.01		0.705	-	11.9		1.76	-	1.24		0.705	-	18.3		3.52	-	1.12		0.705	-	5.22		1.01	-	ND		0.705	-
o-Xylene	NS	ND		0.869	-	ND		1.45	-	ND		0.869	-	ND		2.17	-	ND		0.869	-	ND		4.34	-	ND		0.869	-	4.52		1.24	-	ND		0.869	-
p/m-Xylene	NS	ND		1.74	-	3.37		2.9	-	ND		1.74	-	5.26		4.34	-	1.82		1.74	-	ND		8.69	-	ND		1.74	-	12		2.48	-	ND		1.74	-
Styrene	NS	ND		0.852	-	1.77		1.42	-	ND		0.852	-	2.36		2.13	-	ND		0.852	-	ND		4.26	-	ND		0.852	-	2.21		1.22	-	ND		0.852	-
Tertiary butyl Alcohol	NS	ND		1.52	-	8.79		2.53	-	ND		1.52	-	15.5		3.79	-	ND		1.52	-	ND		7.58	-	ND		1.52	-	9.94		2.16	-	ND		1.52	-
Tetrachloroethene	30	0.665		0.136	-	29.2		2.26	-	0.353		0.136	-	122		3.39	-	0.42		0.136	-	23.3		6.78	-	0.366		0.136	-	11.1		1.94	-	0.298		0.136	-
Tetrahydrofuran	NS	ND		1.47	-	ND		2.46	-	ND		1.47	-	ND		3.69	-	ND		1.47	-	ND		7.37	-	ND		1.47	-	ND		2.11	-	ND		1.47	-
Toluene	NS	2.54		0.754	-	10.6		1.25	-	3.38		0.754	-	10.5		1.88	-	2.72		0.754	-	6.56		3.77	-	2.42		0.754	-	12.8		1.08	-	1.49		0.754	-
trans-1,2-Dichloroethene	NS	ND		0.793	-	ND		1.32	-	ND		0.793	-	ND		1.98	-	ND		0.793	-	ND		3.96	-	ND		0.793	-	ND		1.13	-	ND		0.793	-
trans-1,3-Dichloropropene	NS	ND		0.908	-	ND		1.51	-	ND		0.908	-	ND		2.27	-	ND		0.908	-	ND		4.54	-	ND		0.908	-	ND		1.3	-	ND		0.908	-
Trichloroethene	2	ND		0.107	-	ND		1.79	-	ND		0.107	-	91.4		2.69	-	ND		0.107	-	43.2		5.37	-	ND		0.107	-	ND		1.54	-	ND		0.107	-
Trichlorofluoromethane	NS	1.86		1.12	-	624		1.87	-	2.83		1.12	-	505		2.81	-	1.3		1.12	-	171		5.62	-	1.41		1.12	-	2.06		1.61	-	ND		1.12	-
Vinyl bromide	NS	ND		0.874	-	ND		1.46	-	ND		0.874	-	ND		2.19	-	ND		0.874	-	ND		4.37	-	ND		0.874	-	ND		1.25	-	ND		0.874	-
Vinyl chloride	NS	ND		0.051	-	ND		0.851	-	ND		0.051	-	ND		1.28	-	ND		0.051	-	ND		2.56	-	ND		0.051	-	ND		0.731	-	ND		0.051	-

Results in Yellow Highlight displays exceedance above the NYSDOH Air Guideline Value
NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 10 - Vapor Intrusion Results - VOCs (TO-15) (continued)

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 2/19 - 2/20/2020

Target Compounds	NYSDOH Air Guideline Values	IA-19				SV-19				IA-20				SV-20				IA-21				SV-21				IA-22				SV-22				IA-23				SV-23			
Volatiles (µg/m³)		Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
1,1,1-Trichloroethane	NS	ND		0.109	-	1.39		1.09	-	ND		0.109	-	1.54		1.09	-	ND		0.109	-	ND		1.09	-	ND		0.109	-	ND		1.09	-	ND		0.109	-	1.16		1.09	-
1,1,2,2-Tetrachloroethane	NS	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-
1,1,2-Trichloroethane	NS	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-
1,1-Dichloroethane	NS	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,1-Dichloroethene	NS	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-
1,2,4-Trichlorobenzene	NS	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-
1,2,4-Trimethylbenzene	NS	1.36		0.983	-	33.3		0.983	-	1.59		0.983	-	28.6		0.983	-	1.04		0.983	-	13.7		0.983	-	ND		0.983	-	23.8		0.983	-	10.3		0.983	-	28.7		0.983	-
1,2-Dibromoethane	NS	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-
1,2-Dichlorobenzene	NS	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,2-Dichloroethane	NS	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,2-Dichloropropane	NS	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-
1,3,5-Trimethylbenzene	NS	ND		0.983	-	9.73		0.983	-	ND		0.983	-	9.93		0.983	-	ND		0.983	-	4.12		0.983	-	ND		0.983	-	7.03		0.983	-	2.87		0.983	-	9.05		0.983	-
1,3-Butadiene	NS	ND		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-	3.34		0.442	-	ND		0.442	-	0.553		0.442	-	ND		0.442	-	2.9		0.442	-
1,3-Dichlorobenzene	NS	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,4-Dichlorobenzene	NS	12.1		1.2	-	ND		1.2	-	6.07		1.2	-	ND		1.2	-	9.92		1.2	-	ND		1.2	-	3.33		1.2	-	ND		1.2	-	2.52		1.2	-	ND		1.2	-
1,4-Dioxane	NS	ND		0.721	-	ND		0.721	-	ND		0.721	-	5.8		0.721	-	ND		0.721	-	1.13		0.721	-	ND		0.721	-	1.78		0.721	-	ND		0.721	-	0.98		0.721	-
2,2,4-Trimethylpentane	NS	1.13		0.934	-	ND		0.934	-	1.13		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-
2-Butanone	NS	ND		1.47	-	3.8		1.47	-	ND		1.47	-	7.64		1.47	-	ND		1.47	-	6.61		1.47	-	ND		1.47	-	11.7		1.47	-	ND		1.47	-	13		1.47	-
2-Hexanone	NS	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-
3-Chloropropene	NS	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-
4-Ethyltoluene	NS	ND		0.983	-	3.05		0.983	-	ND		0.983	-	4.2		0.983	-	ND		0.983	-	1.87		0.983	-	ND		0.983	-	3.03		0.983	-	2.56		0.983	-	3.75		0.983	-
4-Methyl-2-pentanone	NS	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-
Acetone	NS	2.8		2.38	-	25.2		2.38	-	3.85		2.38	-	627		2.38	-	3.97		2.38	-	85		2.38	-	3.42		2.38	-	128		2.38	-	6.58		2.38	-	146		2.38	-
Benzene	NS	1.13		0.639	-	7.92		0.639	-	1.04		0.639	-	11.9		0.639	-	0.93		0.639	-	8.43		0.639	-	ND		0.639	-	2.27		0.639	-	ND		0.639	-	3.45		0.639	-
Benzyl chloride	NS	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-
Bromodichloromethane	NS	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	ND		1.34	-
Bromoform	NS	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-
Bromomethane	NS	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-
Carbon disulfide	NS	3.33		0.623	-	2.25		0.623	-	ND		0.623	-	2.19		0.623	-	ND		0.623	-	3.92		0.623	-	ND		0.623	-	5.57		0.623	-	ND		0.623	-	7.91		0.623	-
Carbon tetrachloride	NS	0.333		0.126	-	2.18		1.26	-	0.277		0.126	-	ND		1.26	-	0.296		0.126	-	1.96		1.26	-	0.296		0.126	-	ND		1.26	-	0.327		0.126	-	2.93		1.26	-
Chlorobenzene	NS	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-
Chloroethane	NS	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-
Chloroform	NS	ND		0.977	-	39.8		0.977	-	ND		0.977	-	20.5		0.977	-	ND		0.977	-	1.15		0.977	-	ND		0.977	-	ND		0.977	-	9.82		0.977	-	9.82		0.977	-
Chloromethane	NS	0.975		0.413	-	ND		0.413	-	0.894		0.413	-	0.529		0.413	-	0.966		0.413	-	0.733		0.413	-	0.946		0.413	-	0.648		0.413	-	0.94		0.413	-	0.679		0.413	-
cis-1,2-Dichloroethene	NS	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-
cis-1,3-Dichloropropene	NS	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-
Cyclohexane	NS	ND		0.688	-	4.3		0.688	-	ND		0.688	-	5.61		0.688	-	ND		0.688	-	9.67		0.688	-	ND		0.688	-	1.44		0.688	-	ND		0.688	-	2.52		0.688	-
Dibromochloromethane	NS	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-
Dichlorodifluoromethane	NS	1.86		0.989	-	4.31		0.989	-	1.9		0.989	-	7.12		0.989	-	1.79		0.989	-	19		0.989	-	1.86		0.989	-	47.5		0.989	-	1.91		0.989	-	10.8		0.989	-
Ethanol	NS	22		9.42	-	54.6		9.42	-	20.7		9.42	-	234		9.42	-	26.2		9.42	-	134		9.42	-	10.5		9.42	-	63.9		9.42	-	20.3		9.42	-	110		9.42	-
Ethyl Acetate	NS	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-	ND		1.8	-
Ethylbenzene	NS	ND		0.869	-	1.63		0.869	-	ND		0.869	-	2.2		0.869	-	ND		0.869	-	1.12		0.869	-	ND		0.869	-	1.66		0.869	-	ND		0.869	-	1.77		0.869	-
Freon-113	NS	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-
Freon-114	NS	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-
Heptane	NS	0.889		0.82	-	57.8		0.82	-	ND		0.82	-	64.3		0.82	-	ND		0.82	-	77		0.82	-	ND		0.82	-	96.3		0.82	-	ND		0.82	-	122		0.82	-
Hexachlorobutadiene	NS	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-
Isopropanol	NS	2.3		1.23	-	10.8		1.23	-	2.19		1.23	-	54.1		1.23	-	3.98		1.23	-	16.3		1.23	-	1.62		1.23	-	15.4		1.23	-	2.51		1.23	-	15.2		1.23	-
Methyl tert butyl ether	NS	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-
Methylene chloride	60	ND		1.74	-	ND		1.74	-	ND		1.74	-	10.4		1.74	-	ND		1.74	-	1.98		1.74	-	ND		1.74	-	15.4		1.74	-	ND		1.74	-	2.61		1.74	-
n-Hexane	NS	2.09		0.705	-	5.08		0.705	-	2.03		0.705	-	4.79		0.705	-	1.67		0.705	-	21.4		0.705	-	ND		0.705	-	48.6		0.705	-	ND		0.705	-	7.3		0.705	-
o-Xylene	NS	ND		0.869	-	3.14		0.869	-	ND		0.869	-	3.67		0.869	-	ND		0.869	-	2.15		0.869	-	ND		0.869	-	2.79		0.869	-	0.96		0.869	-	3.66		0.869	-
p/m-Xylene	NS	2.47		1.74	-	6.08		1.74	-	2.51		1.74	-	7.21		1.74	-	1.86		1.74	-	4.47		1.74	-	ND		1.74	-	5.73		1.74	-	2.01		1.74	-	7.69		1.74	-
Styrene	NS	ND		0.852	-	ND		0.852	-	ND		0.852	-	0.869		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-	1.07		0.852	-
Tertiary butyl Alcohol	NS	ND		1.52	-	33		1.52	-	ND		1.52	-	56.4		1.52	-	ND		1.52	-	26.1		1.52	-	ND		1.52	-	24.8		1.52	-	ND		1.52	-	17.3		1.52	-
Tetrachloroethene	30	0.149		0.136	-	3.72		1.36	-	0.21		0.136	-	ND		1.36	-	0.136		0.136	-	3.95		1.36	-	ND		0.136	-	8.75		1.36	-	ND		0.136	-	2.56		1.36	-
Tetrahydrofuran	NS	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	ND		1.47	-	2.65		1.47	-	ND		1.47	-	ND		1.47	-
Toluene	NS	3.77		0.754	-	8.67		0.754	-	3.68		0.754	-	12.6		0.754	-	2.82		0.754	-	6.14		0.754	-	1.14		0.754	-	5.54		0.754	-	1.32		0.754	-	6.1		0.754	-
trans-1,2-Dichloroethene	NS	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-
trans-1,3-Dichloropropene	NS	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-
Trichloroethene	2	ND		0.107	-	ND		1.07	-	ND		0.107	-	ND		1.07	-	ND		0.107	-	ND		1.07	-	ND		0.107	-	ND		1.07	-	0.769		0.107	-	2.7		1.07	-
Trichlorofluoromethane	NS	ND		1.12	-	87.7		1.12	-	ND		1.12	-	162		1.12	-	ND		1.12	-	202		1.12	-	ND		1.12	-	235		1.12	-	ND		1.12	-	34.6		1.12	-
Vinyl bromide	NS	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-
Vinyl chloride	NS	ND		0.051	-	ND		0.511	-	ND		0.051	-	ND		0.511	-	ND		0.051	-	ND		0.511	-	ND		0.051	-	ND		0.511	-	ND		0.051	-	ND		0.511	-

Results in Yellow Highlight displays exceedance above the NYSDOH Air Guideline Value
NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 10 - Vapor Intrusion Results - VOCs (TO-15) (continued)

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Hillmann Consulting, LLC
Project #: G6-2420

Sample Date: 2/19 - 2/20/2020

Target Compounds	NYSDOH Air Guideline Values	IA-24				SV-24				IA-25				SV-25				IA-26				SV-26				IA-27				SV-27			
Volatiles (µg/m³)		Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
1,1,1-Trichloroethane	NS	ND		0.204	-	2.96		1.09	-	ND		0.109	-	6.98		1.09	-	ND		0.109	-	2.5		1.09	-	ND		0.109	-	1.4		1.09	-
1,1,2,2-Tetrachloroethane	NS	ND		2.57	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-	ND		1.37	-
1,1,2-Trichloroethane	NS	ND		2.04	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-	ND		1.09	-
1,1-Dichloroethane	NS	ND		1.51	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,1-Dichloroethene	NS	ND		0.148	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-
1,2,4-Trichlorobenzene	NS	ND		2.78	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-	ND		1.48	-
1,2,4-Trimethylbenzene	NS	9.59		1.84	-	9.88		0.983	-	36.4		0.983	-	26.2		0.983	-	10.4		0.983	-	15.6		0.983	-	6.98		0.983	-	30.3		0.983	-
1,2-Dibromoethane	NS	ND		2.87	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-	ND		1.54	-
1,2-Dichlorobenzene	NS	ND		2.25	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,2-Dichloroethane	NS	ND		1.51	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-	ND		0.809	-
1,2-Dichloropropane	NS	ND		1.73	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-	ND		0.924	-
1,3,5-Trimethylbenzene	NS	3.02		1.84	-	3.49		0.983	-	9.78		0.983	-	9.39		0.983	-	2.64		0.983	-	4.32		0.983	-	1.74		0.983	-	8.65		0.983	-
1,3-Butadiene	NS	ND		0.827	-	1.35		0.442	-	ND		0.442	-	0.513		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-	ND		0.442	-
1,3-Dichlorobenzene	NS	ND		2.25	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	ND		1.2	-
1,4-Dichlorobenzene	NS	3.75		2.25	-	ND		1.2	-	ND		1.2	-	ND		1.2	-	4.98		1.2	-	ND		1.2	-	5.07		1.2	-	ND		1.2	-
1,4-Dioxane	NS	ND		1.35	-	ND		0.721	-	ND		0.721	-	0.843		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-
2,2,4-Trimethylpentane	NS	ND		1.75	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-	ND		0.934	-
2-Butanone	NS	ND		2.75	-	4.51		1.47	-	3.92		1.47	-	15.8		1.47	-	1.95		1.47	-	3.36		1.47	-	1.48		1.47	-	4.1		1.47	-
2-Hexanone	NS	ND		1.53	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-	ND		0.82	-
3-Chloropropene	NS	ND		1.17	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-	ND		0.626	-
4-Ethyltoluene	NS	2.28		1.84	-	1.42		0.983	-	5.7		0.983	-	4.27		0.983	-	1.7		0.983	-	1.74		0.983	-	1.17		0.983	-	4.1		0.983	-
4-Methyl-2-pentanone	NS	ND		3.83	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-	ND		2.05	-
Acetone	NS	11.2		4.44	-	58		2.38	-	42.8		2.38	-	195		2.38	-	12.6		2.38	-	46.1		2.38	-	12.5		2.38	-	27.1		2.38	-
Benzene	NS	ND		1.19	-	8.98		0.639	-	1.28		0.639	-	15.7		0.639	-	0.776		0.639	-	7.03		0.639	-	1.6		0.639	-	3.39		0.639	-
Benzyl chloride	NS	ND		1.94	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-	ND		1.04	-
Bromodichloromethane	NS	ND		2.51	-	ND		1.34	-	ND		1.34	-	ND		1.34	-	1.87		1.34	-	ND		1.34	-	1.71		1.34	-	ND		1.34	-
Bromoform	NS	ND		3.87	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-	ND		2.07	-
Bromomethane	NS	ND		1.45	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-	ND		0.777	-
Carbon disulfide	NS	ND		1.16	-	3.18		0.623	-	ND		0.623	-	15.3		0.623	-	ND		0.623	-	1.57		0.623	-	ND		0.623	-	3.8		0.623	-
Carbon tetrachloride	NS	0.387		0.235	-	11.4		1.26	-	0.333		0.126	-	10.4		1.26	-	0.365		0.126	-	3.87		1.26	-	0.377		0.126	-	20.3		1.26	-
Chlorobenzene	NS	ND		1.72	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-	ND		0.921	-
Chloroethane	NS	ND		0.987	-	ND		0.528	-	ND		0.528	-	1.68		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-	ND		0.528	-
Chloroform	NS	ND		1.83	-	5.03		0.977	-	16.3		0.977	-	27.9		0.977	-	24.1		0.977	-	14		0.977	-	23.6		0.977	-	8.94		0.977	-
Chloromethane	NS	0.999		0.772	-	0.849		0.413	-	1.31		0.413	-	ND		0.413	-	1.01		0.413	-	ND		0.413	-	1.16		0.413	-	ND		0.413	-
cis-1,2-Dichloroethene	NS	ND		0.148	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-	ND		0.079	-	ND		0.793	-
cis-1,3-Dichloropropene	NS	ND		1.7	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-
Cyclohexane	NS	ND		1.29	-	3.44		0.688	-	ND		0.688	-	7.85		0.688	-	1.26		0.688	-	2.86		0.688	-	1.94		0.688	-	2.87		0.688	-
Dibromochloromethane	NS	ND		3.19	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-	ND		1.7	-
Dichlorodifluoromethane	NS	1.92		1.85	-	12		0.989	-	2.26		0.989	-	276		0.989	-	2		0.989	-	12.3		0.989	-	2.02		0.989	-	63.8		0.989	-
Ethanol	NS	33.9		17.6	-	70.1		9.42	-	499		9.42	-	863		9.42	-	184		9.42	-	137		9.42	-	134		9.42	-	116		9.42	-
Ethyl Acetate	NS	ND		3.37	-	ND		1.8	-	8.4		1.8	-	ND		1.8	-	2.25		1.8	-	ND		1.8	-	2.38		1.8	-	ND		1.8	-
Ethylbenzene	NS	ND		1.62	-	1.04		0.869	-	2.75		0.869	-	2.13		0.869	-	1.03		0.869	-	ND		0.869	-	ND		0.869	-	1.64		0.869	-
Freon-113	NS	ND		2.87	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-	ND		1.53	-
Freon-114	NS	ND		2.61	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-	ND		1.4	-
Heptane	NS	ND		1.53	-	54.9		0.82	-	1.01		0.82	-	66.8		0.82	-	ND		0.82	-	22.1		0.82	-	ND		0.82	-	43		0.82	-
Hexachlorobutadiene	NS	ND		3.99	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-	ND		2.13	-
Isopropanol	NS	ND		2.3	-	11.3		1.23	-	25.8		1.23	-	81.1		1.23	-	18.1		1.23	-	13.4		1.23	-	12.1		1.23	-	8.65		1.23	-
Methyl tert butyl ether	NS	ND		1.35	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-	ND		0.721	-
Methylene chloride	60	ND		3.24	-	2.34		1.74	-	ND		1.74	-	ND		1.74	-	ND		1.74	-	ND		1.74	-	ND		1.74	-	ND		1.74	-
n-Hexane	NS	ND		1.32	-	4.55		0.705	-	ND		0.705	-	31.3		0.705	-	3.04		0.705	-	2.07		0.705	-	4.69		0.705	-	1.56		0.705	-
o-Xylene	NS	ND		1.62	-	1.82		0.869	-	7.17		0.869	-	5.73		0.869	-	2.45		0.869	-	1.71		0.869	-	1.54		0.869	-	3.34		0.869	-
p/m-Xylene	NS	ND		3.24	-	3.8		1.74	-	12.2		1.74	-	7.34		1.74	-	4.33		1.74	-	3.24		1.74	-	2.86		1.74	-	6.43		1.74	-
Styrene	NS	ND		1.59	-	ND		0.852	-	1.03		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-	ND		0.852	-	1.03		0.852	-
Tertiary butyl Alcohol	NS	ND		2.83	-	12.7		1.52	-	ND		1.52	-	18.4		1.52	-	ND		1.52	-	19.6		1.52	-	ND		1.52	-	35.8		1.52	-
Tetrachloroethene	30	ND		0.254	-	1.61		1.36	-	0.217		0.136	-	22.8		1.36	-	0.312		0.136	-	1.67		1.36	-	0.305		0.136	-	4.97		1.36	-
Tetrahydrofuran	NS	ND		2.75	-	ND		1.47	-	13.6		1.47	-	ND		1.47	-	ND		1.47	-	1.56		1.47	-	ND		1.47	-	1.98		1.47	-
Toluene	NS	1.44		1.41	-	5.35		0.754	-	4.3		0.754	-	7.57		0.754	-	2.49		0.754	-	2.61		0.754	-	2.15		0.754	-	5.58		0.754	-
trans-1,2-Dichloroethene	NS	ND		1.48	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-	ND		0.793	-
trans-1,3-Dichloropropene	NS	ND		1.7	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-	ND		0.908	-
Trichloroethene	2	ND		0.201	-	6.4		1.07	-	ND		0.107	-	15.5		1.07	-	0.43		0.107	-	ND		1.07	-	0.113		0.107	-	1.29		1.07	-
Trichlorofluoromethane	NS	ND		2.1	-	374		1.12	-	ND		1.12	-	41.4		1.12	-	1.13		1.12	-	79.2		1.12	-	1.23		1.12	-	52.4		1.12	-
Vinyl bromide	NS	ND		1.64	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-	ND		0.874	-
Vinyl chloride	NS	ND		0.096	-	ND		0.511	-	0.072		0.051	-	ND		0.511	-	0.092		0.051	-	ND		0.511	-	0.095		0.051	-	ND		0.511	-

Results in Yellow Highlight displays exceedance above the NYSDOH Air Guideline Value
NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL

Table 11 - Vapor Intrusion Results -
VOCs 100 Riverdale Avenue
Yonkers, New York

HK Engineering & Geology, D.P.C.
Project #: HK2420
Sample Date: March 23-24, 2023

		Samples collected at east adjoining property located at 100 Riverdale Avenue								
Target Compounds	**NYSDOH Air Guideline Values**	**SV1 Sub-Slab Soil Vapor**			**IA1 Indoor Air**			**AA Ambient Air**		
Volatiles (µg/m³)		**Q**	**Conc**	**RL**	**Q**	**Conc**	**RL**	**Q**	**Conc**	**RL**
Acetone	**NS**	D	200	2.4		49	0.48		9.0	0.48
Benzene	**NS**		0.97	0.64		1.0	0.64		0.91	0.64
Bromodichloromethane	**NS**		ND	1.3		ND	1.3		ND	1.3
Bromoform	**NS**		ND	2.1		ND	2.1		ND	2.1
Bromomethane	**NS**		ND	0.78		ND	0.78		ND	0.78
1,3-Butadiene	**NS**		ND	0.44		ND	0.44		ND	0.44
Chlorobenzene	**NS**		ND	0.92		ND	0.92		ND	0.92
Chloroethane	**NS**		ND	0.53		ND	0.53		ND	0.53
Chloroform	**NS**		2.6	0.98		12	0.98		ND	0.98
Chloromethane	**NS**		ND	0.41		ND	0.41		ND	0.41
Carbon disulfide	**NS**		10	0.62		ND	0.62		ND	0.62
Carbon tetrachloride	**NS**		ND	0.25		ND	0.25		ND	0.25
Cyclohexane	**NS**		1.7	0.69		ND	0.69		ND	0.69
Dibromochloromethane	**NS**		ND	1.7		ND	1.7		ND	1.7
1,2-Dibromoethane	**NS**		ND	1.5		ND	1.5		ND	1.5
1,2-Dichlorobenzene	**NS**		ND	1.2		ND	1.2		ND	1.2
1,3-Dichlorobenzene	**NS**		ND	1.2		ND	1.2		ND	1.2
1,4-Dichlorobenzene	**NS**		ND	1.2		ND	1.2		ND	1.2
Dichlorodifluoromethane	**NS**		ND	0.99		ND	0.99		ND	0.99
1,1-Dichloroethane	**NS**		ND	0.81		ND	0.81		ND	0.81
1,2-Dichloroethane	**NS**		ND	0.81		ND	0.81		ND	0.81
1,1-Dichloroethene	**NS**		ND	0.79		ND	0.79		ND	0.79
1,2-Dichloroethene (cis)	**NS**		ND	0.79		ND	0.79		ND	0.79
1,2-Dichloroethene (trans)	**NS**		1.1	0.79		ND	0.79		ND	0.79
1,2-Dichloropropane	**NS**		ND	0.92		ND	0.92		ND	0.92
1,3-Dichloropropene (cis)	**NS**		ND	0.91		ND	0.91		ND	0.91
1,3-Dichloropropene (trans)	**NS**		ND	0.91		ND	0.91		ND	0.91
1,3-Dichloropropene - TOTAL	**NS**		ND	0.91		ND	0.91		ND	0.91
1,2-Dichlorotetrafluoroethane	**NS**		ND	1.4		ND	1.4		ND	1.4
1,4-Dioxane	**NS**		ND	0.72		ND	0.72		ND	0.72
Ethylbenzene	**NS**		1.2	0.87		1.1	0.87		ND	0.87
n-Heptane	**NS**		12	0.82		0.96	0.82		ND	0.82
1,3-Hexachlorobutadiene	**NS**		ND	2.1		ND	2.1		ND	2.1
n-Hexane	**NS**		2.0	0.70		0.78	0.70		ND	0.70
Methylene chloride	**60**		38	0.69		ND	0.69		ND	0.69
Methyl ethyl ketone	**NS**		22	0.59		3.3	0.59		0.97	0.59
Methyl isobutyl ketone	**NS**		2.0	0.82		ND	0.82		ND	0.82
Methyl tert-butyl ether	**NS**		ND	0.72		ND	0.72		ND	0.72
Styrene	**NS**		1.5	0.85		ND	0.85		ND	0.85
Tert-butyl alcohol	**NS**		12	0.61		0.64	0.61		ND	0.61
1,1,2,2-Tetrachloroethane	**NS**		ND	1.4		ND	1.4		ND	1.4
Tetrachloroethene	**30**		12	1.4		ND	1.4		ND	1.4
Toluene	**NS**		2.5	0.75		4.1	0.75		1.1	0.75
1,2,4-Trichlorobenzene	**NS**		ND	1.5		ND	1.5		ND	1.5
1,1,1-Trichloroethane	**NS**		ND	1.1		ND	1.1		ND	1.1
1,1,2-Trichloroethane	**NS**		ND	1.1		ND	1.1		ND	1.1
Trichloroethene	**2**		ND	0.25		ND	0.25		ND	0.25
Trichlorofluoromethane	**NS**		1.4	1.1		1.7	1.1		ND	1.1
1,1,2-Trichloro-1,2,2-trifluoroethane	**NS**		ND	1.5		ND	1.5		ND	1.5
1,2,4-Trimethylbenzene	**NS**		2.9	0.98		1.5	0.98		ND	0.98
1,3,5-Trimethylbenzene	**NS**		ND	0.98		ND	0.98		ND	0.98
2,2,4-Trimethylpentane	**NS**		ND	0.93		ND	0.93		ND	0.93
Vinyl bromide	**NS**		ND	0.87		ND	0.87		ND	0.87
Vinyl chloride	**NS**		ND	0.51		ND	0.51		ND	0.51
Xylenes (m&p)	**NS**		5.4	0.87		4.2	0.87		ND	0.87
Xylenes (o)	**NS**		2.1	0.87		1.2	0.87		ND	0.87
Xylenes - TOTAL	**NS**		7.5	0.87		5.4	0.87		ND	0.87

Results in Yellow Highlight displays exceedance above the ambient NYSDOH Air Guideline Value (applicable for Ambient Air only
***No applicable NYSDEC remediation benchmarks available for soil vapor comparison**
ND = Analyzed for but Not Detected at the RL
D = Extra dilution required for this compound

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Table 12
Historical Groundwater Analytical Results - Chlorinated VOCs
Buena Vista Apartments
85 Riverdale Avenue
Yonkers, New York

WELL ID *Well Screen Interval*	NYSDEC AWQS	cis 1,2 Dichloroethene 5	trans-1,2 Dichloroethene 5	Tetrachloroethene (PCE) 5	Trichloroethene (TCE) 5	Vinyl chloride 2	PCE equivalent (moles/liter) NS
MW-1 **14 to 24 ft**	04/18/2016	ND	ND	ND	ND	ND	0.0E+00
	08/31/2017	ND	ND	ND	ND	ND	0.0E+00
	11/1/2017	ND	ND	**0.6**	**0.8**	ND	9.7E-09
	2/1/2018	ND	ND	ND	ND	ND	0.0E+00
MW-1A **15 to 25 ft**	3/18/2020	ND	ND	**0.2**	ND	ND	1.1E-09
	5/24/2021	ND	ND	ND	ND	ND	0.0E+00
	9/3/2021	ND	ND	ND	ND	ND	0.0E+00
	12/20/2021	ND	ND	ND	ND	ND	0.0E+00
	3/15/2022	ND	ND	ND	ND	ND	0.0E+00
	4/13/2023	ND	ND	ND	ND	ND	0.0E+00
MW-2 **4.5 to 14.5 ft**	04/18/2016	ND	ND	ND	ND	ND	0.0E+00
	08/31/2017	ND	ND	ND	ND	ND	0.0E+00
	11/1/2017	ND	ND	ND	ND	ND	0.0E+00
	2/1/2018	ND	ND	ND	ND	ND	0.0E+00
	10/16/2019	**2.4**	ND	**12.0**	**9.0**	**0.1**	1.7E-07
	5/24/2021	ND	ND	**2.63**	**0.96**	ND	2.3E-08
	9/3/2021	ND	ND	ND	ND	ND	0.0E+00
	12/20/2021	ND	**1.39**	**1.38**	**5.75**	ND	6.6E-08
	3/15/2022	ND	ND	ND	ND	ND	0.0E+00
	4/13/2023	ND	ND	ND	ND	ND	0.0E+00
MW-3 **10 to 20 ft**	04/18/2016	**425**	**33.9**	**18,800**	**2,840**	**18.7**	1.4E-04
	08/31/2017	ND	ND	ND	ND	ND	0.0E+00
	11/1/2017	ND	**54.5**	**1,760**	**1,500**	**16.9**	2.3E-05
	2/1/2018	**34.7**	**1.4**	ND	**49.1**	**0.9**	7.6E-07
	10/16/2019	**210**	**65.0**	**540**	**580**	**14.0**	1.1E-05
	5/24/2021	**201**	**51.1**	**7,410**	**959**	**<50**	5.5E-05
	9/3/2021	**176**	**25.3**	**4,790**	**517**	**<20**	3.5E-05
	12/20/2021	**52.9**	**190**	**491**	**2,540**	**<20**	2.5E-05
	3/15/2022	**164**	**43.5**	**716**	**174**	ND	7.8E-06
	4/13/2023	**203**	**27.9**	**1,810**	**583**	ND	1.8E-05

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Table 12
Historical Groundwater Analytical Results - Chlorinated VOCs
Buena Vista Apartments
85 Riverdale Avenue
Yonkers, New York

WELL ID *Well Screen Interval*	NYSDEC AWQS	cis 1,2 Dichloroethene 5	trans-1,2 Dichloroethene 5	Tetrachloroethene (PCE) 5	Trichloroethene (TCE) 5	Vinyl chloride 2	PCE equivalent (moles/liter) NS
MW-4 **10.3 to 20.3 ft**	04/18/2016	ND	ND	ND	**0.39 J**	ND	0.0E+00
	08/31/2017	ND	ND	ND	ND	ND	0.0E+00
	11/1/2017	ND	ND	ND	**0.5**	ND	4.1E-09
	2/1/2018	**0.7**	ND	**1.4**	**0.5**	ND	1.9E-08
	10/16/2019	**0.8**	ND	**13.0**	**8.3**	**0.1**	1.5E-07
	5/24/2021	ND	ND	ND	ND	ND	0.0E+00
	9/3/2021	ND	ND	ND	ND	ND	0.0E+00
	12/20/2021	ND	ND	ND	ND	ND	0.0E+00
	3/15/2022	ND	ND	ND	ND	ND	0.0E+00
	4/13/2023	ND	**0.6**	**0.6**	ND	ND	9.4E-09
MW-5 **23 to 33 ft** *Bedrock Well*	04/18/2016	**319**	**22.3**	**29.4**	**189**	**52.1**	6.0E-06
	08/31/2017	ND	ND	ND	ND	ND	0.0E+00
	11/1/2017	ND	ND	ND	ND	**1.0**	1.5E-08
	2/1/2018	ND	ND	ND	ND	ND	0.0E+00
	10/16/2019	**120**	**26.0**	**460**	**400**	**16.0**	7.6E-06
	5/24/2021	**281**	**83.4**	**195**	**361**	**55.1**	8.6E-06
	9/3/2021	**182**	**53.1**	**67.8**	**114**	**40.0**	4.3E-06
	12/20/2021	**31**	**90.2**	**55.7**	**47**	**30.1**	2.4E-06
	3/15/2022	**89.5**	**34.1**	**26.7**	**50.7**	**21.4**	2.2E-06
	4/14/2023	**230**	**77.6**	**1,970**	**722**	**29.2**	2.1E-05
MW-6 **15 to 25 ft**	3/18/2020	ND	ND	ND	ND	ND	0.0E+00
	5/24/2021	ND	ND	ND	ND	ND	0.0E+00
	9/3/2021	ND	ND	ND	ND	ND	0.0E+00
	12/20/2021	ND	ND	ND	ND	ND	0.0E+00
	3/15/2022	ND	ND	ND	ND	ND	0.0E+00
	4/13/2023	ND	ND	ND	ND	ND	0.0E+00
MW-7 **30 to 40 ft** *Bedrock Well*	11/5/2020	**61.0**	**16.0**	**680**	**340**	**4.9**	7.6E-06
	5/24/2021	**91.1**	**28.7**	**363**	**276**	**14.5**	5.8E-06
	9/3/2021	**74.1**	**26.7**	**323**	**227**	**12.1**	4.9E-06
	12/20/2021	**7.16**	**17.7**	**41.5**	**71.6**	**3.99**	1.1E-06
	3/15/2022	**69.2**	**28.3**	**257**	**179**	**16.2**	4.2E-06
	4/13/2023	**64.1**	**26.8**	**192**	**127**	**13.0**	3.3E-06

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Table 12
Historical Groundwater Analytical Results - Chlorinated VOCs
Buena Vista Apartments
85 Riverdale Avenue
Yonkers, New York

WELL ID *Well Screen Interval*	NYSDEC AWQS	cis 1,2 Dichloroethene: 5	trans-1,2 Dichloroethene: 5	Tetrachloroethene (PCE): 5	Trichloroethene (TCE): 5	Vinyl chloride: 2	PCE equivalent (moles/liter): NS
MW-8 50 to 60 ft *Bedrock Well*	11/5/2020	**74.1**	**24.0**	**1330**	**155**	**6.4**	1.0E-05
	5/24/2021	**39.1**	**18.5**	**1460**	**157**	**<10**	1.1E-05
	9/3/2021	**40.5**	**15.3**	**1300**	**173**	**<5**	9.7E-06
	12/20/2021	**16.2**	**170**	**165**	**1,070**	**5.99**	1.1E-05
	3/15/2022	**134**	**13**	**762**	**119**	**4.5**	7.1E-06
	04/14/2023	**174**	**15.7**	**506**	**457**	ND	8.5E-06
MW-9 50 to 60 ft	04/14/2023	ND	ND	ND	ND	ND	0.0E+00
MW-10 50 to 60 ft	04/13/2023	ND	ND	ND	ND	ND	0.0E+00
MW-11 10 to 20 ft	04/13/2023	ND	ND	**0.7**	ND	ND	4.0E-09
MW-12 40 to 50 ft	04/13/2023	**2.5**	**0.7**	**18.6**	**4.9**	ND	1.8E-07
MW-13 50 to 60 ft	04/13/2023	0.8	**9.3**	ND	ND	ND	1.0E-07

Notes:
µg/L - micrograms per liter (parts per billion equivalent).
Bold/shaded - indicates New York State Dept. of Env. Conservation (NYSDEC) Ambient Water Quality Standards (AWQS)
Bold/shaded - indicates exceeds 1 percent solubility for PCE, which is 1,500 µg/L
ND - less than the laboratory reporting limit
NS - No standard

Table 13a - Shallow Soil Exposure Point Concentrations - Entire Site

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

Target Compounds	NYSDEC Unrestricted Use SCO	NYSDEC Restricted Residential Use SCO	AVERAGE	STD DEV	n	95% UCL	Shallow Soil Samples									
							E Courtyard	E Courtyard	W. Courtyard	W. Courtyard	W. Courtyard	W Courtyard	SW End	SW End	S End	S End
							S7 Sample Depth: 0.5-1.0'	S11 Sample Depth: 0.5-1.0'	S8 Sample Depth: 0.5-1.0'	S9 Sample Depth: 0.5-1.0'	S10 Sample Depth: 0.5-1.0'	S16 Sample Depth: 0.5-1.0'	S12 Sample Depth: 0.5-1.0'	S13 Sample Depth: 0.5-1.0'	S14 Sample Depth: 0.5-1.0'	S15 Sample Depth: 0.5-1.0'
Volatiles (mg/Kg)							Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
Acetone	0.05	100					0.63	0.42	0.15	0.069	0.28	0.48	3.2	0.33	0.26	0.17
Semivolatiles - BNA (mg/Kg)							Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
Benzo(a)anthracene	1	1	0.74	0.76	10	1.28	0.38	0.61	0.28	1.2	0.59	2.6	0.42	0.46	0.26	0.26
Benzo(a)pyrene	1	1	0.64	0.64	10	1.10	0.36	0.59	0.26	1.1	0.59	2.3	0.39	0.38	0.23	0.23
Benzo(b)fluoranthene	1	1	0.96	0.97	10	1.65	0.58	0.9	0.38	1.6	0.84	3.5	0.54	0.58	0.32	0.32
Chrysene	1	3.9	0.64	0.64	10	1.10	0.36	0.54	0.26	1.1	0.58	2.3	0.38	0.42	0.24	0.25
Dibenzo(a,h)anthracene	0.33	0.33	0.12	0.11	10	0.20	0.079	0.11	0.051	0.2	0.1	0.4	0.082	0.076	0.042	0.044
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.56	0.56	10	0.96	0.35	0.54	0.21	0.98	0.52	2	0.32	0.32	0.19	0.19
Pesticides (mg/Kg)							Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
4,4'-DDD	0.0033	13	0.0028	0.0022	10	0.0043	0.00093	0.000666	0.005	0.00093	0.00397	0.00449	0.00303	0.00672	0.00093	0.00093
4,4'-DDE	0.0033	8.9	0.0276	0.0123	10	0.0364	0.0345	0.0112	0.0229	0.0186	0.0385	0.0358	0.0319	0.049	0.022	0.012
4,4'-DDT	0.0033	7.9	0.0359	0.0132	10	0.0453	0.0446	0.0173	0.0414	0.034	0.0476	0.0502	0.0283	0.0526	0.0221	0.0204
Dieldrin	0.005	0.2	0.0032	0.0014	10	0.0042	0.00395	0.0037	0.00229	0.00518	0.00313	0.00517	0.0019	0.00339	0.00306	0.00057
Metals (mg/Kg)							Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
Arsenic, Total	13	16	9.5	6.13	10	13.9	10.6	13	8.05	11	5.38	24.6	5.38	8.9	3.95	4.32
Copper, Total	50	270	41.6	15.24	10	52.5	51.2	27.9	31.1	57	23.9	74.3	34.2	38.8	37.5	40.2
Lead, Total	63	400	76.9	30.41	10	98.7	110	66.8	45.7	49.6	38.6	56.6	75.8	94.9	105	126
Mercury, Total	0.18	0.81	0.7	0.25	10	0.93	0.678	0.634	0.774	0.393	1.04	0.325	1.1	0.958	0.803	0.793
Zinc, Total	109	10000	117	48.09	10	151	145	64	59.2	185	55	126	106	120	121	189

Results in Yellow Highlight displays exceedance above the NYSDEC Unrestricted Use Soil Cleanup Objective
Results in Green Highlight displays exceedance above both NYSDEC Unrestricted Use & Restricted Residential Soil Cleanup Objectives
J = Concentration detected at a value below the RL and above the MDL for target compounds

Table 13b - Shallow Soil Exposure Point Concentrations - With Carve-Out

Buena Vista Apartments
85 Riverdale Avenue, Yonkers, NY

							Shallow Soil Samples					Carve-Out				
							E Courtyard	E Courtyard	W. Courtyard	S End	S End	W Courtyard	W Courtyard	W Courtyard	SW End	SW End
Target Compounds	**NYSDEC Unrestricted Use SCO**	**NYSDEC Restricted Residential Use SCO**	**AVERAGE**	**STD DEV**	**n**	**95% UCL**	**S7 Sample Depth: 0.5-1.0'**	**S11 Sample Depth: 0.5-1.0'**	**S8 Sample Depth: 0.5-1.0'**	**S14 Sample Depth: 0.5-1.0'**	**S15 Sample Depth: 0.5-1.0'**	**S9 Sample Depth: 0.5-1.0'**	**S10 Sample Depth: 0.5-1.0'**	**S16 Sample Depth: 0.5-1.0'**	**S12 Sample Depth: 0.5-1.0'**	**S13 Sample Depth: 0.5-1.0'**
Volatiles (mg/Kg)							Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
Acetone	0.05	100	0.33	0.20		0.47	0.63	0.42	0.15	0.26	0.17	0.069	0.28	0.48	3.2	0.33
Semivolatiles - BNA (mg/Kg)							Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
Benzo(a)anthracene	1	1	0.35	0.17	5	0.57	0.38	0.61	0.28	0.26	0.26	1.2	0.59	2.6	0.42	0.46
Benzo(a)pyrene	1	1	0.33	0.15	5	0.52	0.36	0.59	0.26	0.23	0.23	1.1	0.59	2.3	0.39	0.38
Benzo(b)fluoranthene	1	1	0.50	0.25	5	0.81	0.58	0.9	0.38	0.32	0.32	1.6	0.84	3.5	0.54	0.58
Chrysene	1	3.9	0.33	0.13	5	0.49	0.36	0.54	0.26	0.24	0.25	1.1	0.58	2.3	0.38	0.42
Dibenzo(a,h)anthracene	0.33	0.33	0.07	0.03	5	0.10	0.079	0.11	0.051	0.042	0.044	0.2	0.1	0.4	0.082	0.076
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.30	0.15	5	0.48	0.35	0.54	0.21	0.19	0.19	0.98	0.52	2	0.32	0.32
Pesticides (mg/Kg)							Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
4,4'-DDD	0.0033	13	0.0017	0.00	5	0.0040	0.00093	0.000666	0.005	0.00093	0.00093	0.00093	0.00397	0.00449	0.00303	0.00672
4,4'-DDE	0.0033	8.9	0.0205	0.01	5	0.0323	0.0345	0.0112	0.0229	0.022	0.012	0.0186	0.0385	0.0358	0.0319	0.049
4,4'-DDT	0.0033	7.9	0.0292	0.01	5	0.0451	0.0446	0.0173	0.0414	0.0221	0.0204	0.034	0.0476	0.0502	0.0283	0.0526
Dieldrin	0.005	0.2	0.0027	0.00	5	0.0044	0.00395	0.0037	0.00229	0.00306	0.00057	0.00518	0.00313	0.00517	0.0019	0.00339
Metals (mg/Kg)							Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc	Conc
Arsenic, Total	13	16	8.0	3.93	5	12.9	10.6	13	8.05	3.95	4.32	11	5.38	24.6	5.38	8.9
Copper, Total	50	270	37.6	9.06	5	48.8	51.2	27.9	31.1	37.5	40.2	57	23.9	74.3	34.2	38.8
Lead, Total	63	400	90.7	33.24	5	132	110	66.8	45.7	105	126	49.6	38.6	56.6	75.8	94.9
Mercury, Total	0.18	0.81	0.7	0.08	5	0.83	0.678	0.634	0.774	0.803	0.793	0.393	1.04	0.325	1.1	0.958
Zinc, Total	109	10000	116	55.06	5	184	145	64	59.2	121	189	185	55	126	106	120

Results in Yellow Highlight displays exceedance above the NYSDEC Unrestricted Use Soil Cleanup Objective
Results in Green Highlight displays exceedance above both NYSDEC Unrestricted Use & Restricted Residential Soil Cleanup Objectives
J = Concentration detected at a value below the RL and above the MDL for target compounds

Appendix A

CAMP Documents for DustTrak & PID Data

Project: 85 Riverdale Avenue, Yonkers
NYS DEC BCP Number: C360181

Date	Time	Dust Trak 15 Minute Mass Conc. (Avg) mg/m^3	MiniRae 15 Minute VOC (Avg) ppm
3/28/2023	11:39:30	0.012	0.0
3/28/2023	11:54:30	0.011	0.0
3/28/2023	12:09:30	0.010	0.0
3/28/2023	12:24:30	0.014	0.0
3/28/2023	12:39:30	0.012	0.0
3/28/2023	12:54:30	0.011	0.0
3/28/2023	13:09:30	0.010	0.0
3/28/2023	13:24:30	0.014	0.0
3/28/2023	13:39:30	0.013	0.0
3/28/2023	13:54:30	0.010	0.0
3/28/2023	14:09:30	0.009	0.0
3/28/2023	14:24:30	0.008	0.0
3/28/2023	14:39:30	0.009	0.0
3/28/2023	14:54:30	0.010	0.0
3/28/2023	15:09:30	0.009	0.0

Notes:
Dusttrak Mass Concentration Average = 0.001 mg/m^3
Dusttrak Time Weighted Average (TWA) = 0.002 mg/m^3
MiniRae VOC (Avg) = 0.0 ppm

Project: 85 Riverdale Avenue, Yonkers
NYS DEC BCP Number: C360181

Date	Time	Dust Trak 15 Minute Mass Conc. (Avg) mg/m^3	MiniRae 15 Minute VOC (Avg) ppm
3/29/2023	7:09:29	0.023	0.0
3/29/2023	7:24:29	0.029	0.0
3/29/2023	7:39:29	0.029	0.0
3/29/2023	7:54:29	0.024	0.0
3/29/2023	8:09:29	0.021	0.0
3/29/2023	8:24:29	0.019	0.0
3/29/2023	8:39:29	0.020	0.0
3/29/2023	8:54:29	0.022	0.0
3/29/2023	9:09:29	0.021	0.0
3/29/2023	9:24:29	0.019	0.0
3/29/2023	9:39:29	0.017	0.0
3/29/2023	9:54:29	0.014	0.0
3/29/2023	10:09:29	0.015	0.0
3/29/2023	10:24:29	0.021	0.0
3/29/2023	10:39:29	0.019	0.0
3/29/2023	10:54:29	0.010	0.0

Notes:
Dusttrak Mass Concentration Average = 0.020 mg/m^3
Dusttrak Time Weighted Average (TWA) = 0.010 mg/m^3
MiniRae VOC (Avg) = 0.0 ppm

Project: 85 Riverdale Avenue, Yonkers
NYS DEC BCP Number: C360181

Date	Time	Dust Trak 15 Minute Mass Conc. (Avg) mg/m^3	MiniRae 15 Minute VOC (Avg) ppm
3/30/2023	8:09:27	0.006	0.0
3/30/2023	8:24:27	0.01	0.0
3/30/2023	8:39:27	0.035	0.0
3/30/2023	8:54:27	0.026	0.0
3/30/2023	9:09:27	0.028	0.0
3/30/2023	9:24:27	0.009	0.0
3/30/2023	9:39:27	0.024	0.0
3/30/2023	9:54:27	0.009	0.0
3/30/2023	10:09:27	0.050	0.0
3/30/2023	10:24:27	0.031	0.0
3/30/2023	10:39:27	0.018	0.0
3/30/2023	10:54:27	0.015	0.0
3/30/2023	11:09:27	0.034	0.0
3/30/2023	11:24:27	0.063	0.0
3/30/2023	11:39:27	0.046	0.0
3/30/2023	11:54:27	0.017	0.0
3/30/2023	12:09:27	0.030	0.0
3/30/2023	12:24:27	0.035	0.0
3/30/2023	12:39:27	0.026	0.0
3/30/2023	12:54:27	0.051	0.0
3/30/2023	13:09:27	0.024	0.0
3/30/2023	13:24:27	0.057	0.0

Notes:
Dusttrak Mass Concentration Average = 0.029 mg/m^3
Dusttrak Time Weighted Average (TWA) = 0.020 mg/m^3
MiniRae VOC (Avg) = 0.0 ppm

Project: 85 Riverdale Avenue, Yonkers
NYS DEC BCP Number: C360181

Date	Time	Dust Trak 15 Minute Mass Conc. (Avg) mg/m^3	MiniRae 15 Minute VOC (Avg) ppm
3/31/2023	7:23:23	0.030	0.0
3/31/2023	7:38:23	0.036	0.0
3/31/2023	7:53:23	0.036	0.0
3/31/2023	8:08:23	0.042	0.0
3/31/2023	8:23:23	0.048	0.0
3/31/2023	8:38:23	0.050	0.0
3/31/2023	8:53:23	0.038	0.0
3/31/2023	9:08:23	0.035	0.0
3/31/2023	9:23:23	0.050	0.0
3/31/2023	9:38:23	0.052	0.0
3/31/2023	9:53:23	0.069	0.0
3/31/2023	10:08:23	0.038	0.0
3/31/2023	10:23:23	0.079	0.0
3/31/2023	10:38:23	0.078	0.0
3/31/2023	10:53:23	0.037	0.0
3/31/2023	11:08:23	0.034	0.0
3/31/2023	11:23:23	0.037	0.0
3/31/2023	11:38:23	0.052	0.0
3/31/2023	11:53:23	0.022	0.0
3/31/2023	12:08:23	0.027	0.0
3/31/2023	12:23:23	0.016	0.0
3/31/2023	12:38:23	0.017	0.0
3/31/2023	12:53:23	0.016	0.0
3/31/2023	13:08:23	0.017	0.0

Notes:
Dusttrak Mass Concentration Average = 0.040 mg/m^3
Dusttrak Time Weighted Average (TWA) = 0.030 mg/m^3
MiniRae VOC (Avg) = 0.0 ppm

Project: 85 Riverdale Avenue, Yonkers
NYS DEC BCP Number: C360181

Date	Time	Dust Trak 15 Minute Mass Conc. (Avg) mg/m^3	MiniRae 15 Minute VOC (Avg) ppm
4/3/2023	8:19:24	0.024	0.0
4/3/2023	8:34:24	0.018	0.0
4/3/2023	8:49:24	0.015	0.0
4/3/2023	9:04:24	0.011	0.0
4/3/2023	9:19:24	0.010	0.0
4/3/2023	9:34:24	0.011	0.0
4/3/2023	9:49:24	0.012	0.0
4/3/2023	10:04:24	0.013	0.0
4/3/2023	10:19:24	0.014	0.0
4/3/2023	10:34:24	0.012	0.0
4/3/2023	10:49:24	0.011	0.0
4/3/2023	11:04:24	0.012	0.0
4/3/2023	11:19:24	0.011	0.0
4/3/2023	11:34:24	0.010	0.0
4/3/2023	11:49:24	0.012	0.0
4/3/2023	12:04:24	0.014	0.0
4/3/2023	12:19:24	0.014	1.3
4/3/2023	12:34:24	0.013	6.2
4/3/2023	12:49:24	0.012	0.2
4/3/2023	13:04:24	0.011	2.0
4/3/2023	13:19:24	0.012	9.5
4/3/2023	13:34:24	0.012	0.2
4/3/2023	13:49:24	0.012	0.0

Notes:
Dusttrak Mass Concentration Average = 0.013 mg/m^3
Dusttrak Time Weighted Average (TWA) = 0.009mg/m^3
MiniRae VOC (Avg) = 0.0 ppm

Appendix B

Soil Boring & Well Construction Logs

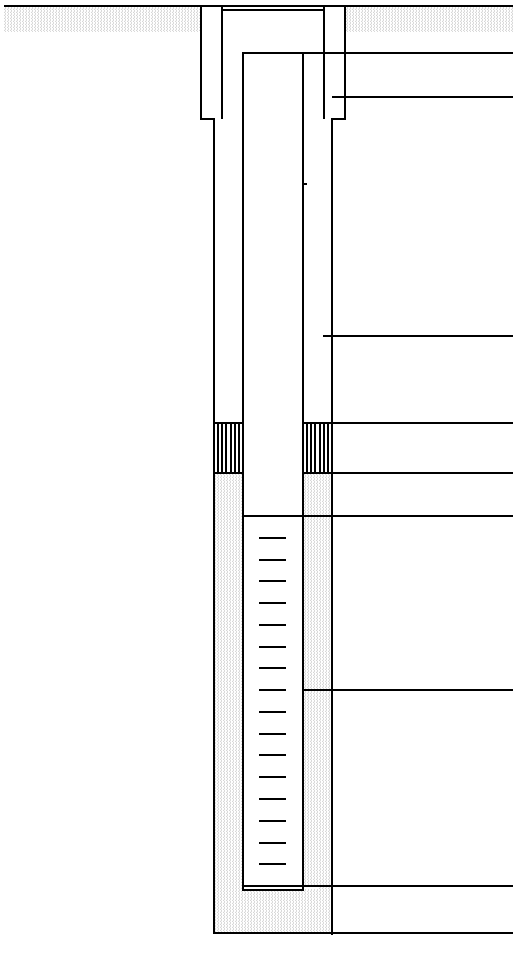
Boring Number:	B-1			Page 1 of 1	
Location:	Southwestern portion of subject property		Date Started:	3/27/2015	
Site Address:	85 & 95 Riverdale Avenue and 70 Hawthorne Avenue		Date Completed:	3/27/2015	
	Yonkers, New York 10701		Depth to Groundwater:	16	
Project Number:	14-129961.2		Field Technician:	CN	
Drill Rig Type:	Geoprobe 6620DT		Partner Assessment Corporation		
Sampling Equipment:	5.0ft MacroCores		100 Deerfield Lane, Suite 200		
Borehole Diameter:	2.0 inch		Malvern, Pennsylvania 19355		

Depth	Sample	PID	USCS	Description	Notes
			N/A	Asphalt	Boring was overlain by asphalt
1		0.0			
2		0.0			
3		0.0			2.5 ft recovery, no odor/staining
4		0.0		Brown medium sand with silt and fill material consisting of brick, gravel, and wood; slightly moist	
5		0.2			
6		0.0			
7		0.0			
8		0.0	SM		4.5 ft recovery, no odor/staining
9		0.0		Red medium sand with silt and fill material consisting of brick, gravel, and wood; slightly moist	
10		0.0			
11		0.0		Brown medium sand with silt and fill material consisting of brick, gravel, and wood: slightly moist	
12		0.0			4.5 ft recovery, no odor/staining
13		0.1			
14		0.0		Brown fine sand with silt and gravel; moist	
15	S-1	0.0		Orange/brown medium sand; slightly moist	Soil sample S-1 was colllected at 14.5-15.0 ft bgs at 1000 for VOC and PAH analysis
16		0.0	SP		
17		0.0		Orange/brown medium sand; wet	
18		0.0			4 ft recovery, no odor/staining
19		0.0	SM	Brown medium sand with silt; moist	
20		0.0			
21				Boring was terminated at 20.0 ft bgs	Soil boring B-1 was converted into a temporary well point, screened from 15.0-20.0 ft bgs. Groundwater sample GW-1 was collected at 1000 for VOC and PAH analysis
22					
23					
24					
25					

PARTNER ASSESSMENT CORPORATION
WELL CONSTRUCTION DETAILS
FLUSH-MOUNT INSTALLATION

Project:	Buenna Vista Apartments	Field Staff:	Chris Niedzwiecki
Project #:	14-129961.3	Project Manager:	James Duba
Location:	West of Guillet Cleaners	Weather:	Overcast
Well Number:	MW-1	Drilling Method:	Direct push
Date:	6/18/2015	Drilling Contractor:	Zebra Environmental Corporation
Permit Number:	N/A	Drilling Fluid:	N/A
Atlas Coordinates:	764262.5605' 657537.5494'	Well Purpose:	Monitoring

Depth below ground surface (feet)	Elevation (feet MSL)	
0.00	63.292	Ground Surface/Protective Cap
0.24	63.05	2 (") ID PVC Inner Well Casing
		Cement Collar
		Well Casing Seal Material- N/A
0.50	62.79	Bentonite Material- Bentonite
8.00	55.29	(#) Clean Sand Filter-Pack
9.00	54.29	Top of Screen - Threaded Coupling
		PVC Well Screen Slot Size
24.00	39.29	PVC Bottom Cap
24.00	39.29	Bottom of Borehole 3 (") Diameter



Static depth to water (feet below TOC):	14.3	Remarks:
Development date(s):	6/18/15	
Development technique:	Whale pump	
Pumping depth to water (feet below TOC):	22	
Pumping duration (hours):	0	
Water removed during development (gls):	5	
Fluid loss during drilling (gls):	N/A	

HK Engineering & Geology D.P.C.
Monitoring Well Boring Log

Monitoring Well: MW-1A

Project:	HK-2420	Date Started:	2/21/2020	Permit No.:	
Client:	Buena Vista	Date Finished:	2/21/2020	Well Diameter:	1 inch
Location:	85 Riverdale, Yonkers	Total Depth:	21.15 feet	Well Material:	PVC Piping
Drilling Co.:	Aarco	Depth to GW:	13.02 ft *(5/14/20)*	Slot Size:	0.01
Driller:	Jose	Lat/Northing:	40.930013°	Packing Type:	Morie #1
Rig Type:	Geoprobe	Long/Easting:	-73.901351°	Screen Interval:	11-21 feet
Sample Type:	Hollow Stem/Air Rotary	Surface Elev:	63.36 feet	Flush/Stickup:	Flush
Geologist:	Ryan K. Powell	TOC Elev:	62.88 feet	Development Method:	Pump

Location Sketch Map

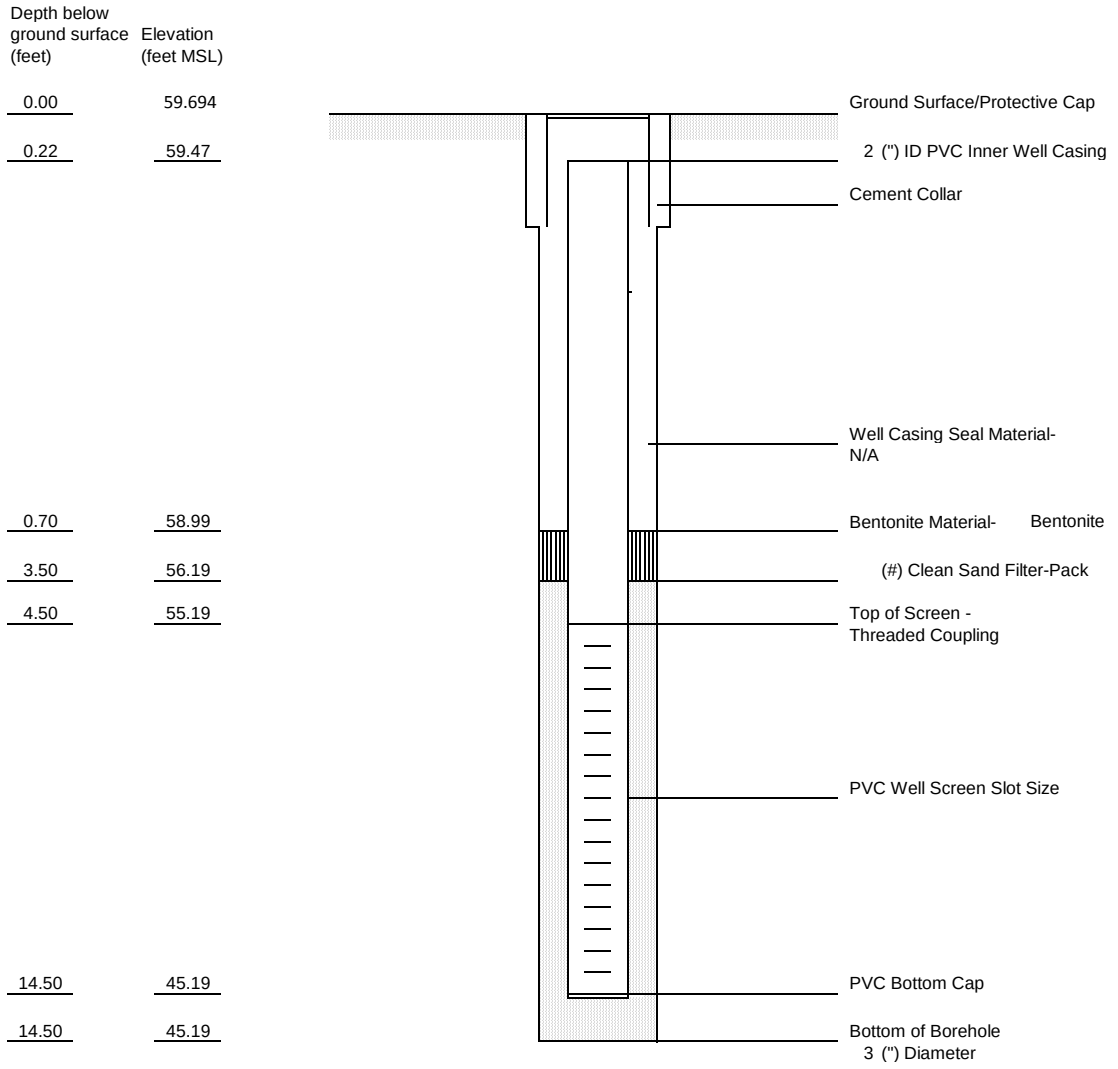
Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Symbol	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (%)	Comments
		SURFACE						
0		1	0.0 -1.0		Asphalt & Sub base	0		
2			2.0 - 7.0		Fill Material - Brown CLAY (no stain / odor)			
4								
		2				0		
6								
			7.0 - 10.0		Rock, weathered			
8								
10		3	10.0 - 21.0		Rock, competent	0		
12								
14								
		4				0		
16								
18								
20		5				0		
					End of Borehole			

Boring Number:	B-2		Page 1 of 1
Location:	Southeastern portion of subject property	Date Started:	3/27/2015
Site Address:	85 & 95 Riverdale Avenue and 70 Hawthorne Avenue	Date Completed:	3/27/2015
	Yonkers, New York 10701	Depth to Groundwater:	16
Project Number:	14-129961.2	Field Technician:	CN
Drill Rig Type:	Geoprobe 6620DT	Partner Assessment Corporation	
Sampling Equipment:	5.0ft MacroCores	100 Deerfield Lane, Suite 200	
Borehole Diameter:	2.0 inch	Malvern, Pennsylvania 19355	

Depth	Sample	PID	USCS	Description	Notes
1		0.0	N/A	Asphalt	Boring was overlain by asphalt
2		0.0	SP	Tan medium sand with fill consisting of brick, gravel, and wood; slightly moist	2.0 ft recovery, no odor/staining
3		0.0			
4		0.0			
5		0.0			
6		0.0		Tan medium sand with fill consisting of brick, gravel, and wood; moist	5.0 ft recovery, no odor/staining
7		0.0	SC	Blue fine sand with clay; slightly moist	
8		0.0			
9		0.0	SP	Tan/orange medium sand; slightly moist	
10		0.0			
11		0.0			3.0 ft recovery, no odor/staining
12		0.0		Red medium sand; moist	
13		16.8			
14	S-2	45.2			Soil sample S-2 was collected at 13.5-14.0 ft bgs at 1050 for VOC and Lead analysis
15		2.5			Petroleum-like odor and staining observed from 13.0-15.0 ft bgs
16		164.4		Brown medium sand; wet	3.0 ft recovery, petroleum-like odor, staining, and sheen observed from 15.0-20.0 ft bgs
17		33.0			
18		53.3			
19		5.0			
20		0.8			
21				Boring was terminated at 20.0 ft bgs	Soil boring B-2 was converted into a temporary well point, screened from 15.0-20.0 ft bgs. Groundwater sample GW-2 was collected at 1050 for VOC analysis
22					
23					
24					
25					

PARTNER ASSESSMENT CORPORATION
WELL CONSTRUCTION DETAILS
FLUSH-MOUNT INSTALLATION

Project:	Buenna Vista Apartments	Field Staff:	Chris Niedzwiecki
Project #:	14-129961.3	Project Manager:	James Duba
Location:	North northeast of Guillet Cleaners	Weather:	Overcast
Well Number:	MW-2	Drilling Method:	Direct push
Date:	6/18/2015	Drilling Contractor:	Zebra Environmental Corporation
Permit Number:	N/A	Drilling Fluid:	N/A
Atlas Coordinates:	764345.2520' 657607.9941'	Well Purpose:	Monitoring



Static depth to water (feet below TOC):	11.2	Remarks:
Development date(s):	6/18/15	Refusal encountered at 14.5 ft bgs
Development technique:	Whale pump	
Pumping depth to water (feet below TOC):	13	
Pumping duration (hours):	0	
Water removed during development (gls):	5	
Fluid loss during drilling (gls):	N/A	

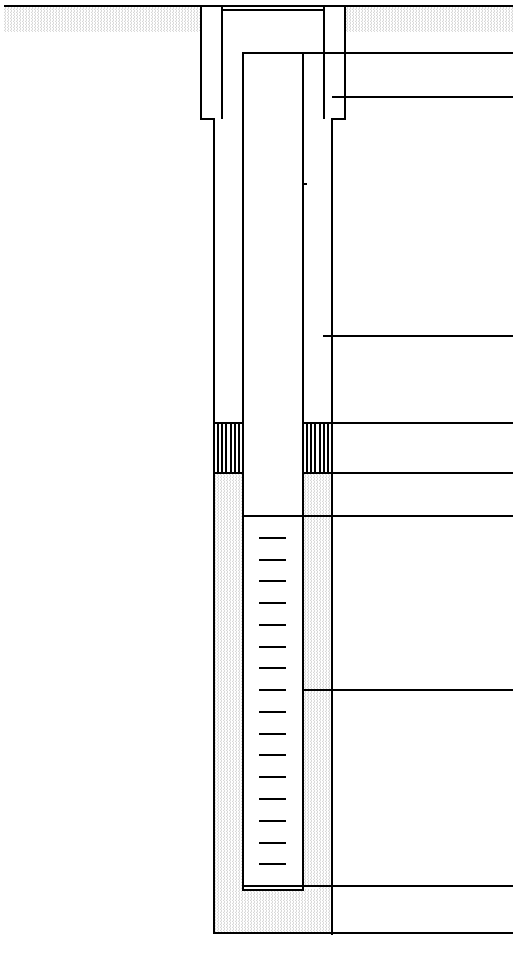
Boring Number:	B-3			Page 1 of 1	
Location:	West of Guillet Cleaners			Date Started:	3/27/2015
Site Address:	85 & 95 Riverdale Avenue and 70 Hawthorne Avenue			Date Completed:	3/27/2015
	Yonkers, New York 10701			Depth to Groundwater:	15
Project Number:	14-129961.2			Field Technician:	CN
Drill Rig Type:	Geoprobe 6620DT			Partner Assessment Corporation	
Sampling Equipment:	5.0ft MacroCores			100 Deerfield Lane, Suite 200	
Borehole Diameter:	2.0 inch			Malvern, Pennsylvania 19355	

Depth	Sample	PID	USCS	Description	Notes
1		0.0	N/A	Concrete	Boring was overlain by concrete
2		0.0	SP	Brown medium sand with fill consisting of brick, gravel, concrete, cobbles, and wood; slightly moist	2.0 ft recovery, no odor/staining
3		0.0			
4		0.0			
5		0.0			
6		0.0			2.5 ft recovery, no odor/staining
7		0.0			
8		0.0			
9		0.0			
10		0.0		Tan medium sand; dry	
11		0.0		Brown medium sand with fill consisting of gravel and brick; slightly moist	3.0 ft recovery, no odor/staining
12		0.0			
13		0.3	SM	Medium sand with silt; moist	
14		0.4			
15		3.4	SP	Gray medium sand; moist	
16		6.8		Gray coarse sand; wet	5.0 ft recovery, no odor/staining
17		20.4			Soil sample S-3 was collected at 17.0-17.5 ft bgs at 1200 for VOC analysis
18	S-3	5.9			
19		0.6		Red medium sand; wet	
20		2.2			
21				Boring was terminated at 20.0 ft bgs	Soil boring B-3 was converted into a temporary well point, screened from 15.0-20.0 ft bgs. Groundwater sample GW-3 was collected at 1200 for VOC analysis
22					
23					
24					
25					

PARTNER ASSESSMENT CORPORATION
WELL CONSTRUCTION DETAILS
FLUSH-MOUNT INSTALLATION

Project:	Buenna Vista Apartments	Field Staff:	Chris Niedzwiecki
Project #:	14-129961.3	Project Manager:	James Duba
Location:	West of Guillet Cleaners, near back door	Weather:	Overcast
Well Number:	MW-3	Drilling Method:	Direct push
Date:	6/18/2015	Drilling Contractor:	Zebra Environmental Corporation
Permit Number:	N/A	Drilling Fluid:	N/A
Atlas Coordinates:	764256.2824' 657644.7805'	Well Purpose:	Monitoring

Depth below ground surface (feet)	Elevation (feet MSL)	
0.00	59.829	Ground Surface/Protective Cap
0.43	59.40	1 (") ID PVC Inner Well Casing
		Cement Collar
		Well Casing Seal Material- N/A
0.50	59.33	Bentonite Material- Bentonite
9.00	50.83	(#) Clean Sand Filter-Pack
10.00	49.83	Top of Screen - Threaded Coupling
		PVC Well Screen Slot Size
20.00	39.83	PVC Bottom Cap
20.00	39.83	Bottom of Borehole 3 (") Diameter



Static depth to water (feet below TOC):	11.49	Remarks:
Development date(s):	6/18/15	Due to subsurface drilling conditions, a
Development technique:	Whale pump	one inch well was installed. Due to the
Pumping depth to water (feet below TOC):	18	small diameter, well was unable to be
Pumping duration (hours):	N/A	developed.
Water removed during development (gls):	N/A	
Fluid loss during drilling (gls):	N/A	

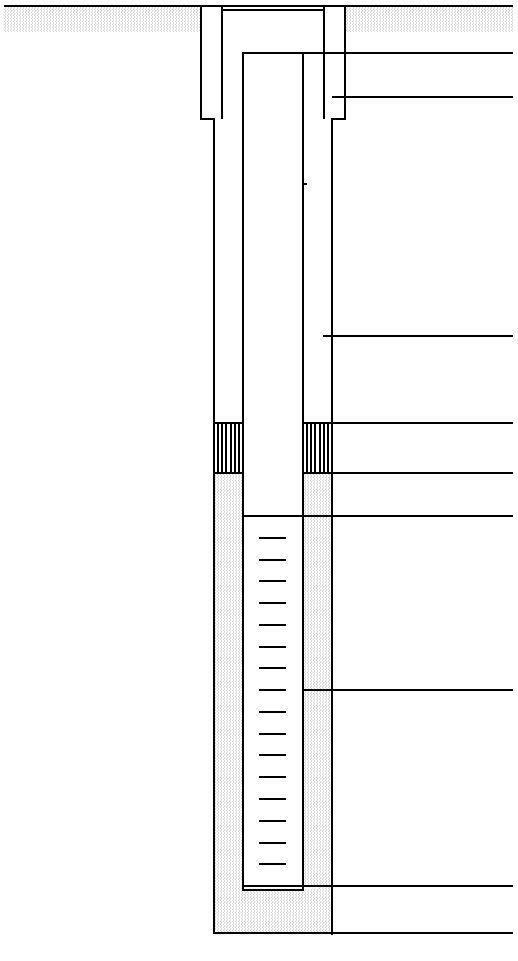
Boring Number:	B-4		Page 1 of 1
Location:	Northwest of Guillet Cleaners	Date Started:	3/27/2015
Site Address:	85 & 95 Riverdale Avenue and 70 Hawthorne Avenue	Date Completed:	3/27/2015
	Yonkers, New York 10701	Depth to Groundwater:	15
Project Number:	14-129961.2	Field Technician:	CN
Drill Rig Type:	Geoprobe 6620DT	Partner Assessment Corporation	
Sampling Equipment:	5.0ft MacroCores	100 Deerfield Lane, Suite 200	
Borehole Diameter:	2.0 inch	Malvern, Pennsylvania 19355	

Depth	Sample	PID	USCS	Description	Notes
1		0.0	N/A	Asphalt	Boring was overlain by asphalt
2		0.0	SP	Brown medium sand with silt and fill consiting of brick; slightly moist	2.5 ft recovery, no odor/staining
3		0.0			
4		0.0	N/A	Pulverized concrete; dry	
5		0.0			
6		0.0		Brown sand with fill consisting of gravel and concrete; dry	4.0 ft recovery, no odor/staining
7		0.0			
8		0.0		Brown/orange medium sand; slightly moist	
9		0.0	SP		
10		0.0			
11		0.0		Brown/orange medium sand; moist	2.0 ft recovery, no odor/staining
12		0.0			
13		0.0			
14		0.0	SM	Red/purple medium silty sand with gravel; moist	
15		0.0			
16		0.0		Brown medium sand with gravel; wet	5.0 ft recovery, no odor/staining
17		0.0			
18		0.0	SP		
19		1.4		Dark red medium sand with gravel; wet	
20	S-4	1.5			Soil sample S-4 was collected at 19.5-20.0 ft bgs at 1240 for VOC analysis
21				Boring was terminated at 20.0 ft bgs	Soil boring B-4 was converted into a temporary well point, screened from 15.0-20.0 ft bgs. Groundwater sample GW-4 was collected at 1240 for VOC analysis
22					
23					
24					
25					

PARTNER ASSESSMENT CORPORATION
WELL CONSTRUCTION DETAILS
FLUSH-MOUNT INSTALLATION

Project:	Buenna Vista Apartments	Field Staff:	Chris Niedzwiecki
Project #:	14-129961.3	Project Manager:	James Duba
Location:	Center of basketball court	Weather:	Overcast
Well Number:	MW-4	Drilling Method:	Direct push
Date:	6/18/2015	Drilling Contractor:	Zebra Environmental Corporation
Permit Number:	N/A	Drilling Fluid:	N/A
Atlas Coordinates:	764102.5450' 657644.9812'	Well Purpose:	Monitoring

Depth below ground surface (feet)	Elevation (feet MSL)	
0.00	59.37	Ground Surface/Protective Cap
0.42	58.95	2 (") ID PVC Inner Well Casing
		Cement Collar
		Well Casing Seal Material- Concrete
0.50	58.87	Bentonite Material- Bentonite
9.00	50.37	(#) Clean Sand Filter-Pack
10.33	49.04	Top of Screen - Threaded Coupling
		PVC Well Screen Slot Size
20.33	39.04	PVC Bottom Cap
20.33	39.04	Bottom of Borehole 4 (") Diameter



Static depth to water (feet below TOC):	8.36	Remarks:
Development date(s):	6/18/15	Pre-pack well
Development technique:	Whale pump	
Pumping depth to water (feet below TOC):	19	
Pumping duration (hours):	0	
Water removed during development (gls):	5	
Fluid loss during drilling (gls):	N/A	

3.0 REMEDIAL INVESTIGATION

Refer to **Table 1** for a summary of the sampling schedule and laboratory analyses for all investigation conducted at the site. The scope of the Remedial Investigation included a geophysical survey, the advancement of one deep monitoring well (MW-5), surveying of the monitoring well, and the installation of four sub-slab soil gas points (SG-7 through SG-10) for the collection of representative groundwater and sub-slab soil gas samples, which was conducted between October 7 and 12, 2015.

3.1 Preparatory Activities

Prior to the initiation of fieldwork, PSG completed the following activities:

3.1.1 Utility Clearance

Zebra notified Dig Safely New York to clear public utility lines, as required by law, at least 48 hours prior to drilling activities. Dig Safely New York issued ticket number 06115-222-045 for the project.

3.1.2 Health and Safety Plan

PSG reviewed the site-specific Health and Safety Plan with on-site personnel involved in the project prior to the commencement of drilling activities.

3.2 Geophysical Survey

On October 7, 2015, Delta conducted a geophysical survey of the subject property. The purpose of the geophysical survey was to clear all monitoring well and sub-slab soil gas points of utilities. The geophysical survey was conducted with a SIR-3000 cart-mounted Ground Penetrating Radar (GPR) unit with a 400 Megahertz (Mhz) antenna, a Radiodetection RD7000 precision utility locator, and a Fisher M-Scope TW-6 pipe and cable locator.

3.3 Drilling Equipment

From October 7 through October 9, 2015, and on October 12, 2015, Partner subcontracted with Zebra to provide and operate drilling equipment. Zebra, under the direction of Partner, advanced monitoring well MW-5 with a track-mounted Geoprobe Model 7822DT direct push rig.

3.4 Groundwater Remedial Investigation

3.4.1 Monitoring Well Location

Monitoring well MW-5 was advanced in the concrete area directly west of Guillet Cleaners, in the vicinity of MW-3.

3.4.2 Monitoring Well Installation

Between October 7 through 12, 2015, PSG oversaw the installation of one groundwater monitoring well (MW-5) at the subject property, in order to further evaluate groundwater quality. Monitoring well MW-5 was installed via hollow stem auger and air rotary methodology using rigid galvanized steel and slotted schedule 40 polyvinyl chloride (PVC) well screen. A 6.25-inch diameter hole was advanced to a depth of 20

feet bgs and a 19.25 foot length of 4-inch diameter rigid galvanized steel casing was installed. The steel casing was installed and sealed with grout. The steel casing and grout were allowed over 24-hours to cure in place prior to resuming drilling. The borehole was completed from 19.25 feet to 33 feet bgs with a 2 and 5/8-inch diameter air rotary bit advanced through the grouted steel casing. Monitoring well MW-5 was constructed of 10.0-foot long 0.10 slotted screen, a sand filter pack, PVC riser, bentonite seal, and flush-mount well cover. A sand filter pack was installed from 14 to 33 feet bgs. The remaining void space was filled with a bentonite seal from 14 feet to the surface followed by a cement collar and flushmount manhole assembly. Soil cuttings were staged in 55-gallon steel drums and left on-site for future disposal. Three drums of soil cuttings were generated during installation of the monitoring well MW-5.

After installation, monitoring well MW-5 was developed using a submersible pump. Approximately 15 gallons of development water was purged from monitoring well MW-5. The purge water was temporarily containerized on-site in designated 55-gallon drums for future disposal.

Refer to **Appendix A** for a copy of the Flushmount Monitoring Well Construction Logs.

3.4.3 Well Surveying

Groundwater monitoring well MW-5 was surveyed by LAN Associates (LAN) of Midland Park, New Jersey, on October 19, 2015, relative to the North American Vertical Datum of 1988 (NAVD88) as determined using GEOID12a. Depth to water measurements were collected from all on-site monitoring wells (MW-1 through MW-5) on October 13, 2015. Depth to groundwater ranged from 12.79 to 16.3 feet bgs during this investigation. Based on the relative elevations of the monitoring wells on the subject property, the groundwater flow on the subject property was calculated to flow towards the southeast. Refer to **Figure 4B** for a Groundwater Contour Map from the October 13, 2015 groundwater gauging activities.

Monitoring well construction details along with depth to water information is presented within the following table:

Well ID	Elevation (feet above sea level)		Total Depth (ft bgs)	Screened Interval (ft bgs)	October 13, 2015	
	PVC	Manhole			Depth to Groundwater (ft bgs)	Groundwater Elevation
MW-1	63.048	63.292	24.0	14.0 to 24.0	16.30	46.83
MW-2	59.401	59.694	14.5	4.5 to 14.5	12.79	46.61
MW-3	59.396	59.829	20.0	10.0 to 20.0	13.00	46.37
MW-4	58.954	59.37	20.333	10.333 to 20.333	12.90	46.05
MW-5	59.434	59.748	33.0	23.0 to 33.0	13.05	46.38

Hillmann Consulting, LLC
Boring Log

Monitoring Well: MW-6

Project:	HK-2420	Date Started:	2/27/2020	Permit No.:	
Client:	Buena Vista	Date Finished:	2/27/2020	Well Diameter:	1 inch
Location:	85 Riverdale, Yonkers	Total Depth:	20.5 feet	Well Material:	PVC Piping
Drilling Co.:	Aarco	Depth to GW:	10.49 ft *(5/14/20)*	Slot Size:	0.01
Driller:	Jose	Lat/Northing:	40.930074°	Packing Type:	Morie #1
Rig Type:	Geoprobe	Long/Easting:	-73.902187°	Screen Interval:	10.5 - 20.5 feet
Sample Type:	Hollow Stem/Air Rotary	Surface Elev:	79.21 feet	Flush/Stickup:	Flush
Geologist:	Chris Hirschmann	TOC Elev:	78.74 feet	Development Method:	Pump

Location Sketch Map

Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Symbol	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (%)	Comments
SURFACE								
0		1	0.0-2.0		Top Soil	0		
2			2.0 - 7.0		Brown Clay			
4		2				0		
6			7.0 - 10.0		Rock, weathered			
8								
10		3	10.0 - 20.5		Rock, competent	0		
12								
14		4				0		
16								
18								
20		5			End of Borehole	0		

Hillmann Consulting, LLC
Boring Log

Monitoring Well: MW-7

Project:	HK-2420	Date Started:	2/20/2020	Permit No.:	
Client:	Buena Vista	Date Finished:	2/21/2020	Well Diameter:	1 inch
Location:	85 Riverdale, Yonkers	Total Depth:	39 feet	Well Material:	PVC Piping
Drilling Co.:	Aarco	Depth to GW:	11.60 ft *(5/14/20)*	Slot Size:	0.01
Driller:	Jose	Lat/Northing:	40.930015°	Packing Type:	Morie #1
Rig Type:	Geoprobe	Long/Easting:	-73.900973°	Screen Interval:	29 - 39 feet
Sample Type:	Hollow Stem/Air Rotary	Surface Elev:	59.74 feet	Flush/Stickup:	Flush
Geologist:	Ryan K. Powell	TOC Elev:	59.58 feet	Development Method:	Pump

Location Sketch Map

Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Symbol	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (%)	Comments
			SURFACE					
0		1	0.0-2.0		Asphalt & gravel	0		
2			2.0 - 6.0		Fill Material - Brown CLAY (no stain / odor)			
4		2				0		
6			6.0 - 9.0		Rock, weathered			
8			9.0 - 39.0		Rock, competent			
10		3				0		
12								
14		4				0		
16								
18								
20		5				0		
22								
24		6				0		
26								
28								
30		7				0		
32								
34		8				0		
36								
38					End of Borehole			
40								

Hillmann Consulting, LLC
Boring Log

Monitoring Well: MW-8

Project:	HK-2420	Date Started:	10/13/2020	Permit No.:	
Client:	Buena Vista	Date Finished:	10/13/2020	Well Diameter:	2 inch
Location:	85 Riverdale, Yonkers	Total Depth:	60 feet	Well Material:	PVC Piping
Drilling Co.:	Cascade	Depth to GW:	21.24 ft *(11/5/20)*	Slot Size:	0.01
Driller:		Lat/Northing:	40.930017°	Packing Type:	Morie #1
Rig Type:	Sonic	Long/Easting:	-73.900967°	Screen Interval:	50-60 feet
Sample Type:		Surface Elev:	51 feet	Flush/Stickup:	Flush
Geologist:	Chris Hirschmann	TOC Elev:		Development Method:	Pump

Location Sketch Map

Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Symbol	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (%)	Comments
			SURFACE					
0			0.0-2.0		Asphalt & gravel	0		
5			2.0 - 6.0		Fill Material - Brown CLAY (no stain / odor)			
10								
						0		
15								
20			18.0-60.0		Weathered rock interspersed with bands of sand			
25						0		
30								
35								
						0		
40								
45								
50						0		
55								
						0		
60					End of Borehole			

HK Engineering & Geology, D.P.C.
Monitoring Well Log

Monitoring Well: MW-9

Project:	HK-2420	Date Started:	3/28/2023	Permit No.:	
Client:	Buena Vista	Date Finished:	3/29/2023	Well Diameter:	2 inch
Location:	85 Riverdale, Yonkers	Total Depth:	60 feet	Well Material:	PVC Piping
Drilling Co.:	Eastern Environmental	Depth to GW:		Slot Size:	0.01 - inch
Driller:	Nick	Lat/Northing:		Packing Type:	FilPro #2
Rig Type:	Geoprobe 8140 LS	Long/Easting:		Screen Interval:	50 - 60 feet
Sample Type:	Sonic	Surface Elev:		Flush/Stickup:	Flush
Geologist:	Ryan K. Powell	TOC Elev:		Development Method:	Pump

Location Sketch Map

Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (feet)	Comments
	SURFACE						
0			0.0-1.0	Asphalt & gravel subbase	0		
			1.0 - 4.0	Lt. Brown Sand (fine) w/ gravel, dry	0		
					0		
5					0		
					0		
			4.0 - 9.5	Brown Sand (fine) w/ brick remanants and cobbles, dry	0		
10			9.5 - 10.0	Cobbles, dry	0		
					0		
					0		Wet at 13' bgs
15			10.0 - 15.0	Cobbles (Till), moist to wet	0		
					0		
					0		
20			15.0 - 20.0	No recovery due to drilling difficulty	0		
					0		
			20.0 - 24.0	Gray Sand (fine), weathered cobbles and gravel (Till), wet	0		
25					0		
					0		
					0		
30			25.0 - 30.0	No recovery due to drilling difficulty	0		
					0		
					0		
35			30.0 - 35.0	Weathered Cobbles and gravel (Till) with traces of clay, wet	0		
					0		
					0		
40			35.0 - 40.0	No recovery due to drilling difficulty	0		
					0		
			40.0 - 42.0	Gray Sand (fine), weathered cobbles and gravel (Till), wet	0		
45					0		
					0		
					0		
50			42.0 - 50.0	No recovery due to drilling difficulty	0		
					0		
					0		
55			50.0 - 55.0	No recovery due to drilling difficulty	0		
					0		
					0		
60			55.0 - 60.0	Gray Sand (fine), weathered cobbles and gravel (Till), wet	0		
				End of Borehole			
65							

HK Engineering & Geology, D.P.C.
Monitoring Well Log

Monitoring Well: MW-10

Project:	HK-2420	Date Started:	3/27/2023	Permit No.:			
Client:	Buena Vista	Date Finished:	3/27/2023	Well Diameter:	2 inch		
Location:	85 Riverdale, Yonkers	Total Depth:	60 feet	Well Material:	PVC Piping		
Drilling Co.:	Eastern Environmental	Depth to GW:		Slot Size:	0.01 - inch		
Driller:	Nick	Lat/Northing:		Packing Type:	FilPro #2		
Rig Type:	Geoprobe 8140 LS	Long/Easting:		Screen Interval:	50 - 60 feet		
Sample Type:	Sonic	Surface Elev:		Flush/Stickup:	Flush		
Geologist:	Ryan K. Powell	TOC Elev:		Development Method:	Pump		

Location Sketch Map

Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (feet)	Comments
SURFACE							
0			0.0 - 4.0	Brown Sand (fine) w/ gravel, dry	0		
					0		
2			4.0 - 5.0	Reddish Brown Sand (fine) w/ gravel, dry	0		
			5.0 - 6.0	Weathered Cobbles	0		
4					0		
					0		
6			6.0 - 10.0	Lt. Brown Sand (fine), dry	0		
					0		
8					0		Wet at 11' bgs
			10.0 - 15.0	Lt. Brown Sand (fine), bands of dark brown sand (med), weathered gravel and cobbles	0		
10					0		
					0		
12			15.0 - 20.0	Brown Sand (fine), trace silt, w/ weathered gravel and cobbles, wet	0		
					0		
14					0		
					0		
16					0		
					0		
18					0		
					0		
20					0		
			20.0 - 35.0	Brown Sand (fine), trace silty clay, weathered gravel and cobbles, wet	0		
					0		
					0		
			35.0 - 40.0	Crushed and fragmented weathered rock (Till), dry	0		
					0		
					0		
			40.0 - 45.0	Brown Clay dense, weathered cobbles and gravel (Till), wet	0		
					0		
					0		
			45.0 - 50.0	Brown Sand (fine), weathered gravel and cobbles, dry	0		
					0		
					0		
					0		
					0		
					0		
			50.0 - 60.0	No recovery due to drilling difficulty	0		
				End of Borehole			

HK Engineering & Geology, D.P.C.
Monitoring Well Log

Monitoring Well: MW-11

Project:	HK-2420	Date Started:	3/31/2023	Permit No.:	
Client:	Buena Vista	Date Finished:	3/31/2023	Well Diameter:	2 inch
Location:	85 Riverdale, Yonkers	Total Depth:	20 feet	Well Material:	PVC Piping
Drilling Co.:	Eastern Environmental	Depth to GW:		Slot Size:	0.01 - inch
Driller:	Nick	Lat/Northing:		Packing Type:	FilPro #2
Rig Type:	Geoprobe 8140 LS	Long/Easting:		Screen Interval:	10.0 - 20.0 feet
Sample Type:	Sonic	Surface Elev:		Flush/Stickup:	Flush
Geologist:	Ryan K. Powell	TOC Elev:		Development Method:	Pump

Location Sketch Map

Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (feet)	Comments
SURFACE							
0			0.0 - 2.0	Concrete & subbase	0		
					0		
2					0		
					0		
4					0		
					0		
6					0		
			2.0 - 10.0	Fill Material, brick fragments, loose brown sand, gravel, dry	0		
8					0		
					0		
10					0		
					0		
12					0		
					0		
14					0		
					0		
16					0		
					0		
18					0		
					0		
20			10.0 - 20.0	Brown Sand (fine), weathered gravel and cobbles, dry	0		
				End of Borehole			

HK Engineering & Geology, D.P.C.
Monitoring Well Log

Monitoring Well: MW-12

Project:	HK-2420	Date Started:	3/30/2023	Permit No.:	
Client:	Buena Vista	Date Finished:	3/30/2023	Well Diameter:	2 inch
Location:	85 Riverdale, Yonkers	Total Depth:	60 feet	Well Material:	PVC Piping
Drilling Co.:	Eastern Environmental	Depth to GW:		Slot Size:	0.01 - inch
Driller:	Nick	Lat/Northing:		Packing Type:	FilPro #2
Rig Type:	Geoprobe 8140 LS	Long/Easting:		Screen Interval:	50 - 60 feet
Sample Type:	Sonic	Surface Elev:		Flush/Stickup:	Flush
Geologist:	Ryan K. Powell	TOC Elev:		Development Method:	Pump

Location Sketch Map

Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (feet)	Comments
SURFACE							
0			0.0 - 2.0	Concrete & subbase	0		
					0		
					0		
5					0		
					0		
					0		
10			2.0 - 10.0	Fill Material, brick fragments, loose brown sand, gravel, dry	0		
					0		
					0		
15					0		
			10.0 - 17.0	Brown Sand (fine), weathered gravel and cobbles, dry	0		
					0		
20			17.0 - 20.0	No recovery due to drilling difficulty	0		Wet at 20.5' bgs
					0		
					0		
25			20.0 - 25.0	Brown Sand (fine) w/ weathered gravel and cobbles, wet	0		
					0		
					0		
30			25.0 - 30.0	No recovery due rock caught in shoe	0		
					0		
					0		
35					0		
					0		
			30.0 - 39.0	Brown Sand (fine) w/ weathered gravel and cobbles, wet	0		
40			39.0 - 40.0	Lt. Brown Sand (fine), bands of dark brown sand (med), weathered gravel and cobbles	0		
					0		
					0		
45			40.0 - 45.0	Brown Sand (fine) w/ weathered gravel and cobbles, wet	0		
					0		
			45.0 - 48.0	Coasre Brown Sand, weathered gravel and cobbles, wet	0		
50			48.0 - 50.0	Brown Sand w/ weatherd gravel and cobbles, wet	0		
			50.0 - 52.0	Gravel, coarse brown Sand	0		
			52.0 - 53.0	Brown Sand (fine) w/ weathered gravel and cobbles, trace silty clay, moist	0		
55			53.0 - 55.0	Brown Sand (very fine), weathered gravel	0		
					0		
					0		
60			55.0 - 60.0	No recovery rock caught in shoe	0		
				End of Borehole			
65							

HK Engineering & Geology, D.P.C.
Monitoring Well Log

Monitoring Well: MW-13

Project:	HK-2420	Date Started:	4/2/2023	Permit No.:	
Client:	Buena Vista	Date Finished:	4/2/2023	Well Diameter:	2 inch
Location:	85 Riverdale, Yonkers	Total Depth:	60 feet	Well Material:	PVC Piping
Drilling Co.:	Eastern Environmental	Depth to GW:		Slot Size:	0.01 - inch
Driller:	Nick	Lat/Northing:		Packing Type:	FilPro #2
Rig Type:	Geoprobe 8140 LS	Long/Easting:		Screen Interval:	10 - 20 feet
Sample Type:	Sonic	Surface Elev:		Flush/Stickup:	Flush
Geologist:	Ryan K. Powell	TOC Elev:		Development Method:	Pump

Location Sketch Map

Depth (ft bgs)	Well Construction	Split-Spoon/Core No.	Stratigraphy Depth (ft bgs)	Stratigraphy Description	PID/OVM Reading (ppm)	Recovery (feet)	Comments
SURFACE							
0			0.0 - 1.0	Concrete & subbase	0		
					0		
					0		
5					0		
			1.0 - 6.0	Fill Material (gray clay, brick fragments, gravel)	0		
					0		
10					0		
					0		
					0		
15					0		
					0		
			6.0 - 18.5	Brown Sand (fine), weathered gravel and cobbles, dry	0		Wet at 18.5' bgs
20			18.5 - 20.0	Medium-Coasre Brown Sand, gravel, wet	0		
					0		
					0		
25					0		
					0		
					0		
30			20.0 - 30.0	Dark Brown Silty Sand, gravel, wet	0		
					0		
					0		
35					0		
					0		
			30.0 - 38.0	Gray Silty Sand, trace clay, weathered gravel and cobbles, wet	0		
40					17.1		
			38.0 - 42.0	Gray Sand (fine), trace clay, weathered gravel and cobbles, dry	62.6		
					38.2		
45			42.0 - 45.0	Brown Silty Sand - stained gray w/ petroleum odor w/ weathered gravel, dry	29.7		
					38.7		
			45.0 - 49.0	Gray Silty Clay - stained w/ petroleum odor, weathered gravel dry	12.2		
50					38.6		
					27.3		
					36.4		
55					92.1		
			49.0- 58.0	Lt. Brown Sand (fine) - stained gray w/ petroleum odor, gravel, dry	100.4		
			58.0 - 59.0	Crushed white rock	0		
60			59.0 - 60.0	Lt. Brown Sand (fine) - stained gray w/ petroleum odor, gravel, dry	148.6		
				End of Borehole			
65							

Appendix C

Groundwater Sampling Logs

April 13-14, 2023

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-1A**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	21.10	Well Diameter (in.):	1
DTW Before Purging:	14.10	Well Volume Multiplier:	-
Linear Water Col.:	7.00	Flow Rate: (mL/min)	Not measured
Pump Intake Depth	12.00	Total Volume Purged (Gallons)	Not measured

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
10:30	6.80	3.26	131	1.90	85	19.70	14.18
10:35	6.80	3.26	122	1.27	48	18.80	14.18
10:40	6.80	3.26	121	1.23	45	18.80	14.18
10:45	6.70	3.27	117	1.07	21	19.0	14.22
10:50	6.70	3.27	116	1.04	20	19.0	14.22
10:55	6.70	3.27	114	1.00	16	19.0	14.22
11:00	6.70	3.27	112	0.97	9	19.0	14.23
11:05	6.70	3.28	109	0.92	6	18.90	14.23
11:10	6.70	3.27	107	0.92	6	19.00	14.23
11:15	6.70	3.27	106	0.91	5	19.10	14.23

Comments:	Sample MW-1A collected at 11:15

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/14/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-2**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85F, Clear

Field Procedures

Purge Method:	Bailer
Purge Equipment:	Bailer

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	14.20	Well Diameter (in.):	2
DTW Before Purging:	11.47	Well Volume Multiplier:	0.163
Linear Water Col.:	2.73	Flow Rate: (mL/min)	NA (Bailer)
Pump Intake Depth	NA (Bailer)	Total Volume Purged (Gallons)	NA (Bailer)

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%
Not purged	Not measured	Not measured	Not measured	Not measured	Not measured	Not measured

Comments:	Sample MW-2 collected as a grab sample with a bailer

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

DTW (feet)
11.47

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-3**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	13.50	Well Diameter (in.):	1
DTW Before Purging:	11.60	Well Volume Multiplier:	-
Linear Water Col.:	1.90	Flow Rate: (mL/min)	Not measured
Pump Intake Depth	11	Total Volume Purged (Gallons)	0.5

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
12:55	6.70	2.50	9.18	9.18	236	24.20	11.61
13:00	6.70	2.51	9.23	9.23	252	24.30	11.60
13:05	6.70	2.53	9.03	9.03	241.0	24.30	11.61
13:10	6.70	2.55	9.04	9.03	230	24.30	11.60
13:15	6.70	2.57	8.90	8.90	220.0	24.30	11.60
13:20	6.70	2.57	8.90	8.90	220.0	24.30	11.60
13:25	6.70	2.57	8.90	8.90	220.0	24.10	11.60

Comments:	Sample MW-3 collected at 13:15

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-4**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	87 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	20.35	Well Diameter (in.):	2
DTW Before Purging:	11.74	Well Volume Multiplier:	0.163
Linear Water Col.:	8.61	Flow Rate: (mL/min)	110
Pump Intake Depth	18'	Total Volume Purged (Gallons)	2

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
9:33	6.75	1.15	215	0.92	31.1	15.94	13.30
9:38	6.64	1.15	206	0.59	30.6	16,38	13.73
9:43	6.64	1.15	191	0.54	25.1	16.65	14.02
9:48	6.61	1.16	166	0.53	18.3	16.92	14.49
9:53	6.59	1.17	143	0.52	12.6	17.16	14.79
9:58	6.59	1.19	87	0.53	8.3	17.43	15.06
10:03	6.59	1.20	97	0.54	5.7	17.49	15.22

Comments:	Sample MW-4 collected at 10:03

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/14/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-5**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	32.40	Well Diameter (in.):	2
DTW Before Purging:	11.68	Well Volume Multiplier:	0.163
Linear Water Col.:	20.72	Flow Rate: (mL/min)	300
Pump Intake Depth	30'	Total Volume Purged (Gallons)	8

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
11:53	7.04	2.02	129	2.79	26.4	17.58	14.29
11:58	6.91	1.99	78	1.58	20.9	17.72	14.51
12:03	6.92	1.95	70	1.15	12.5	17.86	14.49
12:08	6.95	1.87	69	0.81	5.7	17.97	14.36
12:13	6.98	1.84	70	0.61	2.7	17.97	14.21
12:18	7.00	1.82	70	0.54	1.6	18.12	14.25
12:23	6.99	1.77	70	0.48	0.6	18.06	14.36
12:28	6.98	1.77	70	0.77	0.2	18.05	4.49
12:33	6.97	1.77	70	0.42	0.1	18.09	14.58
12:38	6.99	1.76	72	0.43	0.5	18.03	14.63
12:43	6.98	1.76	73	0.42	0.5	18.07	14.69

Comments:	Sample MW-5 collected at 12:43

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-6**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	20.50	Well Diameter (in.):	1
DTW Before Purging:	11.64	Well Volume Multiplier:	-
Linear Water Col.:	8.86	Flow Rate: (mL/min)	Not measured
Pump Intake Depth	16	Total Volume Purged (Gallons)	Not measured

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
8:20	6.60	2.05	176	4.86	63.2	18.40	11.71
8:25	6.60	2.03	177	4.43	51.9	18.40	11.71
8:30	6.60	2.03	175	4.30	50.5	18.50	11.71
8:35	6.60	2.04	174	4.27	35.3	18.50	11.71
8:40	6.60	2.04	173	4.24	29.5	18.50	11.71
8:45	6.60	2.05	173	4.22	26.2	18.60	11.71
8:50	6.60	2.05	172	4.26	21.4	18.60	11.71
8:55	6.60	2.05	172	4.26	19.6	18.60	11.71
9:00	6.60	2.06	171	4.33	20.1	18.60	11.71

Comments:	Sample MW-6 collected at 9:00

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-7**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	39.00	Well Diameter (in.):	1
DTW Before Purging:	12.30	Well Volume Multiplier:	-
Linear Water Col.:	26.70	Flow Rate: (mL/min)	Not measured
Pump Intake Depth	30	Total Volume Purged (Gallons)	0.5

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
13:55	7.4	1.28	-38	7.62	48	20.50	12.39
14:00	7.3	1.30	-57	7.43	61	21.80	12.36
14:05	7.3	1.30	-64	7.38	30	20.70	12.36
14:10	7.3	1.31	-51	7.19	25.1	21.20	12.35
14:15	7.2	1.31	-45	7.18	22.0	21.80	12.35
14:20	7.2	1.32	-28	6.71	19.2	23.10	12.35
14:25	7.2	1.31	-16	6.53	16.4	24.00	12.35
14:30	7.2	1.32	-13	6.39	16	24.80	12.33
14:35	7.2	1.32	-11	6.12	15	25.00	12.34

Comments:	Sample MW-7 collected at 14:35

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/14/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-8**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	59.60	Well Diameter (in.):	2
DTW Before Purging:	16.26	Well Volume Multiplier:	-
Linear Water Col.:	43.34	Flow Rate: (mL/min)	300
Pump Intake Depth	57'	Total Volume Purged (Gallons)	5.5

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
10:43	7.12	1.47	179	2.17	5.3	27.37	17.98
10:48	7.03	1.47	141	1.40	3.0	17.67	19.05
10:53	7.03	1.53	62	0.74	0.8	17.76	19.73
10:58	7.01	1.55	40	0.60	0.0	17.83	19.90
11:03	7.00	1.56	21	0.53	0.0	17.93	19.97
11:08	7.00	1.57	11	0.48	0.0	17.93	20.03
11:13	6.99	1.58	4	0.46	0.0	17.95	20.10
11:18	6.99	1.58	-0.3	0.46	0.0	18.07	20.18
11:23	6.98	1.58	-2.2	0.46	0.0	18.08	20.23
11:28	6.99	1.58	-4.2	0.45	0.0	18.07	20.25

Comments:	Sample MW-8 collected at 11:28

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/14/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-9**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	59.40	Well Diameter (in.):	2
DTW Before Purging:	15.20	Well Volume Multiplier:	-
Linear Water Col.:	44.20	Flow Rate: (mL/min)	150
Pump Intake Depth	57'	Total Volume Purged (Gallons)	1.5

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
8:50	7.41	1.97	194	3.65	9.9	17.88	16.39
8:55	7.01	2.19	5	1.95	6.3	17.97	16.62
9:00	7.12	2.23	-133	0.89	7.9	16.82	16.84
9:05	7.14	2.21	-197	0.71	8.6	16.68	16.98
9:10	7.15	2.20	-227	0.66	9.6	16.62	16.13
9:15	7.16	2.18	-251	0.61	8.7	16.77	16.25
9:20	7.16	2.17	-261	0.57	8.7	16.86	16.32
9:25	7.15	2.16	-268	0.56	5.7	16.64	16.39
9:30	7.15	2.16	-271	0.56	4.0	16.68	16.42
9:35	7.15	2.15	-285	0.54	4.1	16.35	16.62
9:40	7.15	2.15	-291	0.55	4.2	16.23	16.35
9:45	7.15	2.16	-289	0.54	5.1	16.31	16.24
9:50	7.14	2.15	-275	0.54	5.1	16.30	16.12
9:55	7.14	2.15	-268	0.55	5.6	16.07	16.05
10:00	7.13	2.15	-262	0.55	5.5	16.08	16.10

Comments:	Sample MW-9 collected at 10:00

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-10**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	60.35	Well Diameter (in.):	2
DTW Before Purging:	12.71	Well Volume Multiplier:	-
Linear Water Col.:	47.64	Flow Rate: (mL/min)	300
Pump Intake Depth	57'	Total Volume Purged (Gallons)	3

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
14:42	7.91	1.68	-254	5.86	1280.2	18.93	13.71
14:47	7.62	1.71	-272.3	1.15	712.3	18.54	13.19
14:52	7.47	1.71	-266	0.44	1.2	18.92	17.32
14:57	7.52	1.65	-322	0.44	1.2	18.70	18.58
15:02	7.59	1.65	-371	0.44	1.0	18.54	19.72
15:07	7.59	1.65	-380	0.43	1.2	18.83	20.26
15:12	7.57	1.66	-378	0.44	0.0	19.04	20.91
15:17	7.57	1.65	-377	0.44	0.0	19.05	21.30

Comments:	Sample MW-10 collected at 15:17

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-11**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	19.80	Well Diameter (in.):	2
DTW Before Purging:	12.00	Well Volume Multiplier:	-
Linear Water Col.:	7.80	Flow Rate: (mL/min)	350
Pump Intake Depth	18'	Total Volume Purged (Gallons)	8

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
12:45	7.61	3.13	207	1.78	309.9	17.92	12.35
12:50	7.51	3.10	188	0.82	318.0	18.00	12.41
12:55	7.49	3.24	164	0.65	132.0	18.11	12.47
13:00	7.47	3.33	152	0.54	55.0	18.18	12.51
13:05	7.47	3.41	135	0.47	31.2	18.10	12.56
13:10	7.43	3.50	122	0.46	15.5	18.15	12.58
13:15	7.40	3.61	111	0.45	7.8	18.14	12.59
13:20	7.35	3.72	103	0.46	5.4	18.24	12.60
13:25	7.31	3.83	98	0.50	5.5	18.24	12.61
13:30	7.26	3.91	95	0.53	3.5	18.21	12.60
13:35	7.23	3.99	94	0.55	1.5	18.23	12.60
13:40	7.20	4.01	94	0.58	1.7	18.23	12.61

Comments:	Sample MW-11 collected at 13:40

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-12**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	50.30	Well Diameter (in.):	2
DTW Before Purging:	15.98	Well Volume Multiplier:	-
Linear Water Col.:	34.32	Flow Rate: (mL/min)	300
Pump Intake Depth	48'	Total Volume Purged (Gallons)	5

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
11:10	7.82	2.36	-206	7.09	20.8	19.81	18.03
11:15	7.50	2.40	-457	5.53	9.8	19.47	18.55
11:20	7.51	2.43	-495	4.57	6.3	19.11	18.63
11:25	7.51	2.45	-506	3.71	5.0	19.11	18.70
11:30	7.42	2.79	-511	2.91	3.3	19.13	18.73
11:35	7.36	3.15	-511	2.60	1.5	19.18	18.76
11:40	7.32	3.37	-489	2.21	0.4	19.20	18.63
11:45	7.31	3.44	-468	2.05	0.0	19.22	18.21
11:50	7.29	3.47	-433	1.82	0.0	19.26	18.73
11:55	7.26	3.47	-375	1.64	0.0	19.12	17.61
12:00	7.23	3.48	-330	1.51	0.0	19.22	17.55
12:05	7.21	3.47	-275	1.37	0.0	19.22	17.53
12:10	7.20	3.48	-230	1.25	0.0	19.19	17.55
12:15	7.19	3.47	-213	1.17	0.0	19.17	17.51
12:20	7.18	3.47	-190	1.09	0.0	19.35	17.52

Comments:	Sample MW-12 collected at 12:20

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Groundwater Sampling Data Sheet

Project:	**Yonkers**	Date:	**4/13/2023**
Sampler:	**Dominick A**	Screen Interval:	**-**
Well ID:	**MW-13**	Well Permit #:	**-**
Consulting Firm:	HK Eng and Geo	Weather:	85 F, Clear

Field Procedures

Purge Method:	Low-Flow
Purge Equipment:	Submersible Pump

Field Measurements

Measuring Point:	TOC	PID at wellhead (ppm):	Not measured
Well Depth (ft.):	59.50	Well Diameter (in.):	2
DTW Before Purging:	14.15	Well Volume Multiplier:	-
Linear Water Col.:	45.35	Flow Rate: (mL/min)	110
Pump Intake Depth	57'	Total Volume Purged (Gallons)	7

Time	pH ± 0.1	S.C. (mS/cm) ± 3%	ORP (mV) ± 10	DO2 (mg/L) ± 10%	Turbidity (NTU) ± 10%	Temp (°C) ±3%	DTW (feet)
7:53	6.95	1.25	-124.2	1.84	75.4	16.04	15.20
7:58	6.96	1.20	-105.4	3.96	88.7	15.97	15.33
8:03	6.90	1.44	-206.7	1.41	47.2	16.45	15.57
8:08	6.95	1.47	-268.5	1.01	19.9	16.34	15.73
8:13	6.97	1.54	-313.0	0.71	11.4	16.20	16.20
8:18	6.97	1.55	-328.9	0.58	7.0	16.19	16.50
8:23	6.98	1.55	-344.5	0.50	4.1	16.18	16.80
8:28	6.98	1.56	-341.8	0.49	2.7	16.17	17.00
8:33	6.98	1.56	-343.8	0.44	1.4	16.17	17.02
8:38	6.99	1.56	-344.7	0.43	1.1	16.17	17.12
8:43	6.99	1.56	-347.2	0.41	0.4	16.17	17.17
8:48	7.00	1.56	-347.0	0.42	0.1	16.17	17.21
8:53	6.99	1.57	-346.1	0.41	0.0	16.19	17.24

Comments:	Sample MW-13 collected at 8:53

Well Volumes
6" = 1.469 gal/ft
4" = 0.653 gal/ft
2" = 0.163 gal/ft

Appendix D

Laboratory Analytical Data Packages

See Appendix D in Parts 1 through 6 attached separately

Appendix E

Soil Vapor Matrices

85 Riverdale Avenue Yonkers, NY

IA-19 / SV-19

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.333**	1 and above
<6 **Result: 2.18**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-19 / SV-19

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.149**	3 to < 10	10 and above
<100 **Result: 3.72**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 1.39**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-19 / SV-19

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

IA-20 / SV-20

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.277**	1 and above
<6 **Result: ND**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-20 / SV-20

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	**<0.2 Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.21**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 1.54**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-20 / SV-20

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 10.4**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

IA-21/ SV-21

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.296**	1 and above
<6 **Result: 1.96**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-21/ SV-21

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.136**	3 to < 10	10 and above
<100 **Result: 3.95**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-21/ SV-21

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 1.98**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

IA-22/ SV-22

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.296**	1 and above
<6 **Result: ND**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-22/ SV-22

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 8.75**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-22/ SV-22

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 15.4**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

IA-23 / SV-23

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.327**	1 and above
<6 **Result: 2.93**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-23 / SV-23

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.769**	1 and above
<6 **Result: 2.7**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 2.56**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 1.16**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-23 / SV-23

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 2.61**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

IA-24/ SV-24

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.387**	1 and above
<6	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 11.4**	No Further Action	**Monitor**	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-24/ SV-24

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 6.4**	**No Further Action**	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.ND**	3 to < 10	10 and above
<100 **Result: 1.61**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 2.96**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-24/ SV-24

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 2.34**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

IA-25/ SV-25

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.333**	1 and above
<6	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 10.4**	No Further Action	**Monitor**	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-25/ SV-25

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 15.5**	**No Further Action**	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.217**	3 to < 10	10 and above
<100 **Result: 22.8**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 6.98**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-25/ SV-25

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: 0.072**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

IA-26/ SV-26

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.365**	1 and above
<6 **Result: 3.87**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-26/ SV-26

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.43**	1 and above
<6 **Result: ND**	No Further Action	**No Further Action**	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.312**	3 to < 10	10 and above
<100 **Result: 1.67**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 2.5**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-26/ SV-26

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: 0.092**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

IA-27/ SV-27

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2	0.2 to <1 **Result: 0.377**	1 and above
<6	No Further Action	No Further Action	Identify source(s) and resample or mitigate
6 to <60 **Result: 20.3**	No Further Action	**Monitor**	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

IA-27/ SV-27

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: 0.113**	0.2 to <1	1 and above
<6 **Result: 1.29**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: 0.305**	3 to < 10	10 and above
<100 **Result: 4.97**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 1.4**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

IA-27/ SV-27

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: 0.095**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

100 Riverdale Avenue, Yonkers, NY

Sample ID: SV1 / IA1

Soil Vapor / Indoor Air Matrix A: Carbon Tetrachloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: *cis*-1,2 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1 **Result: 0.095**	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix A: 1,1 - dichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Sample ID: SV1 / IA1

Soil Vapor / Indoor Air Matrix A: Trichloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	<0.2 **Result: ND**	0.2 to <1	1 and above
<6 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
6 to <60	No Further Action	Monitor	Mitigate
60 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: Tetrachloroethene

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 12**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix B: 1,1,1 - Trichloroethane

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: ND**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Sample ID: SV1 / IA1

Soil Vapor / Indoor Air Matrix B: Methylene Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 3 **Result: ND**	3 to < 10	10 and above
<100 **Result: 38**	**No Further Action**	No Further Action	Identify source(s) and resample or mitigate
100 to < 1,000	No Further Action	Monitor	Mitigate
1,000 and above	Mitigate	Mitigate	Mitigate

Soil Vapor / Indoor Air Matrix C: Vinyl Chloride

	Indoor Air Concentration (µg/m³)		
Sub-Slab Vapor Concentration (µg/m³)	< 0.2 **Result: ND**	0.2 and above	
< 6 **Result: ND**	**No Further Action**	Identify source(s) and resample resample or mitigate	
6 to < 60	Monitor	Mitigate	
60 and above	Mitigate	Mitigate	

Appendix F

Data Usability Summary Report

March 23, 2020

Mr. Chris Hirschmann, CHMM
Hillmann Consulting, LLC
1600 Route 22 East
Union, N.J. 07083

Re: Data Usability Summary Report – Alpha Analytical – Soil Samples

Dear Mr. Hirschmann:

The evaluation of analytical data for organic and inorganic analysis parameters by Alpha Analytical for 16 soil samples, three field blanks and one trip blank for project G6-2420, which were reported in a single data package under Job No. L1942859, has been completed. The data package was received by ddms, inc. (ddms) for review, and the following samples were reported:

S1	S2	S3	S4
S5	S6	S7	S8
S9	S10	S11	S12
S13	S14	S15	S16
FIELD BLANK (9/17/2019)		FIELD BLANK (9/18/2019)	
TRIP BLANK		FIELD BLANK 2 (9/18/2019)	

Analyses were performed in accordance with USEPA Methods 8260C (Volatile Organic Compounds), 8270D (Semivolatile Organic Compounds), 8082A (PCBs as Aroclors), 8081B (Organochlorine Pesticides), 6010D (metals), 7471A (Mercury), 9010C (Cyanide) and Modified Method 537 (PFAS). ddms' review was performed, to the extent possible, in accordance with the analytical methods and "DER-10/Technical Guidance for Site Investigation and Remediation". Professional judgment was applied as necessary and appropriate. Qualifiers consistent with those defined by EPA Region 2 were applied as necessary and appropriate.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See Following Sections
4.	Have all of the data been generated using established and agreed upon analytical protocols?	No- see Documentation Section

5. Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6. Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes

Based on the data review effort, results are usable, with the following qualifications:

- Volatile organic sample results were qualified as estimated (J, UJ) due to unacceptable percent differences in the second source initial calibration verification (ICV) standard as detailed in Section A.1.

- Volatile organic sample results were qualified as estimated (J-,UJ) due to low response in the associated continuing calibration (CC) standard as detailed in Section A.1.

- The results for acetone and chloroform in S-7 were qualified as estimated (J+) due to high surrogate recovery.

- The results for bromomethane in FIELD BLANK (9/18/19) and TRIP BLANK were qualified as estimated (UJ) due to low recovery in the laboratory control sample (LCS) and LCS duplicate (LCSD).

- The results for acetone and chloroform in S7 were qualified as estimated (J+) and non-detected compounds were qualified as estimated (UJ) due to low internal standard (IS) percent recovery (%R).

- The results for acetone in in S1, S2, S6 and S12 were qualified as estimated (J) because the concentration of acetone exceeded the calibration range.

- The results for benzoic acid in the following samples were qualified as estimated (J-, UJ) due to low recovery in the lowest standard in IC:

S1	S2	S4	S5	S6
S7	S8	S9	S10	S11
S12	S13	S14	S15	S16

- The results for 2,4-dinitrophenol and benzoic acid in FIELD BLANK (9/18/19) were qualified as estimated (UJ) due to unacceptable %Ds in the ICV.

- Base neutral and acid extractable results were qualified as estimated (UJ) due to low response in the associated CC as detailed in Section 2.B.

- The results for all base neutral and acid extractable compounds in FIELD BLANK (9/18/19), S3 and S14 were qualified as estimated (J-, UJ) because two or more surrogates exhibited low recoveries.

- The results for phenol, benzoic acid, 2-chlorophenol, 2-methylphenol, 3,4-methylphenol, 2-nitrophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,4-dichlorophenol, 4-nitrophenol, 4-

chloro-3-methylphenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol and all base neutral compounds in S7 and S16 were qualified as estimated (J-, UJ) because 2-fuorophenol and two base neutral surrogates exhibited low recoveries.

- The results for all base neutral extractable compounds in S13 and S15 were qualified as estimated (J-, UJ) because two base neutral surrogates exhibited low recoveries.

- The results for 2,4-dinitrotoluene, 2,6-dinitrotoluene, 4-chlorophenyl phenyl ether, 4-bromophenyl phenyl ether, di-n-butylphthalate, diethyl phthalate, dimethyl phthalate, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, dibenzofuran and carbazole in S12 were estimated (J-, UJ) because 2-fluorobiphenyl exhibited low surrogate recovery. The results for pentachlorophenol and 4,6-dinitro-2-methylphenol in S12 were qualified as estimated (UJ) because 2,4,6-tribromophenol surrogate exhibited low recovery.

  The results for pyrene, butyl benzyl phthalate, chrysene, 3,3'-dichlorobenzidine, benzo(a)anthracene, bis(2-ethylhexyl)phthalate, di-n-octyl phthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene and benzo(g,h,i)perylene in S9 were qualified as estimated (J-, UJ) because terphenyl-d_{14} exhibited low recovery.

- Base neutral and acid extractable compounds were qualified as estimated (J-, UJ) due to low recoveries in the LCS and/or LCSD as detailed in Section B.3.

- Base neutral and acid extractable compounds were qualified as estimated (UJ) due to high LCS.LCSD relative percent difference (RPD) as detailed in Section B.3.

- Sample results for all Aroclors were qualified as estimated (J-, UJ) due to low surrogate recoveries as detailed in Section D.1.

- Sample results for all Aroclors were qualified as estimated J-,UJ) due to low recoveries in the LCS and/or LCSD as detailed in Section D.2.

- The results for heptachlor epoxide, 4,4'-DDT, and cis- and trans-chlordane in S7 were qualified as estimated (J-, UJ) due to low surrogate recovery on column 2.

- The results for all pesticide compounds in S11 and FIELD BLANK (9/18/19) were qualified as estimated (J-, UJ) because both surrogates on both columns exhibited low recovery.

- The results for aldrin, alpha-BHC, beta-BHC, chlordane, delta-BHC, dieldrin, endosulfan sulfate, endrin, endrin aldehyde and endrin ketone in S10 were qualified as estimated (J-, UJ) due to low surrogate recovery on column 1.

- Pesticide sample results were qualified as estimated (J, UJ) due low LCS recovery and high LCS/LCSD RPD as detailed in Section E.2.

- Pesticide sample results were qualified as estimated (J) because the %D between analytical columns exceeded 25%, as detailed in Section E.3.

- Pesticide sample results were qualified as estimated (J) and presumptively present (N) because the %D between analytical columns exceeded 100%, as detailed in Section E.3.

- PFAS sample results were qualified as estimated (J+) due to high %R in the ICV, as detailed in Section F.1.

- PFAS sample results were qualified as estimated (J+) due to high response in the associated CC or qualified as estimated (J-,UJ) due to low response in the associated CC, as detailed in Section F.1.

- PFAS sample results were qualified as not detected (U) at the reporting limit or reported value, whichever is greater because, the sample concentration was five times or less than the method blank, as detailed in Section F.2.

- PFAS sample results were qualified as estimated (J-,UJ) due to low recovery in the labeled analog (surrogate) as detailed in Section F.3. Where the recovery of the labeled analog was less than 10%, non-detected results were rejected (R), as detailed in Section F.3.

- The results for Perfluorooctanesulfonamide (FOSA) in all soils samples were qualified as estimated (J, UJ) due to high RPD in the LCS/LCSD.

- The results for Perfluorotridecanoic acid (PFTrDA) in S7, S9, S10 and S15 were qualified as estimated (J+) due to high recovery of PFTrDA in the matrix spike (MS).

- The results for antimony, arsenic and selenium were qualified as not detected (U) at the reporting limit or reported value, whichever is greater because, the sample concentration was five times or less than the associated blank, as detailed in Section G.1.

- The results for mercury were qualified as estimated (J-, UJ) because the sample concentrations were less than five times the absolute value of the negative blank concentration, as detailed in Section G.1.

- The results for aluminum in all soil samples were qualified as estimated (J-) due to low recovery in the LCS.

- The results for cyanide in all soil samples were qualified as estimated (UJ) due to low LCS recovery and/or high RPD in the LCS/LCSD, as detailed in Section H.1.

All qualifiers applied as a result of the validation process are reflected on the table included as Attachment A to this report. Only the samples documenting qualification of data have been included in this table. Qualifier definitions are also provided in the attachment. Copies of the chain of custody records are provided in Attachment B. Pages from the data package illustrating the exceedances and issues described in this validation report are included as Attachment C.

The following components were reviewed, where applicable:

- Chain of Custody
- Receiving conditions
- Holding times
- Preservation
- Analyte lists
- Reporting limits

- Requested methods
- Units
- Sample related quality control data:
    - Method blanks
    - Field blanks
    - Trip Blanks
    - Surrogate recoveries
    - LCS/LCSD recoveries
    - MS/MSD recoveries
    - Internal standard areas
    - Duplicates
- Instrument related quality control data:
    - Instrument tunes
    - Calibration summaries
    - Interference Check Sample (metals only)

In the remaining sections of this report, only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed.

When a sample result is qualified estimated 'J' in addition to estimated 'J+' or 'J-', the 'J' qualifier takes precedence and the bias is indeterminate. When a sample result is rejected (R), the 'R' qualifier takes precedence over any previous qualification.

Documentation: A completeness review of the data package was performed, and the data package was determined to be a complete Category B data package. Issues observed during the review are detailed below:

- 1,4-Dioxane, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachlorobutadiene, naphthalene, and 1,2,4-trichlorobenzene were reported by the laboratory in both the volatile organic (VO) and semi-volatile organic (SVO) fractions.

- Improper editing was observed on several runlogs and bench sheets. When edits must be made, there should be a single line drawn through the incorrect information, the correct information added, and the date and initials of the editor included.

- Per- and Polyfluoroalkyl Substances (PFAS) were analyzed by the laboratory-modified Method 537.

- Based on the documentation provided in the data package, there was no way to associate the cyanide laboratory control samples (LCSs) to the samples. The laboratory was contacted and provided that information in an email to the validator.

- The compound names and abbreviations reported on the summary forms for some compounds are named slightly differently in the electronic data deliverable (EDD). An example follows:

    - Perfluorotridecanoic Acid (PFTrDA) – summary form in data package
    - Perfluorotridecanoic Acid (PFTriA) - EDD

At the discretion of the data user, the laboratory may be contacted to address these discrepancies.

Holding Times, Preservation, Sample Integrity:

Copies of the applicable chain of custody (COC) records were included in the data package, documenting collection dates of September 18 and 19, 2019. The samples were received by the laboratory on September 19, 2019. All samples were properly preserved and prepared and/or analyzed within analytical method required holding times.

A. Volatile Organic Compounds

1. Calibration:

Three initial calibration (ICs) were performed in support of sample analyses. All relative response factors (RRFs) and relative standard deviations (RSDs) or correlation coefficients (r^2) were acceptable. One second source ICV standard was analyzed following the IC and percent differences (%Ds) were acceptable (<20%D) with the following exceptions:

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
VOA104	Dichlorodifluoromethane	29.5	S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16	UJ
	Bromomethane	21.2		
	Trichlorofluoromethane	23.8		
	Styrene	22.9		
GONZO	Chloromethane	26.8	FIELD BLANK (9/18/19) TRIP BLANK	J, UJ
	Bromomethane	68.3		
	Ethyl ether	34.1		
	Carbon disulfide	24.2		
	Methylene chloride	28.1		
	1,1-Dichloroethane	21.4		
	Acrylonitrile	44.7		
	Vinyl acetate	22.4		
	cis-1,2-Dichloroethene	27.1		
	Bromochloromethane	26.2		
	Benzene	22.9		
	1,2-Dichloroethane	20.3		
	1,2-Dichloropropane	26.4		

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
	Toluene	20.6		
	Chlorobenzene	26.0		
	1,1,1,2-Tetrachloroethane	25.5		
	o-Xylene	24.9		
	Styrene	32.0		
	Bromobenzene	28.8		
	1,2,4-Trimethylbenzene	21.8		
	1,3-Dichlorobenzene	24.6		
	1,4-Dichlorobenzene	26.1		
	1,2-Dichlorobenzene	23.4		
	1,2,4-Trichlorobenzene	30.2		
	1,2,3-Trichlorobenzene	28.0		

Sample results were qualified as indicated above due to unacceptable %Ds in the ICV.

One CC standard was analyzed in support of sample analyses. All RRFs and %Ds were acceptable with the exceptions noted below:

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
VOA104 9/24/2019	1,1,2,2-Tetrachloroethane	21.7	S1	UJ
	1,2,3-Trichloropropane	21.6	S2	
	Naphthalene	20.9	S3	
			S4	
			S5	
			S6	
			S7	
			S8	
			S9	
			S10	
			S11	
			S12	
			S13	
			S14	
			S15	
			S16	
GONZO 9/24/2019	Dichlorodifluoromethane	20.9	FIELD BLANK (9/18/19) TRIP BLANK	
	Bromomethane	51.5		
	Hexachlorobutadiene	22.3		

In all instances, the percent difference represents a decrease in instrument sensitivity. Sample results were qualified as indicated above due to unacceptable percent difference in the CC.

2. Surrogates

The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate			
	DCA	TOL	BFB	DBFM
S-7	152	a	a	**a**

a-acceptable

The results for acetone and chloroform in S-7 were was qualified as estimated (J+) due to high surrogate recovery.

3. Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)

Three LCS/LCSD pairs were analyzed in support of sample analyses. All percent recoveries and relative percent differences (RPDs) were acceptable with the exception of the bromomethane (48 / 46 %R) in LCS/LCSD WG1288104-3&4. The results for bromomethane in FIELD BLANK (9/18/19) and TRIP BLANK were qualified as estimated (UJ) due to low recovery in the LCS and LCSD.

4. Internal Standard

All internal standard areas were acceptable, with the exceptions noted below:

Sample	Internal Standard %R		
	Fluorobenzene	Chlorobenzene-d_5	1,4-Dichlorobenzene-d_4
S7	16	17	17

a-acceptable

In the original (low level) analysis of S-7, the percent recovery (%R) of all IS were low, outside acceptance limits (>50% and <200% of corresponding IS in most recent CC). The laboratory reanalyzed the sample prepared in methanol (high level) and all internal standards exhibited acceptable recoveries. Acetone and chloroform were the only target compound detected in the low level analysis of S7 and the results were qualified as estimated (J+) and non-detected compounds were qualified as estimated (UJ) due to low IS %R.

5. Compound Identification

Samples S1, S2, S6 and S12 required a dilution because the concentration of acetone in the low level analyses was outside the calibration range of the instrument. The sample dilutions were analyzed using the methanol extracts (high level). Acetone was not detected in the high level analyses of these samples. Based on professional judgment, the results for acetone in S1, S2, S6 and S12 should be used from the original low level analyses. The results for acetone in these samples were qualified as estimated (J) because the concentration of acetone exceeded the calibration range.

B. Semi-volatile Organic Compounds (Full Scan Analysis)

1. Calibration:

Four ICs were performed in support of sample analyses. All RRFs and RSDs or correlation coefficients were acceptable. The analytical method allows the use of alterative calibration models (i.e. quadratic, linear regression) if average RRF is not used. When the calibration curve uses the linear regression model, a minimum quantitation check on the viability of the lowest calibration point should be performed by re-fitting the response from the low concentration calibration standard back into the curve. The recalculated concentration of the low calibration point should be within ± 30% of the standard's true concentration. Where linear regression was used, the percent recoveries (%Rs) of the target compounds were acceptable, with the exception of benzoic acid (63.4%R) in the IC performed on GCMS05 on 6/09/19. The results for benzoic acid in the following samples were qualified as estimated (J-, UJ) due to low recovery in the lowest standard in IC:

S1	S2	S4	S5	S6
S7	S8	S9	S10	S11
S12	S13	S14	S15	S16

One second source ICV standard was analyzed following each IC and all %Ds were acceptable with the following exceptions:

Instrument	Date	Compound	%D	Affected Samples	Qualifiers Applied
SV106	4/29/19	Benzoic acid	24.8	FIELD BLANK (9/18/2019)	J, UJ
		2,4-Dinitrophenol	20.4		

Sample results were qualified as indicated above due to unacceptable %Ds in the ICV.

Twelve CCs standards were analyzed in support of sample analyses. All RRFs and %Ds were acceptable with the exceptions noted below:

Instrument	Date	Compound	%D	Affected Samples	Qualifiers Applied
GCMS05	9/24/2019	bis(2-Chloroisopropyl)ether	23.8	S1	UJ
		Hexachlorocyclopentadiene	20.2	S2	
				S4	
				S5	
				S6	
				S7	
				S8	
				S9	
				S10	
				S11	
				S12	
				S13	
				S14	
				S15	
				S16	

BUFFY	9/26/2019	Hexachlorocyclopentadiene	33.8	S3	

In all instances, the %D represents a decrease in instrument sensitivity. Results were qualified as estimated (UJ) as detailed above, due low response in the associated CC.

2. Surrogates:

Six surrogates (fluorophenol-d_5 [2FP], phenol-d_5 [PHL], nitrobenzene-d_5 [NBZ], 2-fluorobiphenyl [FBP], 2,4,6-tribromophenol [TBP], and terphenyl-d_{14} [TPHL]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate					
	2-Fluoro-phenol	Phenol-d^5	Nitro-benzene-d_5	2-Fluorobiphenyl	2,4,6-TBP	Terphenyl-d_{14}
FIELD BLANK (9/18/19)	49	40	63	64	44	67
S2	a	a	a	a	69	a
S3	63	63	60	64	69	59
S7	67	a	a	63	a	66
S9	a	a	a	a	a	67
S12	a	a	a	69	68	a
S13	a	a	a	68	a	69
S14	67	a	a	65	65	63
S15	a	a	a	65	a	53
S16	68	a	a	67	a	63

a-acceptable

Sample result were qualified as detailed below due to low surrogate recoveries:

- The results for all base neutral and acid extractable compounds in FIELD BLANK (9/18/19), S3 and S14 were qualified as estimated (J-, UJ) because two or more surrogates exhibited low recoveries.

- The results for phenol, benzoic acid, 2-chlorophenol, 2-methylphenol, 3,4-methylphenol, 2-nitrophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,4-dichlorophenol, 4-nitrophenol, 4-chloro-3-methylphenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol and all base neutral compounds in S7 and S16 were qualified as estimated (J-, UJ) because 2-fuorophenol and two base neutral surrogates exhibited low recoveries.

- The results for all base neutral extractable compounds in S15 and S13 were qualified as estimated (J-, UJ) because two base neutral surrogates exhibited low recoveries.

- The results for 2,4-dinitrotoluene, 2,6-dinitrotoluene, 4-chlorophenyl phenyl ether, 4-bromophenyl phenyl ether, di-n-butylphthalate, diethyl phthalate, dimethyl phthalate, 2-nitroaniline, 3-nitroaniline, 4-nitroaniline, dibenzofuran and carbazole in S12 were estimated (J, UJ) because 2-fluorobiphenyl exhibited low surrogate recovery. The results

for pentachlorophenol and 4,6-dinitro-2-methylphenol in S12 were qualified as estimated (UJ) because 2,4,6-tribromophenol surrogate exhibited low recovery.

- The results for pyrene, butyl benzyl phthalate, chrysene, 3,3'-dichlorobenzidine, benzo(a)anthracene, bis(2-ethylhexyl)phthalate, di-n-octyl phthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, dibenz(a,h)anthracene and benzo(g,h,i)perylene in S9 were qualified as estimated (J-, UJ) because terphenyl-d_{14} exhibited low recovery.

3. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

Results for three LCS/LCSD pairs associated with the sample analyses were reported in the data package. Percent recoveries were acceptable (70-130%R) with the exceptions below:

LCS/LCSD WG1287102-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
1,2,4-Trichlorobenzene	66	66	a	S1 S2 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16	J-, UJ
2-Chloronaphthalene	68	69	a		
1,2-Dichlorobenzene	a	69	a		
1,3-Dichlorobenzene	66	65	a		
1,4-Dichlorobenzene	66	68	a		
4-Chlorophenyl phenyl ether	68	69	a		
Bis(2-chloroisopropyl)ether	57	56	a		
Hexachlorobutadiene	62	62	a		
Hexachlorocyclopentadiene	60	60	a		
Hexachloroethane	66	66	a		
Naphthalene	69	68	a		
Benzo(a)pyrene	67	a	a		
Chrysene	69	a	a		
4-Chloroaniline	59	60	a		
2,4-Dimethylphenol	67	a	a		
2,4-Dinitrophenol	59	a	29		UJ
Pentachlorophenol	68	a	a		J-
Benzoic Acid	24	56	80		UJ
1,4-Dioxane	55	57	a		

LCS/LCSD WG1287347-2&3					
Parameter	LCS %R	LCSD %R	RPD		Qualifiers Applied
1,2,4-Trichlorobenzene	a	62	a	FIELD BLANK (9/18/19)	UJ
Hexachlorobenzene	67	66	a		

LCS/LCSD WG1287347-2&3					
Parameter	LCS %R	LCSD %R	RPD		Qualifiers Applied
Bis(2-chloroethyl)ether	a	63	a		
2-Chloronaphthalene	a	69	a		
1,2-Dichlorobenzene	a	58	a		
1,3-Dichlorobenzene	a	57	23		UJ
1,4-Dichlorobenzene	a	57	23		
3,3'-Dichlorobenzidine	a	69	a		
2,4-Dinitrotoluene	a	69	a		
Bis(2-chloroisopropyl)ether	a	66	a		
Hexachlorobutadiene	a	62	a		
Hexachlorocyclopentadiene	68	63	a		
Hexachloroethane	a	58	23		UJ
Naphthalene	a	64	a		UJ
Nitrobenzene	a	65	a		
Fluorene	a	68	a		
3-Nitroaniline	64	63	a		
4-Nitroaniline	61	62	a		
Dibenzofuran	69	66	a		
2-Methylnaphthalene	a	68	a		
1,2,4,5-Tetrachlorobenzene	a	66	a		
Acetophenone	a	66	a		
2-Chlorophenol	a	67	a		
2,4-Dimethylphenol	56	45	22		UJ
4-Nitrophenol	55	56	a		UJ
Phenol	62	52	a		
2-Methylphenol	a	64	a		
3-Methylphenol/4-Methylphenol	a	67	a		
Benzoic Acid	a	68	a		
Benzyl Alcohol	a	67	a		

a-acceptable

LCS/LCSD WG1288750-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Bis(2-chloroisopropyl)ether	55	54	2	S3	UJ
Hexachloroethane	70	66	6		
1,4-dioxane	47	48	a		

a-acceptable

Sample results were qualified as indicated above due to unacceptable LCS and/or LCSD recoveries and/or RPD.

C. Semi-volatile Organic Compounds (1,4-Dioxane Only by SIM, Isotope Dilution)

Sample results for 1,4-dioxane were determined to valid as reported.

D. Polychlorinated Biphenyls (PCBs)

1. Surrogates:

Two surrogates (2,4,5,6-Tetrachloro-m-xylene [TCX] and (Decachlorobiphenyl [DCB]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate / Column			
	TCX/1	TCX/2	DCB/1	DCB/2
FIELD BLANK (9/18/19)	a	68	63	61
S1	57	60	66	67
S2	50	51	46	50
S3	51	52	55	57
S4	54	54	59	63
S5	49	51	47	49
S6	63	65	52	53
S7	49	48	60	66
S8	61	61	69	75
S9	30	28	33	39
S10	52	52	58	61
S12	53	52	58	62
S13	56	56	62	66
S14	50	49	55	62
S15	26	26	29	32
S15 RE	22	21	18	19
S16	50	49	55	62

Result for all Aroclors in the samples noted above were qualified as estimated (J-,UJ) due to low surrogate recoveries. Sample S15 was re-extracted because the surrogate recoveries were outside laboratory acceptance limits. The surrogate recoveries in the re-extracted sample analysis were also outside laboratory acceptance limits. Based on professional judgment and being protective of the environment, the original analysis of S15 should be used because Aroclors were detected in the original and not in the re-extracted sample analysis.

2. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

Results for three LCS/LCSD pairs associated with the sample analyses were reported in the data package. Percent recoveries were acceptable (70-130%R) with the exceptions below:

LCS/LCSD WG1287374-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Aroclor 1016	68	a	a	S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16	J-, UJ
Aroclor 1260	61	65	a		

Results for all Aroclors in the samples noted above were qualified as estimated (J-,UJ) due to low recoveries in the LCS and/or LCSD.

E. Pesticides

1. Surrogates

Two surrogates (2,4,5,6-Tetrachloro-m-xylene [TCX] and (Decachlorobiphenyl [DCB]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate / Column			
	TCX/1	TCX/2	DCB/1	DCB/2
S10	a	a	68	a
S7	a	64	a	a
S11	40	40	45	38
FIELD BLANK (9/18/19)	a	a	59	45

Sample results were qualified as detailed below due to low surrogate recoveries:

- The results for heptachlor epoxide, 4,4'-DDT, and cis- and trans-chlordane in S7 were qualified as estimated (J-, UJ) due to low surrogate recovery on column 2.

- The results for all pesticide compounds in S11 and FIELD BLANK (9/18/19) were qualified as estimated (J-, UJ) because both surrogates on both columns exhibited low recovery.

- The results for aldrin, alpha-BHC, beta-BHC, chlordane, delta-BHC, dieldrin, endosulfan sulfate, endrin, endrin aldehyde and endrin ketone in S10 were qualified as estimated (J-, UJ) due to low surrogate recovery on column 1.

2. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

Results for two LCS/LCSD pairs associated with the sample analyses were reported in the data package. Percent recoveries were acceptable (70-130%R) with the exceptions below:

LCS/LCSD WG1287098-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Delta-BHC	a	a	24	S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16	J, UJ
Lindane	a	a	21		
Beta-BHC	a	a	23		
Endrin Aldehyde	62	44	34		
Endrin Ketone	a	69	35		
Endosulfan Sulfate	a	58	41		
Methoxychlor	a	a	34		
cis-Chlordane	a	a	22		
trans-Chlordane	a	a	21		

a-acceptable

Sample results were qualified as estimated (J-, UJ) due low recoveries in the LCS and/or LCSD and high LCS/LCSD RPD.

3. Compound Quantitation and Identification

For dual column analyses, agreement between columns should be less than 25%. The %Ds between the initial and confirmation columns for all detected compounds were acceptable (<25%D) for all samples except as summarized below:

Sample ID	Compound	RPD
S7	4,4'-DDE	28
	cis-Chlordane	110
S8	4,4'-DDD	42
	cis-Chlordane	87
S9	cis-Chlordane	53
	trans-Chlordane	39
S10	cis-Chlordane	69

S11	cis-Chlordane	95
S12	cis-Chlordane	60
	4,4'-DDE	37
	4,4'-DDT	41
S13	4,4'-DDD	28
S14	cis-Chlordane	114
	trans-Chlordane	129
	4,4'-DDE	40
	4,4'-DDT	35
S15	4,4'-DDT	45
S16	4,4'-DDD	82
	cis-Chlordane	46
	trans-Chlordane	67

Sample results were qualified as estimated (J) as detailed above because the %D between columns exceeded 25%. Where the %D was greater than 100, sample results were qualified were qualified as estimated (J) and presumptively present (N).

F. Per- and Polyfluoroalkyl Substances (PFAS)

1.Calibration

One IC was reported in support of sample analyses. All RSDs (<20%) and correlation coefficients were acceptable. A second source ICV was analyzed following the IC and all percent recoveries were acceptable (80-120%R) with the exception noted below:

Compound	%R
Perfluorooctanesulfonic acid-branched (br-PFOS)	144

PFOS is reported as the sum of the branched and linear isomers, therefore, the results for PFOS in the samples listed below were qualified as estimated (J+) due to high %R in the ICV.

S4	S5	S7	S8	S9	S10
S11	S12	S13	S14	S15	S16

Continuing calibration standards were analyzed at the appropriate frequency. A low level and mid level CC standard were analyzed alternating, every ten samples. The low level CC was assessed against validation criteria of 50-150%R and the mid level CC was assessed against validation criteria of 70-130%R. The table below details CC standards with unacceptable %Rs:

CC	Compound	%R	Samples Affected	Qualifiers Applied
WG1290660-3 (low)	br-PFOS	226	S4 S5	J+

			S7 S8 S9	
WG1290660-5 (low)	Perfluorohexanesulfonic acid-Branched (br-PFHxS)	45.8	S1 S2 S4 S5 S6 S7 S8 S9 S10 S11 S12	UJ
	8:2FTS	41.5		

PFOS is reported as the sum of the branched and linear isomers, therefore, sample results were qualified as estimated (J+) for PFOS in the samples (up to 5X the reporting limit) noted above because the recovery of br-PFOS was biased high in the low level CC standard.

Likewise, PFHxS is also reported as the sum of the branched and linear isomers, therefore, sample results were qualified as estimated (J-, UJ) as noted above due to low response the low level CC standard.

Sample results were qualified as estimated (J-, UJ) for 8:2FTS as noted above due to low CC recovery.

2. Blanks

Two method blanks were prepared and analyzed in support of sample analyses. The table below summarizes blank detections that impacted sample results.

Blank	Compound	Conc.	Samples Affected
Soil Method Blank	Perfluorobutanoic Acid (PFBA)	0.139 ug/kg	S7 S8 S9 S10 S11 S13 S14 S16
	Perfluorohexanoic Acid (PFHxA)	0.057 ug/kg	S1 S2 S4 S5 S6

			S7 S8 S9 S11 S12 S13 S14 S15
Water Method Blank	PFHxA	0.464 ug/L	FIELD BLANK (9/17/19) FIELD BLANK 2

Sample results were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, because the sample concentration was five times or less than the concentration in associated blank.

3. Surrogates (Labeled Analogs)

Nineteen labeled analogs were used. Surrogate recoveries were assessed against validation criteria of 40-140 %R. Exceedances that impacted sample results are detailed below:

Sample	Surrogate/Labeled Analog	%R	Native Compound	Qualifier Applied
S2	M8FOSA	26	Perfluorooctanesulfonamide	UJ
S5		13		
S6		6		R
S7		3		
S8		1		
S9		10		UJ
S10		35		
S11	M8FOSA	1	Perfluorooctanesulfonamide	R
	D3-NMEFOSAA	34	9N-Methyl Perfluorooctanesulfonamidoacetic acid	UJ
S12	M8FOSA	3	Perfluorooctanesulfonamide	R
S13		17		J-, U
S14		10		
S15		31		
S16		7		R

Sample results were qualified as detailed above due to unacceptable recovery in the labeled analog. Where the recovery of the labeled analog was less than 10%, non-detected sample results were rejected (R). Where a surrogate recovery was >140 %R and the associated compound was not detected in the sample, no qualification of sample results was warranted and is not detailed above.

4. Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)

Two LCS/LCSD pairs were extracted and analyzed in support of samples analyses. Recoveries were assessed against validation criteria of 70-130%R, RPD<30. All percent recoveries and RPDs were acceptable with the exception of the LCS/LCSD RPD (39%) for FOSA. The results for FOSA in all soil samples were qualified as estimated (J, UJ) due to high RPD in the LCS/LCSD.

5. Matrix Spike (MS)

Matrix spike analysis was performed on S1. Recoveries were assessed against validation criteria of 70-130%R, RPD<30. All percent recoveries and RPDs were acceptable with the exception of the %R (132%R) for PFTrDA. The results for PFTrDA in S7, S9, S10 and S15 were qualified as estimated (J+) due to high recovery of PFTrDA in the MS.

G. Metals including Mercury

1. Blanks

The table below summarized the maximum blank contamination that impacted sample results:

Blank	Analyte	Conc. (ug/kg)	Samples Affected
CCB	Antimony	0.324	S11 S13 S14
	Arsenic	0.184	S1 S3 S4
	Selenium	0.136	S1 S5 S7 S9 S10 S11 S12 S13 S14 S15 S16

CCB-continuing calibration blank

Sample results were qualified as not detected (U) at the reporting limit or reported value, whichever is greater because the sample concentration was less than five times the concentration in the associated blank.

Blank	Analyte	Conc. (ug/kg)	Samples Affected
CCB	Mercury	-0.340	S1 S2 S3 S4 S5 S6 S7

The results for mercury were qualified as estimated (J-, UJ) as detailed above, because the sample concentrations were less than five times the absolute value of the negative blank concentration.

2. Laboratory Control Sample (LCS)

All LCS percent recoveries were acceptable (80-120%R) with the exception noted below.

LCS	Analyte	LCS %R	Samples Affected
WG1287903-2	Aluminum	68	S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16

Sample results for aluminum were qualified as estimated (J-) due to low recovery in the LCS.

H. Cyanide

1. Laboratory Control Sample (LCS)

All LCS percent recoveries and RPDSs were acceptable (80-120%R, RPD<20) with the following exceptions:

LCS	LCS %R	LCSD %R	LCS/LCSD RPD	Qualifiers Applied	Samples Affected
WG1286075/2&3	79	a	a	UJ	S11 S12 S13 S14 S15 S16
WG1285955/2&3	68	a	25	UJ	S1 S2 S3 S4 S5 S6 S7 S8 S9 S10

Samples were qualified as detailed above due to low LCS recovery and/or high RPD in the LCS/LCSD.

No other qualifications to sample results were made.

Please feel free to contact me at (908) 370-3431 or jrossi@ddmsinc.com if you have any questions regarding this data package review report or need further information.

Sincerely,

de maximis Data Management Solutions, Inc.

Jeri L Rossi, CEAC
Sr. Environmental Chemist

ATTACHMENT A

Qualification Summary Table
Laboratory Job No. L1942859

Validation Summary Table
Project G6-2420
Soils

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
FIELD BLANK 2_20190918	E537(M)	Perfluorohexanoic acid (PFHxA)	1.87	ng/l	U	0.307	1.87
FIELD BLANK_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	1.78	ng/l	U	0.292	1.78
FIELD BLANK_20190917	SW8081B	Aldrin			UJ	0.002	0.014
FIELD BLANK_20190917	SW8081B	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.003	0.014
FIELD BLANK_20190917	SW8081B	Alpha Endosulfan			UJ	0.002	0.014
FIELD BLANK_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.004	0.014
FIELD BLANK_20190917	SW8081B	Beta Endosulfan			UJ	0.004	0.029
FIELD BLANK_20190917	SW8081B	Chlordane			UJ	0.033	0.143
FIELD BLANK_20190917	SW8081B	cis-Chlordane			UJ	0.005	0.014
FIELD BLANK_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.003	0.014
FIELD BLANK_20190917	SW8081B	Dieldrin			UJ	0.003	0.029
FIELD BLANK_20190917	SW8081B	Endosulfan Sulfate			UJ	0.003	0.029
FIELD BLANK_20190917	SW8081B	Endrin			UJ	0.003	0.029
FIELD BLANK_20190917	SW8081B	Endrin Aldehyde			UJ	0.006	0.029
FIELD BLANK_20190917	SW8081B	Endrin Ketone			UJ	0.003	0.029
FIELD BLANK_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.003	0.014
FIELD BLANK_20190917	SW8081B	Heptachlor			UJ	0.002	0.014
FIELD BLANK_20190917	SW8081B	Heptachlor Epoxide			UJ	0.003	0.014
FIELD BLANK_20190917	SW8081B	Methoxychlor			UJ	0.005	0.143
FIELD BLANK_20190917	SW8081B	P,P'-DDD			UJ	0.003	0.029
FIELD BLANK_20190917	SW8081B	P,P'-DDE			UJ	0.003	0.029
FIELD BLANK_20190917	SW8081B	P,P'-DDT			UJ	0.003	0.029
FIELD BLANK_20190917	SW8081B	Toxaphene			UJ	0.045	0.143
FIELD BLANK_20190917	SW8081B	trans-Chlordane			UJ	0.004	0.014
FIELD BLANK_20190917	SW8260C	1,1,1,2-Tetrachloroethane			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	1,1-Dichloroethane			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	1,2,3-Trichlorobenzene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	1,2,4-Trichlorobenzene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	1,2,4-Trimethylbenzene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	1,2-Dichlorobenzene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	1,2-Dichloroethane			UJ	0.13	0.50
FIELD BLANK_20190917	SW8260C	1,2-Dichloropropane			UJ	0.14	1.0
FIELD BLANK_20190917	SW8260C	1,3-Dichlorobenzene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	1,4-Dichlorobenzene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Acrylonitrile			UJ	1.5	5.0
FIELD BLANK_20190917	SW8260C	Benzene			UJ	0.16	0.50
FIELD BLANK_20190917	SW8260C	Bromobenzene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Bromochloromethane			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Bromomethane			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Carbon Disulfide			UJ	1.0	5.0
FIELD BLANK_20190917	SW8260C	Chlorobenzene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Chloromethane			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Cis-1,2-Dichloroethylene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.0	5.0
FIELD BLANK_20190917	SW8260C	Diethyl Ether (Ethyl Ether)			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Hexachlorobutadiene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Methylene Chloride			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	O-Xylene (1,2-Dimethylbenzene)			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Styrene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Toluene			UJ	0.70	2.5
FIELD BLANK_20190917	SW8260C	Vinyl Acetate			UJ	1.0	5.0
FIELD BLANK_20190917	SW8270D	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
FIELD BLANK_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	0.50	5.0
FIELD BLANK_20190917	SW8270D	1,2-Dichlorobenzene			UJ	0.45	2.0
FIELD BLANK_20190917	SW8270D	1,3-Dichlorobenzene			UJ	0.40	2.0
FIELD BLANK_20190917	SW8270D	1,4-Dichlorobenzene			UJ	0.43	2.0
FIELD BLANK_20190917	SW8270D	2,4,5-Trichlorophenol			UJ	0.77	5.0
FIELD BLANK_20190917	SW8270D	2,4,6-Trichlorophenol			UJ	0.61	5.0
FIELD BLANK_20190917	SW8270D	2,4-Dichlorophenol			UJ	0.41	5.0
FIELD BLANK_20190917	SW8270D	2,4-Dimethylphenol			UJ	1.8	5.0
FIELD BLANK_20190917	SW8270D	2,4-Dinitrophenol			UJ	6.6	20
FIELD BLANK_20190917	SW8270D	2,4-Dinitrotoluene			UJ	1.2	5.0
FIELD BLANK_20190917	SW8270D	2,6-Dinitrotoluene			UJ	0.93	5.0
FIELD BLANK_20190917	SW8270D	2-Chloronaphthalene			UJ	0.44	2.0
FIELD BLANK_20190917	SW8270D	2-Chlorophenol			UJ	0.48	2.0
FIELD BLANK_20190917	SW8270D	2-Methylnaphthalene			UJ	0.45	2.0
FIELD BLANK_20190917	SW8270D	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
FIELD BLANK_20190917	SW8270D	2-Nitroaniline			UJ	0.50	5.0
FIELD BLANK_20190917	SW8270D	2-Nitrophenol			UJ	0.85	10
FIELD BLANK_20190917	SW8270D	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
FIELD BLANK_20190917	SW8270D	3,3'-Dichlorobenzidine			UJ	1.6	5.0
FIELD BLANK_20190917	SW8270D	3-Nitroaniline			UJ	0.81	5.0
FIELD BLANK_20190917	SW8270D	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
FIELD BLANK_20190917	SW8270D	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
FIELD BLANK_20190917	SW8270D	4-Chloro-3-Methylphenol			UJ	0.35	2.0
FIELD BLANK_20190917	SW8270D	4-Chloroaniline			UJ	1.1	5.0
FIELD BLANK_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
FIELD BLANK_20190917	SW8270D	4-Nitroaniline			UJ	0.80	5.0
FIELD BLANK_20190917	SW8270D	4-Nitrophenol			UJ	0.67	10
FIELD BLANK_20190917	SW8270D	Acenaphthene			UJ	0.44	2.0
FIELD BLANK_20190917	SW8270D	Acenaphthylene			UJ	0.46	2.0
FIELD BLANK_20190917	SW8270D	Acetophenone			UJ	0.53	5.0
FIELD BLANK_20190917	SW8270D	Anthracene			UJ	0.33	2.0
FIELD BLANK_20190917	SW8270D	Benzo(A)Anthracene			UJ	0.32	2.0
FIELD BLANK_20190917	SW8270D	Benzo(A)Pyrene			UJ	0.41	2.0
FIELD BLANK_20190917	SW8270D	Benzo(B)Fluoranthene			UJ	0.35	2.0
FIELD BLANK_20190917	SW8270D	Benzo(G,H,I)Perylene			UJ	0.30	2.0

Validation Summary Table
Project G6-2420
Soils

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
FIELD BLANK_20190917	SW8270D	Benzo(K)Fluoranthene			UJ	0.37	2.0
FIELD BLANK_20190917	SW8270D	Benzoic Acid			UJ	2.6	50
FIELD BLANK_20190917	SW8270D	Benzyl Alcohol			UJ	0.59	2.0
FIELD BLANK_20190917	SW8270D	Benzyl Butyl Phthalate			UJ	1.2	5.0
FIELD BLANK_20190917	SW8270D	Biphenyl (Diphenyl)			UJ	0.46	2.0
FIELD BLANK_20190917	SW8270D	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
FIELD BLANK_20190917	SW8270D	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
FIELD BLANK_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
FIELD BLANK_20190917	SW8270D	Bis(2-Ethylhexyl) Phthalate			UJ	1.5	3.0
FIELD BLANK_20190917	SW8270D	Carbazole			UJ	0.49	2.0
FIELD BLANK_20190917	SW8270D	Chrysene			UJ	0.34	2.0
FIELD BLANK_20190917	SW8270D	Dibenz(A,H)Anthracene			UJ	0.32	2.0
FIELD BLANK_20190917	SW8270D	Dibenzofuran			UJ	0.50	2.0
FIELD BLANK_20190917	SW8270D	Diethyl Phthalate			UJ	0.38	5.0
FIELD BLANK_20190917	SW8270D	Dimethyl Phthalate			UJ	1.8	5.0
FIELD BLANK_20190917	SW8270D	Di-N-Butyl Phthalate			UJ	0.39	5.0
FIELD BLANK_20190917	SW8270D	Di-N-Octylphthalate			UJ	1.3	5.0
FIELD BLANK_20190917	SW8270D	Fluoranthene			UJ	0.26	2.0
FIELD BLANK_20190917	SW8270D	Fluorene			UJ	0.41	2.0
FIELD BLANK_20190917	SW8270D	Hexachlorobenzene			UJ	0.46	2.0
FIELD BLANK_20190917	SW8270D	Hexachlorobutadiene			UJ	0.66	2.0
FIELD BLANK_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	0.69	20
FIELD BLANK_20190917	SW8270D	Hexachloroethane			UJ	0.58	2.0
FIELD BLANK_20190917	SW8270D	Indeno(1,2,3-C,D)Pyrene			UJ	0.40	2.0
FIELD BLANK_20190917	SW8270D	Isophorone			UJ	1.2	5.0
FIELD BLANK_20190917	SW8270D	Naphthalene			UJ	0.46	2.0
FIELD BLANK_20190917	SW8270D	Nitrobenzene			UJ	0.77	2.0
FIELD BLANK_20190917	SW8270D	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
FIELD BLANK_20190917	SW8270D	N-Nitrosodiphenylamine			UJ	0.42	2.0
FIELD BLANK_20190917	SW8270D	Pentachlorophenol			UJ	1.8	10
FIELD BLANK_20190917	SW8270D	Phenanthrene			UJ	0.33	2.0
FIELD BLANK_20190917	SW8270D	Phenol			UJ	0.57	5.0
FIELD BLANK_20190917	SW8270D	Pyrene			UJ	0.28	2.0
S1_20190917	6010D	Aluminum	6810	mg/kg	J-	2.52	9.35
S1_20190917	6010D	Arsenic	0.935	mg/kg	U	0.194	0.935
S1_20190917	6010D	Selenium	1.87	mg/kg	U	0.241	1.87
S1_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.069	1.13
S1_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	1.13	ug/kg	U	0.060	1.13
S1_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.111	1.13
S1_20190917	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.325	1.13
S1_20190917	SW7471B	Mercury	0.054	mg/kg	J-	0.053	0.082
S1_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.710	1.87
S1_20190917	SW8081B	cis-Chlordane			UJ	0.652	2.34
S1_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.367	1.87
S1_20190917	SW8081B	Endosulfan Sulfate			UJ	0.371	0.780
S1_20190917	SW8081B	Endrin Aldehyde			UJ	0.819	2.34
S1_20190917	SW8081B	Endrin Ketone			UJ	0.482	1.87
S1_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.349	0.780
S1_20190917	SW8081B	Methoxychlor			UJ	1.09	3.51
S1_20190917	SW8081B	trans-Chlordane			UJ	0.618	2.34
S1_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.63	40.9
S1_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	4.10	40.9
S1_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	8.67	40.9
S1_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.52	40.9
S1_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	6.14	40.9
S1_20190917	SW8082A	PCB-1254 (Aroclor 1254)			UJ	4.48	40.9
S1_20190917	SW8082A	PCB-1260 (Aroclor 1260)			UJ	7.56	40.9
S1_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	5.20	40.9
S1_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	4.24	40.9
S1_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.63	40.9
S1_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.25	0.75
S1_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.19	3.0
S1_20190917	SW8260C	Acetone	480	ug/kg	J	7.2	15
S1_20190917	SW8260C	Bromomethane			UJ	0.87	3.0
S1_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.4	15
S1_20190917	SW8260C	Naphthalene			UJ	0.98	6.0
S1_20190917	SW8260C	Styrene			UJ	0.29	1.5
S1_20190917	SW8260C	Trichlorofluoromethane			UJ	1.0	6.0
S1_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	23	200
S1_20190917	SW8270D	1,2-Dichlorobenzene			UJ	37	200
S1_20190917	SW8270D	1,3-Dichlorobenzene			UJ	35	200
S1_20190917	SW8270D	1,4-Dichlorobenzene			UJ	36	200
S1_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	9.4	31
S1_20190917	SW8270D	2,4-Dimethylphenol			UJ	67	200
S1_20190917	SW8270D	2,4-Dinitrophenol			UJ	95	980
S1_20190917	SW8270D	2-Chloronaphthalene			UJ	20	200
S1_20190917	SW8270D	4-Chloroaniline			UJ	37	200
S1_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	22	200
S1_20190917	SW8270D	Benzo(A)Pyrene			UJ	50	160
S1_20190917	SW8270D	Benzoic Acid			UJ	210	660
S1_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	35	240
S1_20190917	SW8270D	Chrysene			UJ	21	120
S1_20190917	SW8270D	Hexachlorobutadiene			UJ	30	200
S1_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	180	580
S1_20190917	SW8270D	Hexachloroethane			UJ	33	160
S1_20190917	SW8270D	Naphthalene			UJ	25	200
S1_20190917	SW8270D	Pentachlorophenol			UJ	45	160

Validation Summary Table
Project G6-2420
Soils

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S1_20190917	SW9012B	Cyanide			UJ	0.25	1.2
S10_20190917	6010D	Aluminum	7820	mg/kg	J-	2.25	8.35
S10_20190917	6010D	Selenium	1.67	mg/kg	U	0.215	1.67
S10_20190917	E537(M)	Perfluorobutanoic Acid	1.04	ug/kg	U	0.024	1.04
S10_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.063	1.04
S10_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	1.04	ug/kg	U	0.055	1.04
S10_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.102	1.04
S10_20190917	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.298	1.04
S10_20190917	E537(M)	Perfluorooctanesulfonic acid (PFOS)	6.11	ug/kg	J+	0.135	1.04
S10_20190917	E537(M)	Perfluorotridecanoic Acid (PFTriA)	0.250	ug/kg	J+	0.212	1.04
S10_20190917	SW8081B	Aldrin			UJ	0.611	1.74
S10_20190917	SW8081B	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.205	0.723
S10_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.658	1.74
S10_20190917	SW8081B	Chlordane			UJ	5.75	14.1
S10_20190917	SW8081B	cis-Chlordane	3.90	ug/kg	J	0.604	2.17
S10_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.340	1.74
S10_20190917	SW8081B	Dieldrin	3.13	ug/kg	J-	0.542	1.08
S10_20190917	SW8081B	Endosulfan Sulfate			UJ	0.344	0.723
S10_20190917	SW8081B	Endrin			UJ	0.296	0.723
S10_20190917	SW8081B	Endrin Aldehyde			UJ	0.759	2.17
S10_20190917	SW8081B	Endrin Ketone			UJ	0.447	1.74
S10_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.323	0.723
S10_20190917	SW8081B	Methoxychlor			UJ	1.01	3.25
S10_20190917	SW8081B	trans-Chlordane	1.78	ug/kg	J	0.573	2.17
S10_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.12	35.1
S10_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.52	35.1
S10_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.45	35.1
S10_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	4.74	35.1
S10_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.27	35.1
S10_20190917	SW8082A	PCB-1254 (Aroclor 1254)	24.2	ug/kg	J-	3.84	35.1
S10_20190917	SW8082A	PCB-1260 (Aroclor 1260)	8.09	ug/kg	J-	6.49	35.1
S10_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.46	35.1
S10_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.64	35.1
S10_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)	32.3	ug/kg	J-	3.12	35.1
S10_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.20	0.59
S10_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.15	2.4
S10_20190917	SW8260C	Bromomethane			UJ	0.69	2.4
S10_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.1	12
S10_20190917	SW8260C	Naphthalene			UJ	0.77	4.7
S10_20190917	SW8260C	Styrene			UJ	0.23	1.2
S10_20190917	SW8260C	Trichlorofluoromethane			UJ	0.82	4.7
S10_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	20	180
S10_20190917	SW8270D	1,2-Dichlorobenzene			UJ	32	180
S10_20190917	SW8270D	1,3-Dichlorobenzene			UJ	31	180
S10_20190917	SW8270D	1,4-Dichlorobenzene			UJ	31	180
S10_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	8.2	27
S10_20190917	SW8270D	2,4-Dimethylphenol			UJ	59	180
S10_20190917	SW8270D	2,4-Dinitrophenol			UJ	83	860
S10_20190917	SW8270D	2-Chloronaphthalene			UJ	18	180
S10_20190917	SW8270D	4-Chloroaniline			UJ	32	180
S10_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	19	180
S10_20190917	SW8270D	Benzo(A)Pyrene	590	ug/kg	J-	44	140
S10_20190917	SW8270D	Benzoic Acid			UJ	180	580
S10_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	30	210
S10_20190917	SW8270D	Chrysene	580	ug/kg	J-	18	110
S10_20190917	SW8270D	Hexachlorobutadiene			UJ	26	180
S10_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	160	510
S10_20190917	SW8270D	Hexachloroethane			UJ	29	140
S10_20190917	SW8270D	Naphthalene			UJ	22	180
S10_20190917	SW8270D	Pentachlorophenol			UJ	39	140
S10_20190917	SW9012B	Cyanide			UJ	0.23	1.1
S11_20190918	6010D	Aluminum	10700	mg/kg	J-	2.16	8.00
S11_20190918	6010D	Antimony	4	mg/kg	U	0.304	4.00
S11_20190918	6010D	Selenium	1.6	mg/kg	U	0.206	1.60
S11_20190918	E537(M)	2-(N-methyl perfluorooctanesulfonamido) acetic acid			UJ	0.206	1.02
S11_20190918	E537(M)	Perfluorobutanoic Acid	1.02	ug/kg	U	0.023	1.02
S11_20190918	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.062	1.02
S11_20190918	E537(M)	Perfluorohexanoic acid (PFHxA)	1.02	ug/kg	U	0.054	1.02
S11_20190918	E537(M)	Perfluorooctane Sulfonamide (FOSA)			R	0.100	1.02
S11_20190918	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.293	1.02
S11_20190918	E537(M)	Perfluorooctanesulfonic acid (PFOS)	2.04	ug/kg	J+	0.133	1.02
S11_20190918	SW8081B	Aldrin			UJ	0.575	1.63
S11_20190918	SW8081B	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.193	0.680
S11_20190918	SW8081B	Alpha Endosulfan			UJ	0.386	1.63
S11_20190918	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.619	1.63
S11_20190918	SW8081B	Beta Endosulfan			UJ	0.546	1.63
S11_20190918	SW8081B	Chlordane			UJ	5.41	13.3
S11_20190918	SW8081B	cis-Chlordane	4.06	ug/kg	J	0.569	2.04
S11_20190918	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.320	1.63
S11_20190918	SW8081B	Dieldrin	3.70	ug/kg	J-	0.510	1.02
S11_20190918	SW8081B	Endosulfan Sulfate			UJ	0.324	0.680
S11_20190918	SW8081B	Endrin			UJ	0.279	0.680
S11_20190918	SW8081B	Endrin Aldehyde			UJ	0.714	2.04
S11_20190918	SW8081B	Endrin Ketone			UJ	0.420	1.63
S11_20190918	SW8081B	Gamma Bhc (Lindane)			UJ	0.304	0.680
S11_20190918	SW8081B	Heptachlor			UJ	0.366	0.816
S11_20190918	SW8081B	Heptachlor Epoxide			UJ	0.918	3.06

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S11_20190918	SW8081B	Methoxychlor			UJ	0.952	3.06
S11_20190918	SW8081B	P,P'-DDD	0.666	ug/kg	J-	0.582	1.63
S11_20190918	SW8081B	P,P'-DDE	11.2	ug/kg	J-	0.378	1.63
S11_20190918	SW8081B	P,P'-DDT	17.3	ug/kg	J-	1.31	3.06
S11_20190918	SW8081B	Toxaphene			UJ	8.57	30.6
S11_20190918	SW8081B	trans-Chlordane	2.91	ug/kg	J	0.539	2.04
S11_20190918	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.05	34.4
S11_20190918	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.44	34.4
S11_20190918	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.28	34.4
S11_20190918	SW8082A	PCB-1242 (Aroclor 1242)			UJ	4.63	34.4
S11_20190918	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.15	34.4
S11_20190918	SW8082A	PCB-1254 (Aroclor 1254)			UJ	3.76	34.4
S11_20190918	SW8082A	PCB-1260 (Aroclor 1260)			UJ	6.35	34.4
S11_20190918	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.36	34.4
S11_20190918	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.56	34.4
S11_20190918	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.05	34.4
S11_20190918	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.24	0.74
S11_20190918	SW8260C	1,2,3-Trichloropropane			UJ	0.19	2.9
S11_20190918	SW8260C	Bromomethane			UJ	0.86	2.9
S11_20190918	SW8260C	Dichlorodifluoromethane			UJ	1.3	15
S11_20190918	SW8260C	Naphthalene			UJ	0.96	5.9
S11_20190918	SW8260C	Styrene			UJ	0.29	1.5
S11_20190918	SW8260C	Trichlorofluoromethane			UJ	1.0	5.9
S11_20190918	SW8270D	1,2,4-Trichlorobenzene			UJ	20	170
S11_20190918	SW8270D	1,2-Dichlorobenzene			UJ	31	170
S11_20190918	SW8270D	1,3-Dichlorobenzene			UJ	30	170
S11_20190918	SW8270D	1,4-Dichlorobenzene			UJ	30	170
S11_20190918	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	8.0	26
S11_20190918	SW8270D	2,4-Dimethylphenol			UJ	57	170
S11_20190918	SW8270D	2,4-Dinitrophenol			UJ	81	840
S11_20190918	SW8270D	2-Chloronaphthalene			UJ	17	170
S11_20190918	SW8270D	4-Chloroaniline			UJ	32	170
S11_20190918	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	19	170
S11_20190918	SW8270D	Benzo(A)Pyrene	590	ug/kg	J-	42	140
S11_20190918	SW8270D	Benzoic Acid			UJ	180	560
S11_20190918	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	30	210
S11_20190918	SW8270D	Chrysene	540	ug/kg	J-	18	100
S11_20190918	SW8270D	Hexachlorobutadiene			UJ	25	170
S11_20190918	SW8270D	Hexachlorocyclopentadiene			UJ	160	500
S11_20190918	SW8270D	Hexachloroethane			UJ	28	140
S11_20190918	SW8270D	Naphthalene			UJ	21	170
S11_20190918	SW8270D	Pentachlorophenol			UJ	38	140
S11_20190918	SW9012B	Cyanide			UJ	0.21	0.98
S12_20190918	6010D	Aluminum	8500	mg/kg	J-	2.22	8.22
S12_20190918	6010D	Selenium	1.64	mg/kg	U	0.212	1.64
S12_20190918	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.058	0.955
S12_20190918	E537(M)	Perfluorohexanoic acid (PFHxA)	0.955	ug/kg	U	0.050	0.955
S12_20190918	E537(M)	Perfluorooctane Sulfonamide (FOSA)			R	0.094	0.955
S12_20190918	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.274	0.955
S12_20190918	E537(M)	Perfluorooctanesulfonic acid (PFOS)	1.98	ug/kg	J+	0.124	0.955
S12_20190918	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.625	1.65
S12_20190918	SW8081B	cis-Chlordane	2.26	ug/kg	J	0.574	2.06
S12_20190918	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.323	1.65
S12_20190918	SW8081B	Endosulfan Sulfate			UJ	0.327	0.687
S12_20190918	SW8081B	Endrin Aldehyde			UJ	0.721	2.06
S12_20190918	SW8081B	Endrin Ketone			UJ	0.424	1.65
S12_20190918	SW8081B	Gamma Bhc (Lindane)			UJ	0.307	0.687
S12_20190918	SW8081B	Methoxychlor			UJ	0.962	3.09
S12_20190918	SW8081B	P,P'-DDD	3.03	ug/kg	J	0.588	1.65
S12_20190918	SW8081B	P,P'-DDE	31.9	ug/kg	J	0.381	1.65
S12_20190918	SW8081B	trans-Chlordane	1.94	ug/kg	J	0.544	2.06
S12_20190918	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.10	34.9
S12_20190918	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.50	34.9
S12_20190918	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.40	34.9
S12_20190918	SW8082A	PCB-1242 (Aroclor 1242)			UJ	4.70	34.9
S12_20190918	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.24	34.9
S12_20190918	SW8082A	PCB-1254 (Aroclor 1254)			UJ	3.82	34.9
S12_20190918	SW8082A	PCB-1260 (Aroclor 1260)	7.75	ug/kg	J-	6.45	34.9
S12_20190918	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.43	34.9
S12_20190918	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.62	34.9
S12_20190918	SW8082A	Polychlorinated Biphenyl (PCBs)	7.75	ug/kg	J-	3.10	34.9
S12_20190918	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.29	0.87
S12_20190918	SW8260C	1,2,3-Trichloropropane			UJ	0.22	3.5
S12_20190918	SW8260C	Acetone	3200	ug/kg	J	8.4	17
S12_20190918	SW8260C	Bromomethane			UJ	1.0	3.5
S12_20190918	SW8260C	Dichlorodifluoromethane			UJ	1.6	17
S12_20190918	SW8260C	Naphthalene			UJ	1.1	7.0
S12_20190918	SW8260C	Styrene			UJ	0.34	1.7
S12_20190918	SW8260C	Trichlorofluoromethane			UJ	1.2	7.0
S12_20190918	SW8270D	1,2,4-Trichlorobenzene			UJ	20	170
S12_20190918	SW8270D	1,2-Dichlorobenzene			UJ	31	170
S12_20190918	SW8270D	1,3-Dichlorobenzene			UJ	30	170
S12_20190918	SW8270D	1,4-Dichlorobenzene			UJ	30	170
S12_20190918	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	7.9	26
S12_20190918	SW8270D	2,4-Dimethylphenol			UJ	57	170
S12_20190918	SW8270D	2,4-Dinitrophenol			UJ	80	830
S12_20190918	SW8270D	2,4-Dinitrotoluene			UJ	34	170

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S12_20190918	SW8270D	2,6-Dinitrotoluene			UJ	30	170
S12_20190918	SW8270D	2-Chloronaphthalene			UJ	17	170
S12_20190918	SW8270D	2-Nitroaniline			UJ	33	170
S12_20190918	SW8270D	3-Nitroaniline			UJ	32	170
S12_20190918	SW8270D	4,6-Dinitro-2-Methylphenol			UJ	83	450
S12_20190918	SW8270D	4-Bromophenyl Phenyl Ether			UJ	26	170
S12_20190918	SW8270D	4-Chloro-3-Methylphenol			UJ	26	170
S12_20190918	SW8270D	4-Chloroaniline			UJ	31	170
S12_20190918	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	18	170
S12_20190918	SW8270D	4-Nitroaniline			UJ	71	170
S12_20190918	SW8270D	Benzo(A)Pyrene	390	ug/kg	J-	42	140
S12_20190918	SW8270D	Benzoic Acid			UJ	170	560
S12_20190918	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	29	210
S12_20190918	SW8270D	Carbazole	34	ug/kg	J-	17	170
S12_20190918	SW8270D	Chrysene	380	ug/kg	J-	18	100
S12_20190918	SW8270D	Dibenzofuran			UJ	16	170
S12_20190918	SW8270D	Diethyl Phthalate			UJ	16	170
S12_20190918	SW8270D	Dimethyl Phthalate			UJ	36	170
S12_20190918	SW8270D	Di-N-Butyl Phthalate			UJ	33	170
S12_20190918	SW8270D	Hexachlorobutadiene			UJ	25	170
S12_20190918	SW8270D	Hexachlorocyclopentadiene			UJ	160	490
S12_20190918	SW8270D	Hexachloroethane			UJ	28	140
S12_20190918	SW8270D	Naphthalene	22	ug/kg	J-	21	170
S12_20190918	SW8270D	Pentachlorophenol			UJ	38	140
S12_20190918	SW9012B	Cyanide			UJ	0.21	0.99
S13_20190918	6010D	Aluminum	8790	mg/kg	J-	2.26	8.39
S13_20190918	6010D	Antimony	4.19	mg/kg	U	0.319	4.19
S13_20190918	6010D	Selenium	1.68	mg/kg	U	0.216	1.68
S13_20190918	E537(M)	Perfluorobutanoic Acid	1.02	ug/kg	U	0.022	1.02
S13_20190918	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.058	0.960
S13_20190918	E537(M)	Perfluorohexanoic acid (PFHxA)	0.96	ug/kg	U	0.050	0.960
S13_20190918	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.094	0.960
S13_20190918	E537(M)	Perfluorooctanesulfonic acid (PFOS)	5.35	ug/kg	J+	0.125	0.960
S13_20190918	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.653	1.72
S13_20190918	SW8081B	cis-Chlordane			UJ	0.600	2.15
S13_20190918	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.337	1.72
S13_20190918	SW8081B	Endosulfan Sulfate			UJ	0.342	0.718
S13_20190918	SW8081B	Endrin Aldehyde			UJ	0.754	2.15
S13_20190918	SW8081B	Endrin Ketone			UJ	0.444	1.72
S13_20190918	SW8081B	Gamma Bhc (Lindane)			UJ	0.321	0.718
S13_20190918	SW8081B	Methoxychlor			UJ	1.00	3.23
S13_20190918	SW8081B	P,P'-DDD	6.72	ug/kg	J	0.614	1.72
S13_20190918	SW8081B	trans-Chlordane			UJ	0.568	2.15
S13_20190918	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.06	34.4
S13_20190918	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.45	34.4
S13_20190918	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.30	34.4
S13_20190918	SW8082A	PCB-1242 (Aroclor 1242)			UJ	4.64	34.4
S13_20190918	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.17	34.4
S13_20190918	SW8082A	PCB-1254 (Aroclor 1254)			UJ	3.77	34.4
S13_20190918	SW8082A	PCB-1260 (Aroclor 1260)	10.5	ug/kg	J-	6.36	34.4
S13_20190918	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.37	34.4
S13_20190918	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.57	34.4
S13_20190918	SW8082A	Polychlorinated Biphenyl (PCBs)	10.5	ug/kg	J-	3.06	34.4
S13_20190918	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.32	0.95
S13_20190918	SW8260C	1,2,3-Trichloropropane			UJ	0.24	3.8
S13_20190918	SW8260C	Bromomethane			UJ	1.1	3.8
S13_20190918	SW8260C	Dichlorodifluoromethane			UJ	1.7	19
S13_20190918	SW8260C	Naphthalene			UJ	1.2	7.6
S13_20190918	SW8260C	Styrene			UJ	0.37	1.9
S13_20190918	SW8260C	Trichlorofluoromethane			UJ	1.3	7.6
S13_20190918	SW8270D	1,2,4,5-Tetrachlorobenzene			UJ	19	180
S13_20190918	SW8270D	1,2,4-Trichlorobenzene			UJ	20	180
S13_20190918	SW8270D	1,2-Dichlorobenzene			UJ	32	180
S13_20190918	SW8270D	1,3-Dichlorobenzene			UJ	31	180
S13_20190918	SW8270D	1,4-Dichlorobenzene			UJ	31	180
S13_20190918	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	8.3	27
S13_20190918	SW8270D	2,4-Dimethylphenol			UJ	59	180
S13_20190918	SW8270D	2,4-Dinitrophenol			UJ	84	860
S13_20190918	SW8270D	2,4-Dinitrotoluene			UJ	36	180
S13_20190918	SW8270D	2,6-Dinitrotoluene			UJ	31	180
S13_20190918	SW8270D	2-Chloronaphthalene			UJ	18	180
S13_20190918	SW8270D	2-Methylnaphthalene			UJ	22	220
S13_20190918	SW8270D	2-Nitroaniline			UJ	35	180
S13_20190918	SW8270D	3,3'-Dichlorobenzidine			UJ	48	180
S13_20190918	SW8270D	3-Nitroaniline			UJ	34	180
S13_20190918	SW8270D	4-Bromophenyl Phenyl Ether			UJ	27	180
S13_20190918	SW8270D	4-Chloroaniline			UJ	33	180
S13_20190918	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	19	180
S13_20190918	SW8270D	4-Nitroaniline			UJ	74	180
S13_20190918	SW8270D	Acenaphthene	41	ug/kg	J-	19	140
S13_20190918	SW8270D	Acenaphthylene	40	ug/kg	J-	28	140
S13_20190918	SW8270D	Acetophenone	25	ug/kg	J-	22	180
S13_20190918	SW8270D	Anthracene	120	ug/kg	J-	35	110
S13_20190918	SW8270D	Benzo(A)Anthracene	460	ug/kg	J-	20	110
S13_20190918	SW8270D	Benzo(A)Pyrene	380	ug/kg	J-	44	140
S13_20190918	SW8270D	Benzo(B)Fluoranthene	580	ug/kg	J-	30	110
S13_20190918	SW8270D	Benzo(G,H,I)Perylene	290	ug/kg	J-	21	140

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S13_20190918	SW8270D	Benzo(K)Fluoranthene	130	ug/kg	J-	29	110
S13_20190918	SW8270D	Benzoic Acid			UJ	180	580
S13_20190918	SW8270D	Benzyl Alcohol			UJ	55	180
S13_20190918	SW8270D	Benzyl Butyl Phthalate	110	ug/kg	J-	45	180
S13_20190918	SW8270D	Biphenyl (Diphenyl)			UJ	42	410
S13_20190918	SW8270D	Bis(2-Chloroethoxy) Methane			UJ	18	190
S13_20190918	SW8270D	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	24	160
S13_20190918	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	31	220
S13_20190918	SW8270D	Bis(2-Ethylhexyl) Phthalate	410	ug/kg	J-	62	180
S13_20190918	SW8270D	Carbazole	59	ug/kg	J-	17	180
S13_20190918	SW8270D	Chrysene	420	ug/kg	J-	19	110
S13_20190918	SW8270D	Dibenz(A,H)Anthracene	76	ug/kg	J-	21	110
S13_20190918	SW8270D	Dibenzofuran	25	ug/kg	J-	17	180
S13_20190918	SW8270D	Diethyl Phthalate			UJ	17	180
S13_20190918	SW8270D	Dimethyl Phthalate			UJ	38	180
S13_20190918	SW8270D	Di-N-Butyl Phthalate	190	ug/kg	J-	34	180
S13_20190918	SW8270D	Di-N-Octylphthalate			UJ	61	180
S13_20190918	SW8270D	Fluoranthene	770	ug/kg	J-	21	110
S13_20190918	SW8270D	Fluorene	40	ug/kg	J-	17	180
S13_20190918	SW8270D	Hexachlorobenzene			UJ	20	110
S13_20190918	SW8270D	Hexachlorobutadiene			UJ	26	180
S13_20190918	SW8270D	Hexachlorocyclopentadiene			UJ	160	510
S13_20190918	SW8270D	Hexachloroethane			UJ	29	140
S13_20190918	SW8270D	Indeno(1,2,3-C,D)Pyrene	320	ug/kg	J-	25	140
S13_20190918	SW8270D	Isophorone			UJ	23	160
S13_20190918	SW8270D	Naphthalene	28	ug/kg	J-	22	180
S13_20190918	SW8270D	Nitrobenzene			UJ	26	160
S13_20190918	SW8270D	N-Nitrosodi-N-Propylamine			UJ	28	180
S13_20190918	SW8270D	N-Nitrosodiphenylamine			UJ	20	140
S13_20190918	SW8270D	Pentachlorophenol			UJ	40	140
S13_20190918	SW8270D	Phenanthrene	440	ug/kg	J-	22	110
S13_20190918	SW8270D	Pyrene	680	ug/kg	J-	18	110
S13_20190918	SW9012B	Cyanide			UJ	0.22	1.0
S14_20190918	6010D	Aluminum	6150	mg/kg	J-	2.44	9.02
S14_20190918	6010D	Antimony	4.51	mg/kg	U	0.343	4.51
S14_20190918	6010D	Selenium	1.8	mg/kg	U	0.233	1.80
S14_20190918	E537(M)	Perfluorobutanoic Acid	1.08	ug/kg	U	0.025	1.08
S14_20190918	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.066	1.08
S14_20190918	E537(M)	Perfluorohexanoic acid (PFHxA)	1.08	ug/kg	U	0.057	1.08
S14_20190918	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.106	1.08
S14_20190918	E537(M)	Perfluorooctanesulfonic acid (PFOS)	2.87	ug/kg	J+	0.141	1.08
S14_20190918	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.691	1.82
S14_20190918	SW8081B	cis-Chlordane	6.10	ug/kg	J,N	0.635	2.28
S14_20190918	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.357	1.82
S14_20190918	SW8081B	Endosulfan Sulfate			UJ	0.361	0.759
S14_20190918	SW8081B	Endrin Aldehyde			UJ	0.797	2.28
S14_20190918	SW8081B	Endrin Ketone			UJ	0.469	1.82
S14_20190918	SW8081B	Gamma Bhc (Lindane)			UJ	0.339	0.759
S14_20190918	SW8081B	Methoxychlor			UJ	1.06	3.42
S14_20190918	SW8081B	P,P'-DDD			J	0.650	1.82
S14_20190918	SW8081B	P,P'-DDE	22.0	ug/kg	J	0.421	1.82
S14_20190918	SW8081B	P,P'-DDT	22.1	ug/kg	J	1.46	3.42
S14_20190918	SW8081B	trans-Chlordane	2.90	ug/kg	J,N	0.601	2.28
S14_20190918	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.33	37.5
S14_20190918	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.40	38.4
S14_20190918	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.84	38.4
S14_20190918	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.76	37.5
S14_20190918	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.95	37.5
S14_20190918	SW8082A	PCB-1232 (Aroclor 1232)			UJ	8.13	38.4
S14_20190918	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.06	37.5
S14_20190918	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.17	38.4
S14_20190918	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.63	37.5
S14_20190918	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.75	38.4
S14_20190918	SW8082A	PCB-1254 (Aroclor 1254)			UJ	4.20	38.4
S14_20190918	SW8082A	PCB-1254 (Aroclor 1254)			UJ	4.10	37.5
S14_20190918	SW8082A	PCB-1260 (Aroclor 1260)	7.23	ug/kg	J-	6.93	37.5
S14_20190918	SW8082A	PCB-1260 (Aroclor 1260)			UJ	7.09	38.4
S14_20190918	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.76	37.5
S14_20190918	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.87	38.4
S14_20190918	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.97	38.4
S14_20190918	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.88	37.5
S14_20190918	SW8082A	Polychlorinated Biphenyl (PCBs)	7.23	ug/kg	J-	3.33	37.5
S14_20190918	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.40	38.4
S14_20190918	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.32	0.97
S14_20190918	SW8260C	1,2,3-Trichloropropane			UJ	0.25	3.9
S14_20190918	SW8260C	Bromomethane			UJ	1.1	3.9
S14_20190918	SW8260C	Dichlorodifluoromethane			UJ	1.8	19
S14_20190918	SW8260C	Naphthalene			UJ	1.3	7.8
S14_20190918	SW8260C	Styrene			UJ	0.38	1.9
S14_20190918	SW8260C	Trichlorofluoromethane			UJ	1.4	7.8
S14_20190918	SW8270D	1,2,4,5-Tetrachlorobenzene			UJ	20	200
S14_20190918	SW8270D	1,2,4-Trichlorobenzene			UJ	22	200
S14_20190918	SW8270D	1,2-Dichlorobenzene			UJ	35	200
S14_20190918	SW8270D	1,3-Dichlorobenzene			UJ	34	200
S14_20190918	SW8270D	1,4-Dichlorobenzene			UJ	34	200
S14_20190918	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	9.1	30
S14_20190918	SW8270D	2,4,5-Trichlorophenol			UJ	38	200

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S14_20190918	SW8270D	2,4,6-Trichlorophenol			UJ	37	120
S14_20190918	SW8270D	2,4-Dichlorophenol			UJ	32	180
S14_20190918	SW8270D	2,4-Dimethylphenol			UJ	65	200
S14_20190918	SW8270D	2,4-Dinitrophenol			UJ	92	950
S14_20190918	SW8270D	2,4-Dinitrotoluene			UJ	39	200
S14_20190918	SW8270D	2,6-Dinitrotoluene			UJ	34	200
S14_20190918	SW8270D	2-Chloronaphthalene			UJ	20	200
S14_20190918	SW8270D	2-Chlorophenol			UJ	23	200
S14_20190918	SW8270D	2-Methylnaphthalene			UJ	24	240
S14_20190918	SW8270D	2-Methylphenol (O-Cresol)			UJ	30	200
S14_20190918	SW8270D	2-Nitroaniline			UJ	38	200
S14_20190918	SW8270D	2-Nitrophenol			UJ	74	430
S14_20190918	SW8270D	3- And 4- Methylphenol (Total)			UJ	31	280
S14_20190918	SW8270D	3,3'-Dichlorobenzidine			UJ	52	200
S14_20190918	SW8270D	3-Nitroaniline			UJ	37	200
S14_20190918	SW8270D	4,6-Dinitro-2-Methylphenol			UJ	95	510
S14_20190918	SW8270D	4-Bromophenyl Phenyl Ether			UJ	30	200
S14_20190918	SW8270D	4-Chloro-3-Methylphenol			UJ	29	200
S14_20190918	SW8270D	4-Chloroaniline			UJ	36	200
S14_20190918	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	21	200
S14_20190918	SW8270D	4-Nitroaniline			UJ	82	200
S14_20190918	SW8270D	4-Nitrophenol			UJ	80	280
S14_20190918	SW8270D	Acenaphthene	22	ug/kg	J-	20	160
S14_20190918	SW8270D	Acenaphthylene			UJ	30	160
S14_20190918	SW8270D	Acetophenone	27	ug/kg	J-	24	200
S14_20190918	SW8270D	Anthracene	65	ug/kg	J-	38	120
S14_20190918	SW8270D	Benzo(A)Anthracene	260	ug/kg	J-	22	120
S14_20190918	SW8270D	Benzo(A)Pyrene	230	ug/kg	J-	48	160
S14_20190918	SW8270D	Benzo(B)Fluoranthene	320	ug/kg	J-	33	120
S14_20190918	SW8270D	Benzo(G,H,I)Perylene	170	ug/kg	J-	23	160
S14_20190918	SW8270D	Benzo(K)Fluoranthene	120	ug/kg	J-	32	120
S14_20190918	SW8270D	Benzoic Acid			UJ	200	640
S14_20190918	SW8270D	Benzyl Alcohol			UJ	60	200
S14_20190918	SW8270D	Benzyl Butyl Phthalate			UJ	50	200
S14_20190918	SW8270D	Biphenyl (Diphenyl)			UJ	46	450
S14_20190918	SW8270D	Bis(2-Chloroethoxy) Methane			UJ	20	210
S14_20190918	SW8270D	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	27	180
S14_20190918	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	34	240
S14_20190918	SW8270D	Bis(2-Ethylhexyl) Phthalate	300	ug/kg	J-	68	200
S14_20190918	SW8270D	Carbazole	28	ug/kg	J-	19	200
S14_20190918	SW8270D	Chrysene	240	ug/kg	J-	20	120
S14_20190918	SW8270D	Dibenz(A,H)Anthracene	42	ug/kg	J-	23	120
S14_20190918	SW8270D	Dibenzofuran			UJ	19	200
S14_20190918	SW8270D	Diethyl Phthalate			UJ	18	200
S14_20190918	SW8270D	Dimethyl Phthalate			UJ	41	200
S14_20190918	SW8270D	Di-N-Butyl Phthalate			UJ	37	200
S14_20190918	SW8270D	Di-N-Octylphthalate			UJ	67	200
S14_20190918	SW8270D	Fluoranthene	470	ug/kg	J-	23	120
S14_20190918	SW8270D	Fluorene	21	ug/kg	J-	19	200
S14_20190918	SW8270D	Hexachlorobenzene			UJ	22	120
S14_20190918	SW8270D	Hexachlorobutadiene			UJ	29	200
S14_20190918	SW8270D	Hexachlorocyclopentadiene			UJ	180	560
S14_20190918	SW8270D	Hexachloroethane			UJ	32	160
S14_20190918	SW8270D	Indeno(1,2,3-C,D)Pyrene	190	ug/kg	J-	27	160
S14_20190918	SW8270D	Isophorone			UJ	26	180
S14_20190918	SW8270D	Naphthalene			UJ	24	200
S14_20190918	SW8270D	Nitrobenzene			UJ	29	180
S14_20190918	SW8270D	N-Nitrosodi-N-Propylamine			UJ	30	200
S14_20190918	SW8270D	N-Nitrosodiphenylamine			UJ	22	160
S14_20190918	SW8270D	Pentachlorophenol			UJ	43	160
S14_20190918	SW8270D	Phenanthrene	220	ug/kg	J-	24	120
S14_20190918	SW8270D	Phenol			UJ	30	200
S14_20190918	SW8270D	Pyrene	400	ug/kg	J-	20	120
S14_20190918	SW9012B	Cyanide			UJ	0.25	1.2
S15_20190918	6010D	Aluminum	8640	mg/kg	J-	2.64	9.76
S15_20190918	6010D	Selenium	1.95	mg/kg	U	0.252	1.95
S15_20190918	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.067	1.11
S15_20190918	E537(M)	Perfluorohexanoic acid (PFHxA)	1.11	ug/kg	U	0.058	1.11
S15_20190918	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.108	1.11
S15_20190918	E537(M)	Perfluorooctanesulfonic acid (PFOS)	1.97	ug/kg	J+	0.144	1.11
S15_20190918	E537(M)	Perfluorotridecanoic Acid (PFTriA)	0.320	ug/kg	J+	0.226	1.11
S15_20190918	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.742	1.96
S15_20190918	SW8081B	cis-Chlordane			UJ	0.681	2.44
S15_20190918	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.383	1.96
S15_20190918	SW8081B	Endosulfan Sulfate			UJ	0.388	0.815
S15_20190918	SW8081B	Endrin Aldehyde			UJ	0.856	2.44
S15_20190918	SW8081B	Endrin Ketone			UJ	0.504	1.96
S15_20190918	SW8081B	Gamma Bhc (Lindane)			UJ	0.364	0.815
S15_20190918	SW8081B	Methoxychlor			UJ	1.14	3.67
S15_20190918	SW8081B	P,P'-DDT	20.4	ug/kg	J	1.57	3.67
S15_20190918	SW8081B	trans-Chlordane	1.88	ug/kg	J	0.646	2.44
S15_20190918	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.65	41.1
S15_20190918	SW8082A	PCB-1221 (Aroclor 1221)			UJ	4.12	41.1
S15_20190918	SW8082A	PCB-1232 (Aroclor 1232)			UJ	8.71	41.1
S15_20190918	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.54	41.1
S15_20190918	SW8082A	PCB-1248 (Aroclor 1248)			UJ	6.16	41.1
S15_20190918	SW8082A	PCB-1254 (Aroclor 1254)			UJ	4.50	41.1

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S15_20190918	SW8082A	PCB-1260 (Aroclor 1260)	16.6	ug/kg	J-	7.60	41.1
S15_20190918	SW8082A	PCB-1262 (Aroclor 1262)			UJ	5.22	41.1
S15_20190918	SW8082A	PCB-1268 (Aroclor 1268)			UJ	4.26	41.1
S15_20190918	SW8082A	Polychlorinated Biphenyl (PCBs)	16.6	ug/kg	J-	3.65	41.1
S15_20190918	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.36	1.1
S15_20190918	SW8260C	1,2,3-Trichloropropane			UJ	0.28	4.4
S15_20190918	SW8260C	Bromomethane			UJ	1.3	4.4
S15_20190918	SW8260C	Dichlorodifluoromethane			UJ	2.0	22
S15_20190918	SW8260C	Naphthalene			UJ	1.4	8.7
S15_20190918	SW8260C	Styrene			UJ	0.43	2.2
S15_20190918	SW8260C	Trichlorofluoromethane			UJ	1.5	8.7
S15_20190918	SW8270D	1,2,4,5-Tetrachlorobenzene			UJ	22	210
S15_20190918	SW8270D	1,2,4-Trichlorobenzene			UJ	24	210
S15_20190918	SW8270D	1,2-Dichlorobenzene			UJ	37	210
S15_20190918	SW8270D	1,3-Dichlorobenzene			UJ	35	210
S15_20190918	SW8270D	1,4-Dichlorobenzene			UJ	36	210
S15_20190918	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	9.5	31
S15_20190918	SW8270D	2,4-Dimethylphenol			UJ	68	210
S15_20190918	SW8270D	2,4-Dinitrophenol			UJ	96	990
S15_20190918	SW8270D	2,4-Dinitrotoluene			UJ	41	210
S15_20190918	SW8270D	2,6-Dinitrotoluene			UJ	35	210
S15_20190918	SW8270D	2-Chloronaphthalene			UJ	20	210
S15_20190918	SW8270D	2-Methylnaphthalene			UJ	25	250
S15_20190918	SW8270D	2-Nitroaniline			UJ	40	210
S15_20190918	SW8270D	3,3'-Dichlorobenzidine			UJ	55	210
S15_20190918	SW8270D	3-Nitroaniline			UJ	39	210
S15_20190918	SW8270D	4-Bromophenyl Phenyl Ether			UJ	31	210
S15_20190918	SW8270D	4-Chloroaniline			UJ	38	210
S15_20190918	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	22	210
S15_20190918	SW8270D	4-Nitroaniline			UJ	85	210
S15_20190918	SW8270D	Acenaphthene			UJ	21	160
S15_20190918	SW8270D	Acenaphthylene			UJ	32	160
S15_20190918	SW8270D	Acetophenone	90	ug/kg	J-	26	210
S15_20190918	SW8270D	Anthracene	40	ug/kg	J-	40	120
S15_20190918	SW8270D	Benzo(A)Anthracene	260	ug/kg	J-	23	120
S15_20190918	SW8270D	Benzo(A)Pyrene	230	ug/kg	J-	50	160
S15_20190918	SW8270D	Benzo(B)Fluoranthene	320	ug/kg	J-	35	120
S15_20190918	SW8270D	Benzo(G,H,I)Perylene	170	ug/kg	J-	24	160
S15_20190918	SW8270D	Benzo(K)Fluoranthene	120	ug/kg	J-	33	120
S15_20190918	SW8270D	Benzoic Acid			UJ	210	670
S15_20190918	SW8270D	Benzyl Alcohol			UJ	63	210
S15_20190918	SW8270D	Benzyl Butyl Phthalate			UJ	52	210
S15_20190918	SW8270D	Biphenyl (Diphenyl)			UJ	48	470
S15_20190918	SW8270D	Bis(2-Chloroethoxy) Methane			UJ	21	220
S15_20190918	SW8270D	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	28	180
S15_20190918	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	35	250
S15_20190918	SW8270D	Bis(2-Ethylhexyl) Phthalate	260	ug/kg	J-	71	210
S15_20190918	SW8270D	Carbazole	27	ug/kg	J-	20	210
S15_20190918	SW8270D	Chrysene	250	ug/kg	J-	21	120
S15_20190918	SW8270D	Dibenz(A,H)Anthracene	44	ug/kg	J-	24	120
S15_20190918	SW8270D	Dibenzofuran			UJ	19	210
S15_20190918	SW8270D	Diethyl Phthalate			UJ	19	210
S15_20190918	SW8270D	Dimethyl Phthalate			UJ	43	210
S15_20190918	SW8270D	Di-N-Butyl Phthalate			UJ	39	210
S15_20190918	SW8270D	Di-N-Octylphthalate			UJ	70	210
S15_20190918	SW8270D	Fluoranthene	480	ug/kg	J-	24	120
S15_20190918	SW8270D	Fluorene			UJ	20	210
S15_20190918	SW8270D	Hexachlorobenzene			UJ	23	120
S15_20190918	SW8270D	Hexachlorobutadiene			UJ	30	210
S15_20190918	SW8270D	Hexachlorocyclopentadiene			UJ	190	590
S15_20190918	SW8270D	Hexachloroethane			UJ	33	160
S15_20190918	SW8270D	Indeno(1,2,3-C,D)Pyrene	190	ug/kg	J-	29	160
S15_20190918	SW8270D	Isophorone			UJ	27	180
S15_20190918	SW8270D	Naphthalene			UJ	25	210
S15_20190918	SW8270D	Nitrobenzene			UJ	30	180
S15_20190918	SW8270D	N-Nitrosodi-N-Propylamine			UJ	32	210
S15_20190918	SW8270D	N-Nitrosodiphenylamine			UJ	23	160
S15_20190918	SW8270D	Pentachlorophenol			UJ	45	160
S15_20190918	SW8270D	Phenanthrene	200	ug/kg	J-	25	120
S15_20190918	SW8270D	Pyrene	410	ug/kg	J-	20	120
S15_20190918	SW9012B	Cyanide			UJ	0.25	1.2
S16_20190918	6010D	Aluminum	5720	mg/kg	J-	2.47	9.15
S16_20190918	6010D	Selenium	1.83	mg/kg	U	0.236	1.83
S16_20190918	E537(M)	Perfluorobutanoic Acid	1.18	ug/kg	U	0.027	1.18
S16_20190918	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.071	1.18
S16_20190918	E537(M)	Perfluorohexanoic acid (PFHxA)	1.18	ug/kg	U	0.062	1.18
S16_20190918	E537(M)	Perfluorooctane Sulfonamide (FOSA)			R	0.116	1.18
S16_20190918	E537(M)	Perfluorooctanesulfonic acid (PFOS)	0.830	ug/kg	J+	0.154	1.18
S16_20190918	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.721	1.90
S16_20190918	SW8081B	cis-Chlordane	8.90	ug/kg	J	0.662	2.38
S16_20190918	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.372	1.90
S16_20190918	SW8081B	Endosulfan Sulfate			UJ	0.377	0.792
S16_20190918	SW8081B	Endrin Aldehyde			UJ	0.832	2.38
S16_20190918	SW8081B	Endrin Ketone			UJ	0.489	1.90
S16_20190918	SW8081B	Gamma Bhc (Lindane)			UJ	0.354	0.792
S16_20190918	SW8081B	Methoxychlor			UJ	1.11	3.56
S16_20190918	SW8081B	P,P'-DDD	4.49	ug/kg	J	0.678	1.90

Validation Summary Table
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Soils

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S16_20190918	SW8081B	trans-Chlordane	4.28	ug/kg	J	0.627	2.38
S16_20190918	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.56	40.0
S16_20190918	SW8082A	PCB-1221 (Aroclor 1221)			UJ	4.01	40.0
S16_20190918	SW8082A	PCB-1232 (Aroclor 1232)			UJ	8.49	40.0
S16_20190918	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.40	40.0
S16_20190918	SW8082A	PCB-1248 (Aroclor 1248)			UJ	6.01	40.0
S16_20190918	SW8082A	PCB-1254 (Aroclor 1254)	14.5	ug/kg	J-	4.38	40.0
S16_20190918	SW8082A	PCB-1260 (Aroclor 1260)	8.37	ug/kg	J-	7.40	40.0
S16_20190918	SW8082A	PCB-1262 (Aroclor 1262)			UJ	5.08	40.0
S16_20190918	SW8082A	PCB-1268 (Aroclor 1268)			UJ	4.15	40.0
S16_20190918	SW8082A	Polychlorinated Biphenyl (PCBs)	22.9	ug/kg	J-	3.56	40.0
S16_20190918	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.27	0.82
S16_20190918	SW8260C	1,2,3-Trichloropropane			UJ	0.21	3.3
S16_20190918	SW8260C	Bromomethane			UJ	0.96	3.3
S16_20190918	SW8260C	Dichlorodifluoromethane			UJ	1.5	16
S16_20190918	SW8260C	Naphthalene			UJ	1.1	6.6
S16_20190918	SW8260C	Styrene			UJ	0.32	1.6
S16_20190918	SW8260C	Trichlorofluoromethane			UJ	1.1	6.6
S16_20190918	SW8270D	1,2,4,5-Tetrachlorobenzene			UJ	20	200
S16_20190918	SW8270D	1,2,4-Trichlorobenzene			UJ	22	200
S16_20190918	SW8270D	1,2-Dichlorobenzene			UJ	35	200
S16_20190918	SW8270D	1,3-Dichlorobenzene			UJ	34	200
S16_20190918	SW8270D	1,4-Dichlorobenzene			UJ	34	200
S16_20190918	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	9.1	30
S16_20190918	SW8270D	2,4,5-Trichlorophenol			UJ	38	200
S16_20190918	SW8270D	2,4,6-Trichlorophenol			UJ	37	120
S16_20190918	SW8270D	2,4-Dichlorophenol			UJ	32	180
S16_20190918	SW8270D	2,4-Dimethylphenol			UJ	65	200
S16_20190918	SW8270D	2,4-Dinitrophenol			UJ	92	950
S16_20190918	SW8270D	2,4-Dinitrotoluene			UJ	39	200
S16_20190918	SW8270D	2,6-Dinitrotoluene			UJ	34	200
S16_20190918	SW8270D	2-Chloronaphthalene			UJ	20	200
S16_20190918	SW8270D	2-Chlorophenol			UJ	23	200
S16_20190918	SW8270D	2-Methylnaphthalene			UJ	24	240
S16_20190918	SW8270D	2-Methylphenol (O-Cresol)			UJ	30	200
S16_20190918	SW8270D	2-Nitroaniline			UJ	38	200
S16_20190918	SW8270D	2-Nitrophenol			UJ	74	430
S16_20190918	SW8270D	3- And 4- Methylphenol (Total)			UJ	31	280
S16_20190918	SW8270D	3,3'-Dichlorobenzidine			UJ	52	200
S16_20190918	SW8270D	3-Nitroaniline			UJ	37	200
S16_20190918	SW8270D	4-Bromophenyl Phenyl Ether			UJ	30	200
S16_20190918	SW8270D	4-Chloro-3-Methylphenol			UJ	29	200
S16_20190918	SW8270D	4-Chloroaniline			UJ	36	200
S16_20190918	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	21	200
S16_20190918	SW8270D	4-Nitroaniline			UJ	82	200
S16_20190918	SW8270D	4-Nitrophenol			UJ	80	280
S16_20190918	SW8270D	Acenaphthene	180	ug/kg	J-	20	160
S16_20190918	SW8270D	Acenaphthylene	57	ug/kg	J-	30	160
S16_20190918	SW8270D	Acetophenone	240	ug/kg	J-	24	200
S16_20190918	SW8270D	Anthracene	490	ug/kg	J-	38	120
S16_20190918	SW8270D	Benzo(A)Anthracene	2600	ug/kg	J-	22	120
S16_20190918	SW8270D	Benzo(A)Pyrene	2300	ug/kg	J-	48	160
S16_20190918	SW8270D	Benzo(B)Fluoranthene	3500	ug/kg	J-	33	120
S16_20190918	SW8270D	Benzo(G,H,I)Perylene	1800	ug/kg	J-	23	160
S16_20190918	SW8270D	Benzo(K)Fluoranthene	760	ug/kg	J-	32	120
S16_20190918	SW8270D	Benzoic Acid	230	ug/kg	J-	200	640
S16_20190918	SW8270D	Benzyl Alcohol			UJ	60	200
S16_20190918	SW8270D	Benzyl Butyl Phthalate			UJ	50	200
S16_20190918	SW8270D	Biphenyl (Diphenyl)			UJ	46	450
S16_20190918	SW8270D	Bis(2-Chloroethoxy) Methane			UJ	20	210
S16_20190918	SW8270D	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	27	180
S16_20190918	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	34	240
S16_20190918	SW8270D	Bis(2-Ethylhexyl) Phthalate	980	ug/kg	J-	68	200
S16_20190918	SW8270D	Carbazole	240	ug/kg	J-	19	200
S16_20190918	SW8270D	Chrysene	2300	ug/kg	J-	20	120
S16_20190918	SW8270D	Dibenz(A,H)Anthracene	400	ug/kg	J-	23	120
S16_20190918	SW8270D	Dibenzofuran	100	ug/kg	J-	19	200
S16_20190918	SW8270D	Diethyl Phthalate			UJ	18	200
S16_20190918	SW8270D	Dimethyl Phthalate			UJ	41	200
S16_20190918	SW8270D	Di-N-Butyl Phthalate	130	ug/kg	J-	37	200
S16_20190918	SW8270D	Di-N-Octylphthalate			UJ	67	200
S16_20190918	SW8270D	Fluoranthene	4600	ug/kg	J-	23	120
S16_20190918	SW8270D	Fluorene	160	ug/kg	J-	19	200
S16_20190918	SW8270D	Hexachlorobenzene			UJ	22	120
S16_20190918	SW8270D	Hexachlorobutadiene			UJ	29	200
S16_20190918	SW8270D	Hexachlorocyclopentadiene			UJ	180	560
S16_20190918	SW8270D	Hexachloroethane			UJ	32	160
S16_20190918	SW8270D	Indeno(1,2,3-C,D)Pyrene	2000	ug/kg	J-	28	160
S16_20190918	SW8270D	Isophorone			UJ	26	180
S16_20190918	SW8270D	Naphthalene			UJ	24	200
S16_20190918	SW8270D	Nitrobenzene			UJ	29	180
S16_20190918	SW8270D	N-Nitrosodi-N-Propylamine			UJ	30	200
S16_20190918	SW8270D	N-Nitrosodiphenylamine			UJ	22	160
S16_20190918	SW8270D	Pentachlorophenol			UJ	43	160
S16_20190918	SW8270D	Phenanthrene	2100	ug/kg	J-	24	120
S16_20190918	SW8270D	Phenol	30	ug/kg	J-	30	200
S16_20190918	SW8270D	Pyrene	3700	ug/kg	J-	20	120

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S16_20190918	SW9012B	Cyanide			UJ	0.25	1.2
S2_20190917	6010D	Aluminum	10200	mg/kg	J-	2.58	9.57
S2_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.070	1.15
S2_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	1.15	ug/kg	U	0.060	1.15
S2_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.113	1.15
S2_20190917	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.330	1.15
S2_20190917	SW7471B	Mercury	0.263	mg/kg	J-	0.063	0.097
S2_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.730	1.92
S2_20190917	SW8081B	cis-Chlordane			UJ	0.670	2.41
S2_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.377	1.92
S2_20190917	SW8081B	Endosulfan Sulfate			UJ	0.382	0.802
S2_20190917	SW8081B	Endrin Aldehyde			UJ	0.842	2.41
S2_20190917	SW8081B	Endrin Ketone			UJ	0.496	1.92
S2_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.358	0.802
S2_20190917	SW8081B	Methoxychlor			UJ	1.12	3.61
S2_20190917	SW8081B	trans-Chlordane			UJ	0.635	2.41
S2_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.56	40.1
S2_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	4.02	40.1
S2_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	8.50	40.1
S2_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.40	40.1
S2_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	6.02	40.1
S2_20190917	SW8082A	PCB-1254 (Aroclor 1254)			UJ	4.39	40.1
S2_20190917	SW8082A	PCB-1260 (Aroclor 1260)			UJ	7.41	40.1
S2_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	5.09	40.1
S2_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	4.15	40.1
S2_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.56	40.1
S2_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.19	0.57
S2_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.14	2.3
S2_20190917	SW8260C	Acetone	450	ug/kg	J	5.4	11
S2_20190917	SW8260C	Bromomethane			UJ	0.66	2.3
S2_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.0	11
S2_20190917	SW8260C	Naphthalene			UJ	0.74	4.5
S2_20190917	SW8260C	Styrene			UJ	0.22	1.1
S2_20190917	SW8260C	Trichlorofluoromethane			UJ	0.79	4.5
S2_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	23	200
S2_20190917	SW8270D	1,2-Dichlorobenzene			UJ	36	200
S2_20190917	SW8270D	1,3-Dichlorobenzene			UJ	34	200
S2_20190917	SW8270D	1,4-Dichlorobenzene			UJ	35	200
S2_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	9.1	30
S2_20190917	SW8270D	2,4-Dimethylphenol			UJ	66	200
S2_20190917	SW8270D	2,4-Dinitrophenol			UJ	92	950
S2_20190917	SW8270D	2-Chloronaphthalene			UJ	20	200
S2_20190917	SW8270D	4,6-Dinitro-2-Methylphenol			UJ	95	520
S2_20190917	SW8270D	4-Chloroaniline			UJ	36	200
S2_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	21	200
S2_20190917	SW8270D	Benzo(A)Pyrene			UJ	48	160
S2_20190917	SW8270D	Benzoic Acid			UJ	200	640
S2_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	34	240
S2_20190917	SW8270D	Chrysene			UJ	21	120
S2_20190917	SW8270D	Hexachlorobutadiene			UJ	29	200
S2_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	180	570
S2_20190917	SW8270D	Hexachloroethane			UJ	32	160
S2_20190917	SW8270D	Naphthalene			UJ	24	200
S2_20190917	SW8270D	Pentachlorophenol			UJ	44	160
S2_20190917	SW9012B	Cyanide			UJ	0.25	1.2
S3_20190917	6010D	Aluminum	3810	mg/kg	J-	2.39	8.85
S3_20190917	6010D	Arsenic	0.885	mg/kg	U	0.184	0.885
S3_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.068	1.12
S3_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.109	1.12
S3_20190917	SW7471B	Mercury			UJ	0.061	0.094
S3_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.647	1.71
S3_20190917	SW8081B	cis-Chlordane			UJ	0.594	2.13
S3_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.334	1.71
S3_20190917	SW8081B	Endosulfan Sulfate			UJ	0.338	0.711
S3_20190917	SW8081B	Endrin Aldehyde			UJ	0.747	2.13
S3_20190917	SW8081B	Endrin Ketone			UJ	0.439	1.71
S3_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.318	0.711
S3_20190917	SW8081B	Methoxychlor			UJ	0.996	3.20
S3_20190917	SW8081B	trans-Chlordane			UJ	0.563	2.13
S3_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.18	35.8
S3_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.58	35.8
S3_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.58	35.8
S3_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	4.82	35.8
S3_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.36	35.8
S3_20190917	SW8082A	PCB-1254 (Aroclor 1254)			UJ	3.91	35.8
S3_20190917	SW8082A	PCB-1260 (Aroclor 1260)			UJ	6.61	35.8
S3_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.54	35.8
S3_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.70	35.8
S3_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.18	35.8
S3_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.24	0.72
S3_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.18	2.9
S3_20190917	SW8260C	Bromomethane			UJ	0.84	2.9
S3_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.3	14
S3_20190917	SW8260C	Naphthalene			UJ	0.94	5.8
S3_20190917	SW8260C	Styrene			UJ	0.28	1.4
S3_20190917	SW8260C	Trichlorofluoromethane			UJ	1.0	5.8
S3_20190917	SW8270D	1,2,4,5-Tetrachlorobenzene			UJ	19	190

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S3_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	21	190
S3_20190917	SW8270D	1,2-Dichlorobenzene			UJ	33	190
S3_20190917	SW8270D	1,3-Dichlorobenzene			UJ	32	190
S3_20190917	SW8270D	1,4-Dichlorobenzene			UJ	32	190
S3_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	8.6	28
S3_20190917	SW8270D	2,4,5-Trichlorophenol			UJ	36	190
S3_20190917	SW8270D	2,4,6-Trichlorophenol			UJ	35	110
S3_20190917	SW8270D	2,4-Dichlorophenol			UJ	30	170
S3_20190917	SW8270D	2,4-Dimethylphenol			UJ	62	190
S3_20190917	SW8270D	2,4-Dinitrophenol			UJ	87	890
S3_20190917	SW8270D	2,4-Dinitrotoluene			UJ	37	190
S3_20190917	SW8270D	2,6-Dinitrotoluene			UJ	32	190
S3_20190917	SW8270D	2-Chloronaphthalene			UJ	18	190
S3_20190917	SW8270D	2-Chlorophenol			UJ	22	190
S3_20190917	SW8270D	2-Methylnaphthalene			UJ	22	220
S3_20190917	SW8270D	2-Methylphenol (O-Cresol)			UJ	29	190
S3_20190917	SW8270D	2-Nitroaniline			UJ	36	190
S3_20190917	SW8270D	2-Nitrophenol			UJ	70	400
S3_20190917	SW8270D	3- And 4- Methylphenol (Total)			UJ	29	270
S3_20190917	SW8270D	3,3'-Dichlorobenzidine			UJ	50	190
S3_20190917	SW8270D	3-Nitroaniline			UJ	35	190
S3_20190917	SW8270D	4,6-Dinitro-2-Methylphenol			UJ	89	480
S3_20190917	SW8270D	4-Bromophenyl Phenyl Ether			UJ	28	190
S3_20190917	SW8270D	4-Chloro-3-Methylphenol			UJ	28	190
S3_20190917	SW8270D	4-Chloroaniline			UJ	34	190
S3_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	20	190
S3_20190917	SW8270D	4-Nitroaniline			UJ	77	190
S3_20190917	SW8270D	4-Nitrophenol			UJ	76	260
S3_20190917	SW8270D	Acenaphthene			UJ	19	150
S3_20190917	SW8270D	Acenaphthylene			UJ	29	150
S3_20190917	SW8270D	Acetophenone			UJ	23	190
S3_20190917	SW8270D	Anthracene			UJ	36	110
S3_20190917	SW8270D	Benzo(A)Anthracene			UJ	21	110
S3_20190917	SW8270D	Benzo(A)Pyrene			UJ	45	150
S3_20190917	SW8270D	Benzo(B)Fluoranthene			UJ	31	110
S3_20190917	SW8270D	Benzo(G,H,I)Perylene			UJ	22	150
S3_20190917	SW8270D	Benzo(K)Fluoranthene			UJ	30	110
S3_20190917	SW8270D	Benzoic Acid			UJ	190	600
S3_20190917	SW8270D	Benzyl Alcohol			UJ	57	190
S3_20190917	SW8270D	Benzyl Butyl Phthalate			UJ	47	190
S3_20190917	SW8270D	Biphenyl (Diphenyl)			UJ	43	420
S3_20190917	SW8270D	Bis(2-Chloroethoxy) Methane			UJ	19	200
S3_20190917	SW8270D	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	25	170
S3_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	32	220
S3_20190917	SW8270D	Bis(2-Ethylhexyl) Phthalate			UJ	64	190
S3_20190917	SW8270D	Carbazole			UJ	18	190
S3_20190917	SW8270D	Chrysene			UJ	19	110
S3_20190917	SW8270D	Dibenz(A,H)Anthracene			UJ	22	110
S3_20190917	SW8270D	Dibenzofuran			UJ	18	190
S3_20190917	SW8270D	Diethyl Phthalate			UJ	17	190
S3_20190917	SW8270D	Dimethyl Phthalate			UJ	39	190
S3_20190917	SW8270D	Di-N-Butyl Phthalate			UJ	35	190
S3_20190917	SW8270D	Di-N-Octylphthalate			UJ	63	190
S3_20190917	SW8270D	Fluoranthene			UJ	21	110
S3_20190917	SW8270D	Fluorene			UJ	18	190
S3_20190917	SW8270D	Hexachlorobenzene			UJ	21	110
S3_20190917	SW8270D	Hexachlorobutadiene			UJ	27	190
S3_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	170	530
S3_20190917	SW8270D	Hexachloroethane			UJ	30	150
S3_20190917	SW8270D	Indeno(1,2,3-C,D)Pyrene			UJ	26	150
S3_20190917	SW8270D	Isophorone			UJ	24	170
S3_20190917	SW8270D	Naphthalene			UJ	23	190
S3_20190917	SW8270D	Nitrobenzene			UJ	28	170
S3_20190917	SW8270D	N-Nitrosodi-N-Propylamine			UJ	29	190
S3_20190917	SW8270D	N-Nitrosodiphenylamine			UJ	21	150
S3_20190917	SW8270D	Pentachlorophenol			UJ	41	150
S3_20190917	SW8270D	Phenanthrene			UJ	23	110
S3_20190917	SW8270D	Phenol			UJ	28	190
S3_20190917	SW8270D	Pyrene			UJ	18	110
S3_20190917	SW9012B	Cyanide			UJ	0.22	1.0
S4_20190917	6010D	Aluminum	3830	mg/kg	J-	2.45	9.07
S4_20190917	6010D	Arsenic	0.907	mg/kg	U	0.188	0.907
S4_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.071	1.18
S4_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	1.18	ug/kg	U	0.062	1.18
S4_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.115	1.18
S4_20190917	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.337	1.18
S4_20190917	E537(M)	Perfluorooctanesulfonic acid (PFOS)	0.323	ug/kg	J+	0.153	1.18
S4_20190917	SW7471B	Mercury			UJ	0.051	0.078
S4_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.716	1.89
S4_20190917	SW8081B	cis-Chlordane	2.03	ug/kg	J	0.658	2.36
S4_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.370	1.89
S4_20190917	SW8081B	Endosulfan Sulfate			UJ	0.374	0.786
S4_20190917	SW8081B	Endrin Aldehyde			UJ	0.826	2.36
S4_20190917	SW8081B	Endrin Ketone			UJ	0.486	1.89
S4_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.352	0.786
S4_20190917	SW8081B	Methoxychlor			UJ	1.10	3.54
S4_20190917	SW8081B	trans-Chlordane	1.49	ug/kg	J	0.623	2.36

Validation Summary Table
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Soils

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S4_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.33	37.5
S4_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.76	37.5
S4_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.95	37.5
S4_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.05	37.5
S4_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.62	37.5
S4_20190917	SW8082A	PCB-1254 (Aroclor 1254)			UJ	4.10	37.5
S4_20190917	SW8082A	PCB-1260 (Aroclor 1260)			UJ	6.93	37.5
S4_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.76	37.5
S4_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.88	37.5
S4_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.33	37.5
S4_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.22	0.65
S4_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.16	2.6
S4_20190917	SW8260C	Bromomethane			UJ	0.76	2.6
S4_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.2	13
S4_20190917	SW8260C	Naphthalene			UJ	0.85	5.2
S4_20190917	SW8260C	Styrene			UJ	0.26	1.3
S4_20190917	SW8260C	Trichlorofluoromethane			UJ	0.90	5.2
S4_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	22	190
S4_20190917	SW8270D	1,2-Dichlorobenzene			UJ	34	190
S4_20190917	SW8270D	1,3-Dichlorobenzene			UJ	33	190
S4_20190917	SW8270D	1,4-Dichlorobenzene			UJ	34	190
S4_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	8.8	29
S4_20190917	SW8270D	2,4-Dimethylphenol			UJ	63	190
S4_20190917	SW8270D	2,4-Dinitrophenol			UJ	89	920
S4_20190917	SW8270D	2-Chloronaphthalene			UJ	19	190
S4_20190917	SW8270D	4-Chloroaniline			UJ	35	190
S4_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	20	190
S4_20190917	SW8270D	Benzo(A)Pyrene	340	ug/kg	J-	47	150
S4_20190917	SW8270D	Benzoic Acid			UJ	190	620
S4_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	33	230
S4_20190917	SW8270D	Chrysene	300	ug/kg	J-	20	120
S4_20190917	SW8270D	Hexachlorobutadiene			UJ	28	190
S4_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	170	550
S4_20190917	SW8270D	Hexachloroethane			UJ	31	150
S4_20190917	SW8270D	Naphthalene	130	ug/kg	J-	23	190
S4_20190917	SW8270D	Pentachlorophenol			UJ	42	150
S4_20190917	SW9012B	Cyanide			UJ	0.24	1.1
S5_20190917	6010D	Aluminum	7850	mg/kg	J-	2.66	9.85
S5_20190917	6010D	Selenium	1.97	mg/kg	U	0.254	1.97
S5_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.066	1.10
S5_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	1.10	ug/kg	U	0.058	1.10
S5_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.108	1.10
S5_20190917	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.315	1.10
S5_20190917	E537(M)	Perfluorooctanesulfonic acid (PFOS)	0.190	ug/kg	J+	0.143	1.10
S5_20190917	SW7471B	Mercury	0.980	mg/kg	J-	0.067	0.102
S5_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.766	2.02
S5_20190917	SW8081B	cis-Chlordane			UJ	0.704	2.53
S5_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.396	2.02
S5_20190917	SW8081B	Endosulfan Sulfate			UJ	0.401	0.842
S5_20190917	SW8081B	Endrin Aldehyde			UJ	0.884	2.53
S5_20190917	SW8081B	Endrin Ketone			UJ	0.520	2.02
S5_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.376	0.842
S5_20190917	SW8081B	Methoxychlor			UJ	1.18	3.79
S5_20190917	SW8081B	trans-Chlordane			UJ	0.667	2.53
S5_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.75	42.3
S5_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	4.24	42.3
S5_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	8.96	42.3
S5_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.70	42.3
S5_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	6.34	42.3
S5_20190917	SW8082A	PCB-1254 (Aroclor 1254)			UJ	4.62	42.3
S5_20190917	SW8082A	PCB-1260 (Aroclor 1260)			UJ	7.81	42.3
S5_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	5.37	42.3
S5_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	4.38	42.3
S5_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.75	42.3
S5_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.22	0.68
S5_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.17	2.7
S5_20190917	SW8260C	Bromomethane			UJ	0.79	2.7
S5_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.2	14
S5_20190917	SW8260C	Naphthalene			UJ	0.88	5.4
S5_20190917	SW8260C	Styrene			UJ	0.27	1.4
S5_20190917	SW8260C	Trichlorofluoromethane			UJ	0.94	5.4
S5_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	24	210
S5_20190917	SW8270D	1,2-Dichlorobenzene			UJ	38	210
S5_20190917	SW8270D	1,3-Dichlorobenzene			UJ	36	210
S5_20190917	SW8270D	1,4-Dichlorobenzene			UJ	37	210
S5_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	9.7	32
S5_20190917	SW8270D	2,4-Dimethylphenol			UJ	70	210
S5_20190917	SW8270D	2,4-Dinitrophenol			UJ	98	1000
S5_20190917	SW8270D	2-Chloronaphthalene			UJ	21	210
S5_20190917	SW8270D	4-Chloroaniline			UJ	38	210
S5_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	22	210
S5_20190917	SW8270D	Benzo(A)Pyrene			UJ	51	170
S5_20190917	SW8270D	Benzoic Acid			UJ	210	680
S5_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	36	250
S5_20190917	SW8270D	Chrysene			UJ	22	130
S5_20190917	SW8270D	Hexachlorobutadiene			UJ	31	210
S5_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	190	600

Validation Summary Table
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Soils

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S5_20190917	SW8270D	Hexachloroethane			UJ	34	170
S5_20190917	SW8270D	Naphthalene			UJ	26	210
S5_20190917	SW8270D	Pentachlorophenol			UJ	46	170
S5_20190917	SW9012B	Cyanide			UJ	0.25	1.2
S6_20190917	6010D	Aluminum	5560	mg/kg	J-	2.32	8.58
S6_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.062	1.03
S6_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	1.03	ug/kg	U	0.054	1.03
S6_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			R	0.101	1.03
S6_20190917	SW7471B	Mercury			UJ	0.052	0.080
S6_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.664	1.75
S6_20190917	SW8081B	cis-Chlordane			UJ	0.610	2.19
S6_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.343	1.75
S6_20190917	SW8081B	Endosulfan Sulfate			UJ	0.348	0.730
S6_20190917	SW8081B	Endrin Aldehyde			UJ	0.766	2.19
S6_20190917	SW8081B	Endrin Ketone			UJ	0.451	1.75
S6_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.326	0.730
S6_20190917	SW8081B	Methoxychlor			UJ	1.02	3.28
S6_20190917	SW8081B	trans-Chlordane			UJ	0.578	2.19
S6_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.21	36.2
S6_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.62	36.2
S6_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.67	36.2
S6_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	4.88	36.2
S6_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.43	36.2
S6_20190917	SW8082A	PCB-1254 (Aroclor 1254)			UJ	3.96	36.2
S6_20190917	SW8082A	PCB-1260 (Aroclor 1260)			UJ	6.68	36.2
S6_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.59	36.2
S6_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.75	36.2
S6_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.21	36.2
S6_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.20	0.60
S6_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.15	2.4
S6_20190917	SW8260C	Acetone	470	ug/kg	J	5.8	12
S6_20190917	SW8260C	Bromomethane			UJ	0.70	2.4
S6_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.1	12
S6_20190917	SW8260C	Naphthalene			UJ	0.79	4.8
S6_20190917	SW8260C	Styrene			UJ	0.24	1.2
S6_20190917	SW8260C	Trichlorofluoromethane			UJ	0.84	4.8
S6_20190917	SW8270D	1,2,4,5-Tetrachlorobenzene			UJ	19	190
S6_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	21	190
S6_20190917	SW8270D	1,2-Dichlorobenzene			UJ	33	190
S6_20190917	SW8270D	1,3-Dichlorobenzene			UJ	32	190
S6_20190917	SW8270D	1,4-Dichlorobenzene			UJ	32	190
S6_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	8.6	28
S6_20190917	SW8270D	2,4-Dimethylphenol			UJ	61	190
S6_20190917	SW8270D	2,4-Dinitrophenol			UJ	87	890
S6_20190917	SW8270D	2,4-Dinitrotoluene			UJ	37	190
S6_20190917	SW8270D	2,6-Dinitrotoluene			UJ	32	190
S6_20190917	SW8270D	2-Chloronaphthalene			UJ	18	190
S6_20190917	SW8270D	2-Methylnaphthalene			UJ	22	220
S6_20190917	SW8270D	2-Nitroaniline			UJ	36	190
S6_20190917	SW8270D	3,3'-Dichlorobenzidine			UJ	50	190
S6_20190917	SW8270D	3-Nitroaniline			UJ	35	190
S6_20190917	SW8270D	4-Bromophenyl Phenyl Ether			UJ	28	190
S6_20190917	SW8270D	4-Chloroaniline			UJ	34	190
S6_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	20	190
S6_20190917	SW8270D	4-Nitroaniline			UJ	77	190
S6_20190917	SW8270D	Acenaphthene			UJ	19	150
S6_20190917	SW8270D	Acenaphthylene			UJ	29	150
S6_20190917	SW8270D	Acetophenone			UJ	23	190
S6_20190917	SW8270D	Anthracene			UJ	36	110
S6_20190917	SW8270D	Benzo(A)Anthracene			UJ	21	110
S6_20190917	SW8270D	Benzo(A)Pyrene			UJ	45	150
S6_20190917	SW8270D	Benzo(B)Fluoranthene			UJ	31	110
S6_20190917	SW8270D	Benzo(G,H,I)Perylene			UJ	22	150
S6_20190917	SW8270D	Benzo(K)Fluoranthene			UJ	30	110
S6_20190917	SW8270D	Benzoic Acid			UJ	190	600
S6_20190917	SW8270D	Benzyl Alcohol			UJ	57	190
S6_20190917	SW8270D	Benzyl Butyl Phthalate			UJ	47	190
S6_20190917	SW8270D	Biphenyl (Diphenyl)			UJ	43	420
S6_20190917	SW8270D	Bis(2-Chloroethoxy) Methane			UJ	19	200
S6_20190917	SW8270D	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	25	170
S6_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	32	220
S6_20190917	SW8270D	Bis(2-Ethylhexyl) Phthalate			UJ	64	190
S6_20190917	SW8270D	Carbazole			UJ	18	190
S6_20190917	SW8270D	Chrysene			UJ	19	110
S6_20190917	SW8270D	Dibenz(A,H)Anthracene			UJ	22	110
S6_20190917	SW8270D	Dibenzofuran			UJ	18	190
S6_20190917	SW8270D	Diethyl Phthalate			UJ	17	190
S6_20190917	SW8270D	Dimethyl Phthalate			UJ	39	190
S6_20190917	SW8270D	Di-N-Butyl Phthalate			UJ	35	190
S6_20190917	SW8270D	Di-N-Octylphthalate			UJ	63	190
S6_20190917	SW8270D	Fluoranthene			UJ	21	110
S6_20190917	SW8270D	Fluorene			UJ	18	190
S6_20190917	SW8270D	Hexachlorobenzene			UJ	21	110
S6_20190917	SW8270D	Hexachlorobutadiene			UJ	27	190
S6_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	170	530
S6_20190917	SW8270D	Hexachloroethane			UJ	30	150
S6_20190917	SW8270D	Indeno(1,2,3-C,D)Pyrene			UJ	26	150

Validation Summary Table
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Soils

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S6_20190917	SW8270D	Isophorone			UJ	24	170
S6_20190917	SW8270D	Naphthalene			UJ	23	190
S6_20190917	SW8270D	Nitrobenzene			UJ	28	170
S6_20190917	SW8270D	N-Nitrosodi-N-Propylamine			UJ	29	190
S6_20190917	SW8270D	N-Nitrosodiphenylamine			UJ	21	150
S6_20190917	SW8270D	Pentachlorophenol			UJ	41	150
S6_20190917	SW8270D	Phenanthrene			UJ	23	110
S6_20190917	SW8270D	Pyrene			UJ	18	110
S6_20190917	SW9012B	Cyanide			UJ	0.23	1.1
S7_20190917	6010D	Aluminum	7200	mg/kg	J-	2.44	9.02
S7_20190917	6010D	Selenium	1.8	mg/kg	U	0.233	1.80
S7_20190917	E537(M)	Perfluorobutanoic Acid	0.982	ug/kg	U	0.022	0.982
S7_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.059	0.982
S7_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	0.982	ug/kg	U	0.052	0.982
S7_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			R	0.096	0.982
S7_20190917	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.282	0.982
S7_20190917	E537(M)	Perfluorooctanesulfonic acid (PFOS)	1.49	ug/kg	J+	0.128	0.982
S7_20190917	E537(M)	Perfluorotridecanoic Acid (PFTriA)	0.218	ug/kg	J+	0.201	0.982
S7_20190917	SW7471B	Mercury	0.678	mg/kg	J-	0.061	0.094
S7_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.667	1.76
S7_20190917	SW8081B	cis-Chlordane	17.5	ug/kg	J,N	0.613	2.20
S7_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.345	1.76
S7_20190917	SW8081B	Endosulfan Sulfate			UJ	0.349	0.734
S7_20190917	SW8081B	Endrin Aldehyde			UJ	0.770	2.20
S7_20190917	SW8081B	Endrin Ketone			UJ	0.453	1.76
S7_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.328	0.734
S7_20190917	SW8081B	Heptachlor Epoxide	3.77	ug/kg	J-	0.990	3.30
S7_20190917	SW8081B	Methoxychlor			UJ	1.03	3.30
S7_20190917	SW8081B	P,P'-DDE	34.5	ug/kg	J	0.407	1.76
S7_20190917	SW8081B	P,P'-DDT	44.6	ug/kg	J-	1.42	3.30
S7_20190917	SW8081B	trans-Chlordane	13.6	ug/kg	J	0.581	2.20
S7_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.32	37.4
S7_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.74	37.4
S7_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.92	37.4
S7_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.04	37.4
S7_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.61	37.4
S7_20190917	SW8082A	PCB-1254 (Aroclor 1254)	34.4	ug/kg	J-	4.09	37.4
S7_20190917	SW8082A	PCB-1260 (Aroclor 1260)	19.3	ug/kg	J-	6.91	37.4
S7_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.75	37.4
S7_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.87	37.4
S7_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)	53.7	ug/kg	J-	3.32	37.4
S7_20190917	SW8260C	1,1,1,2-Tetrachloroethane			UJ	0.33	1.2
S7_20190917	SW8260C	1,1,1,2-Tetrachloroethane			UJ	19	73
S7_20190917	SW8260C	1,1,1-Trichloroethane (TCA)			UJ	24	73
S7_20190917	SW8260C	1,1,1-Trichloroethane (TCA)			UJ	0.41	1.2
S7_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.41	1.2
S7_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	24	73
S7_20190917	SW8260C	1,1,2-Trichloroethane			UJ	0.66	2.5
S7_20190917	SW8260C	1,1,2-Trichloroethane			UJ	39	140
S7_20190917	SW8260C	1,1-Dichloroethane			UJ	0.36	2.5
S7_20190917	SW8260C	1,1-Dichloroethane			UJ	21	140
S7_20190917	SW8260C	1,1-Dichloroethene			UJ	35	140
S7_20190917	SW8260C	1,1-Dichloroethene			UJ	0.59	2.5
S7_20190917	SW8260C	1,1-Dichloropropene			UJ	23	73
S7_20190917	SW8260C	1,1-Dichloropropene			UJ	0.39	1.2
S7_20190917	SW8260C	1,2,3-Trichlorobenzene			UJ	0.80	4.9
S7_20190917	SW8260C	1,2,3-Trichlorobenzene			UJ	47	290
S7_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.31	4.9
S7_20190917	SW8260C	1,2,3-Trichloropropane			UJ	18	290
S7_20190917	SW8260C	1,2,4,5-Tetramethylbenzene			UJ	28	290
S7_20190917	SW8260C	1,2,4,5-Tetramethylbenzene			UJ	0.47	4.9
S7_20190917	SW8260C	1,2,4-Trichlorobenzene			UJ	40	290
S7_20190917	SW8260C	1,2,4-Trichlorobenzene			UJ	0.67	4.9
S7_20190917	SW8260C	1,2,4-Trimethylbenzene			UJ	49	290
S7_20190917	SW8260C	1,2,4-Trimethylbenzene			UJ	0.82	4.9
S7_20190917	SW8260C	1,2-Dibromo-3-Chloropropane			UJ	2.5	7.4
S7_20190917	SW8260C	1,2-Dibromo-3-Chloropropane			UJ	140	440
S7_20190917	SW8260C	1,2-Dibromoethane (Ethylene Dibromide)			UJ	41	140
S7_20190917	SW8260C	1,2-Dibromoethane (Ethylene Dibromide)			UJ	0.69	2.5
S7_20190917	SW8260C	1,2-Dichlorobenzene			UJ	0.36	4.9
S7_20190917	SW8260C	1,2-Dichlorobenzene			UJ	21	290
S7_20190917	SW8260C	1,2-Dichloroethane			UJ	37	140
S7_20190917	SW8260C	1,2-Dichloroethane			UJ	0.64	2.5
S7_20190917	SW8260C	1,2-Dichloropropane			UJ	18	140
S7_20190917	SW8260C	1,2-Dichloropropane			UJ	0.31	2.5
S7_20190917	SW8260C	1,3,5-Trimethylbenzene (Mesitylene)			UJ	28	290
S7_20190917	SW8260C	1,3,5-Trimethylbenzene (Mesitylene)			UJ	0.48	4.9
S7_20190917	SW8260C	1,3-Dichlorobenzene			UJ	0.36	4.9
S7_20190917	SW8260C	1,3-Dichlorobenzene			UJ	22	290
S7_20190917	SW8260C	1,3-Dichloropropane			UJ	0.41	4.9
S7_20190917	SW8260C	1,3-Dichloropropane			UJ	24	290
S7_20190917	SW8260C	1,4-Dichlorobenzene			UJ	25	290
S7_20190917	SW8260C	1,4-Dichlorobenzene			UJ	0.42	4.9
S7_20190917	SW8260C	1,4-Diethyl Benzene			UJ	0.44	4.9
S7_20190917	SW8260C	1,4-Diethyl Benzene			UJ	26	290
S7_20190917	SW8260C	1,4-Dioxane (P-Dioxane)			UJ	5100	12000
S7_20190917	SW8260C	1,4-Dioxane (P-Dioxane)			UJ	87	200

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S7_20190917	SW8260C	2,2-Dichloropropane			UJ	29	290
S7_20190917	SW8260C	2,2-Dichloropropane			UJ	0.50	4.9
S7_20190917	SW8260C	2-Chlorotoluene			UJ	0.47	4.9
S7_20190917	SW8260C	2-Chlorotoluene			UJ	28	290
S7_20190917	SW8260C	2-Hexanone			UJ	2.9	25
S7_20190917	SW8260C	2-Hexanone			UJ	170	1400
S7_20190917	SW8260C	4-Chlorotoluene			UJ	0.27	4.9
S7_20190917	SW8260C	4-Chlorotoluene			UJ	16	290
S7_20190917	SW8260C	4-Ethyltoluene			UJ	56	290
S7_20190917	SW8260C	4-Ethyltoluene			UJ	0.95	4.9
S7_20190917	SW8260C	Acetone			UJ	700	1400
S7_20190917	SW8260C	Acetone	630	ug/kg	J+	12	25
S7_20190917	SW8260C	Acrylonitrile			UJ	170	580
S7_20190917	SW8260C	Acrylonitrile			UJ	2.8	9.9
S7_20190917	SW8260C	Benzene			UJ	0.41	1.2
S7_20190917	SW8260C	Benzene			UJ	24	73
S7_20190917	SW8260C	Bromobenzene			UJ	0.36	4.9
S7_20190917	SW8260C	Bromobenzene			UJ	21	290
S7_20190917	SW8260C	Bromochloromethane			UJ	0.51	4.9
S7_20190917	SW8260C	Bromochloromethane			UJ	30	290
S7_20190917	SW8260C	Bromodichloromethane			UJ	0.27	1.2
S7_20190917	SW8260C	Bromodichloromethane			UJ	16	73
S7_20190917	SW8260C	Bromoform			UJ	0.61	9.9
S7_20190917	SW8260C	Bromoform			UJ	36	580
S7_20190917	SW8260C	Bromomethane			UJ	85	290
S7_20190917	SW8260C	Bromomethane			UJ	1.4	4.9
S7_20190917	SW8260C	Carbon Disulfide			UJ	11	25
S7_20190917	SW8260C	Carbon Disulfide			UJ	660	1400
S7_20190917	SW8260C	Carbon Tetrachloride			UJ	0.57	2.5
S7_20190917	SW8260C	Carbon Tetrachloride			UJ	34	140
S7_20190917	SW8260C	Chlorobenzene			UJ	0.31	1.2
S7_20190917	SW8260C	Chlorobenzene			UJ	18	73
S7_20190917	SW8260C	Chloroethane			UJ	66	290
S7_20190917	SW8260C	Chloroethane			UJ	1.1	4.9
S7_20190917	SW8260C	Chloroform			UJ	0.35	3.7
S7_20190917	SW8260C	Chloroform	35	ug/kg	J+	20	220
S7_20190917	SW8260C	Chloromethane			UJ	140	580
S7_20190917	SW8260C	Chloromethane			UJ	2.3	9.9
S7_20190917	SW8260C	Cis-1,2-Dichloroethylene			UJ	26	140
S7_20190917	SW8260C	Cis-1,2-Dichloroethylene			UJ	0.43	2.5
S7_20190917	SW8260C	Cis-1,3-Dichloropropene			UJ	23	73
S7_20190917	SW8260C	Cis-1,3-Dichloropropene			UJ	0.39	1.2
S7_20190917	SW8260C	Cymene			UJ	0.27	2.5
S7_20190917	SW8260C	Cymene			UJ	16	140
S7_20190917	SW8260C	Dibromochloromethane			UJ	0.35	2.5
S7_20190917	SW8260C	Dibromochloromethane			UJ	20	140
S7_20190917	SW8260C	Dibromomethane			UJ	0.59	4.9
S7_20190917	SW8260C	Dibromomethane			UJ	35	290
S7_20190917	SW8260C	Dichlorodifluoromethane			UJ	130	1400
S7_20190917	SW8260C	Dichlorodifluoromethane			UJ	2.3	25
S7_20190917	SW8260C	Dichloroethylenes			UJ	0.34	2.5
S7_20190917	SW8260C	Dichloroethylenes			UJ	20	140
S7_20190917	SW8260C	Diethyl Ether (Ethyl Ether)			UJ	0.84	4.9
S7_20190917	SW8260C	Diethyl Ether (Ethyl Ether)			UJ	50	290
S7_20190917	SW8260C	Ethylbenzene			UJ	20	140
S7_20190917	SW8260C	Ethylbenzene			UJ	0.35	2.5
S7_20190917	SW8260C	Hexachlorobutadiene			UJ	25	580
S7_20190917	SW8260C	Hexachlorobutadiene			UJ	0.42	9.9
S7_20190917	SW8260C	Isopropylbenzene (Cumene)			UJ	16	140
S7_20190917	SW8260C	Isopropylbenzene (Cumene)			UJ	0.27	2.5
S7_20190917	SW8260C	m,p-Xylene			UJ	82	290
S7_20190917	SW8260C	m,p-Xylene			UJ	1.4	4.9
S7_20190917	SW8260C	Methyl Ethyl Ketone (2-Butanone)			UJ	5.5	25
S7_20190917	SW8260C	Methyl Ethyl Ketone (2-Butanone)			UJ	320	1400
S7_20190917	SW8260C	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)			UJ	3.2	25
S7_20190917	SW8260C	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)			UJ	190	1400
S7_20190917	SW8260C	Methylene Chloride			UJ	330	730
S7_20190917	SW8260C	Methylene Chloride			UJ	5.7	12
S7_20190917	SW8260C	Naphthalene			UJ	95	580
S7_20190917	SW8260C	Naphthalene			UJ	1.6	9.9
S7_20190917	SW8260C	N-Butylbenzene			UJ	0.41	2.5
S7_20190917	SW8260C	N-Butylbenzene			UJ	24	140
S7_20190917	SW8260C	N-Propylbenzene			UJ	0.42	2.5
S7_20190917	SW8260C	N-Propylbenzene			UJ	25	140
S7_20190917	SW8260C	O-Xylene (1,2-Dimethylbenzene)			UJ	42	140
S7_20190917	SW8260C	O-Xylene (1,2-Dimethylbenzene)			UJ	0.72	2.5
S7_20190917	SW8260C	Sec-Butylbenzene			UJ	0.36	2.5
S7_20190917	SW8260C	Sec-Butylbenzene			UJ	21	140
S7_20190917	SW8260C	Styrene			UJ	0.48	2.5
S7_20190917	SW8260C	Styrene			UJ	28	140
S7_20190917	SW8260C	T-Butylbenzene			UJ	17	290
S7_20190917	SW8260C	T-Butylbenzene			UJ	0.29	4.9
S7_20190917	SW8260C	Tert-Butyl Methyl Ether			UJ	29	290
S7_20190917	SW8260C	Tert-Butyl Methyl Ether			UJ	0.50	4.9
S7_20190917	SW8260C	Tetrachloroethylene (PCE)			UJ	0.48	1.2
S7_20190917	SW8260C	Tetrachloroethylene (PCE)			UJ	28	73
S7_20190917	SW8260C	Toluene			UJ	1.3	2.5

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S7_20190917	SW8260C	Toluene			UJ	79	140
S7_20190917	SW8260C	Total, 1,3-Dichloropropene (Cis And Trans)			UJ	23	73
S7_20190917	SW8260C	Total, 1,3-Dichloropropene (Cis And Trans)			UJ	0.39	1.2
S7_20190917	SW8260C	Trans-1,2-Dichloroethene			UJ	0.34	3.7
S7_20190917	SW8260C	Trans-1,2-Dichloroethene			UJ	20	220
S7_20190917	SW8260C	Trans-1,3-Dichloropropene			UJ	0.67	2.5
S7_20190917	SW8260C	Trans-1,3-Dichloropropene			UJ	40	140
S7_20190917	SW8260C	Trans-1,4-Dichloro-2-Butene			UJ	210	730
S7_20190917	SW8260C	Trans-1,4-Dichloro-2-Butene			UJ	3.5	12
S7_20190917	SW8260C	Trichloroethylene (TCE)			UJ	20	73
S7_20190917	SW8260C	Trichloroethylene (TCE)			UJ	0.34	1.2
S7_20190917	SW8260C	Trichlorofluoromethane			UJ	1.7	9.9
S7_20190917	SW8260C	Trichlorofluoromethane			UJ	100	580
S7_20190917	SW8260C	Vinyl Acetate			UJ	310	1400
S7_20190917	SW8260C	Vinyl Acetate			UJ	5.3	25
S7_20190917	SW8260C	Vinyl Chloride			UJ	0.83	2.5
S7_20190917	SW8260C	Vinyl Chloride			UJ	49	140
S7_20190917	SW8260C	Xylenes			UJ	0.72	2.5
S7_20190917	SW8260C	Xylenes			UJ	42	140
S7_20190917	SW8270D	1,2,4,5-Tetrachlorobenzene			UJ	20	190
S7_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	21	190
S7_20190917	SW8270D	1,2-Dichlorobenzene			UJ	34	190
S7_20190917	SW8270D	1,3-Dichlorobenzene			UJ	32	190
S7_20190917	SW8270D	1,4-Dichlorobenzene			UJ	33	190
S7_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	8.6	28
S7_20190917	SW8270D	2,4,5-Trichlorophenol			UJ	36	190
S7_20190917	SW8270D	2,4,6-Trichlorophenol			UJ	36	110
S7_20190917	SW8270D	2,4-Dichlorophenol			UJ	30	170
S7_20190917	SW8270D	2,4-Dimethylphenol			UJ	62	190
S7_20190917	SW8270D	2,4-Dinitrophenol			UJ	87	900
S7_20190917	SW8270D	2,4-Dinitrotoluene			UJ	37	190
S7_20190917	SW8270D	2,6-Dinitrotoluene			UJ	32	190
S7_20190917	SW8270D	2-Chloronaphthalene			UJ	18	190
S7_20190917	SW8270D	2-Chlorophenol			UJ	22	190
S7_20190917	SW8270D	2-Methylnaphthalene			UJ	23	220
S7_20190917	SW8270D	2-Methylphenol (O-Cresol)			UJ	29	190
S7_20190917	SW8270D	2-Nitroaniline			UJ	36	190
S7_20190917	SW8270D	2-Nitrophenol			UJ	70	400
S7_20190917	SW8270D	3- And 4- Methylphenol (Total)			UJ	29	270
S7_20190917	SW8270D	3,3'-Dichlorobenzidine			UJ	50	190
S7_20190917	SW8270D	3-Nitroaniline			UJ	35	190
S7_20190917	SW8270D	4-Bromophenyl Phenyl Ether			UJ	28	190
S7_20190917	SW8270D	4-Chloro-3-Methylphenol			UJ	28	190
S7_20190917	SW8270D	4-Chloroaniline			UJ	34	190
S7_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	20	190
S7_20190917	SW8270D	4-Nitroaniline			UJ	78	190
S7_20190917	SW8270D	4-Nitrophenol			UJ	76	260
S7_20190917	SW8270D	Acenaphthene			UJ	19	150
S7_20190917	SW8270D	Acenaphthylene	95	ug/kg	J-	29	150
S7_20190917	SW8270D	Acetophenone	100	ug/kg	J-	23	190
S7_20190917	SW8270D	Anthracene	78	ug/kg	J-	36	110
S7_20190917	SW8270D	Benzo(A)Anthracene	380	ug/kg	J-	21	110
S7_20190917	SW8270D	Benzo(A)Pyrene	360	ug/kg	J-	46	150
S7_20190917	SW8270D	Benzo(B)Fluoranthene	580	ug/kg	J-	32	110
S7_20190917	SW8270D	Benzo(G,H,I)Perylene	330	ug/kg	J-	22	150
S7_20190917	SW8270D	Benzo(K)Fluoranthene	170	ug/kg	J-	30	110
S7_20190917	SW8270D	Benzoic Acid	280	ug/kg	J-	190	610
S7_20190917	SW8270D	Benzyl Alcohol			UJ	57	190
S7_20190917	SW8270D	Benzyl Butyl Phthalate			UJ	47	190
S7_20190917	SW8270D	Biphenyl (Diphenyl)			UJ	43	430
S7_20190917	SW8270D	Bis(2-Chloroethoxy) Methane			UJ	19	200
S7_20190917	SW8270D	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	25	170
S7_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	32	220
S7_20190917	SW8270D	Bis(2-Ethylhexyl) Phthalate	480	ug/kg	J-	65	190
S7_20190917	SW8270D	Carbazole	36	ug/kg	J-	18	190
S7_20190917	SW8270D	Chrysene	360	ug/kg	J-	19	110
S7_20190917	SW8270D	Dibenz(A,H)Anthracene	79	ug/kg	J-	22	110
S7_20190917	SW8270D	Dibenzofuran			UJ	18	190
S7_20190917	SW8270D	Diethyl Phthalate			UJ	17	190
S7_20190917	SW8270D	Dimethyl Phthalate			UJ	39	190
S7_20190917	SW8270D	Di-N-Butyl Phthalate			UJ	36	190
S7_20190917	SW8270D	Di-N-Octylphthalate			UJ	64	190
S7_20190917	SW8270D	Fluoranthene	570	ug/kg	J-	21	110
S7_20190917	SW8270D	Fluorene	18	ug/kg	J-	18	190
S7_20190917	SW8270D	Hexachlorobenzene			UJ	21	110
S7_20190917	SW8270D	Hexachlorobutadiene			UJ	27	190
S7_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	170	540
S7_20190917	SW8270D	Hexachloroethane			UJ	30	150
S7_20190917	SW8270D	Indeno(1,2,3-C,D)Pyrene	350	ug/kg	J-	26	150
S7_20190917	SW8270D	Isophorone			UJ	24	170
S7_20190917	SW8270D	Naphthalene			UJ	23	190
S7_20190917	SW8270D	Nitrobenzene			UJ	28	170
S7_20190917	SW8270D	N-Nitrosodi-N-Propylamine			UJ	29	190
S7_20190917	SW8270D	N-Nitrosodiphenylamine			UJ	21	150
S7_20190917	SW8270D	Pentachlorophenol			UJ	41	150
S7_20190917	SW8270D	Phenanthrene	190	ug/kg	J-	23	110
S7_20190917	SW8270D	Phenol			UJ	28	190

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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S7_20190917	SW8270D	Pyrene	520	ug/kg	J-	19	110
S7_20190917	SW9012B	Cyanide			UJ	0.24	1.1
S8_20190917	6010D	Aluminum	7130	mg/kg	J-	2.12	7.87
S8_20190917	E537(M)	Perfluorobutanoic Acid	0.953	ug/kg	U	0.022	0.953
S8_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.058	0.953
S8_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	0.953	ug/kg	U	0.050	0.953
S8_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			R	0.093	0.953
S8_20190917	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.274	0.953
S8_20190917	E537(M)	Perfluorooctanesulfonic acid (PFOS)	0.763	ug/kg	J+	0.124	0.953
S8_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.635	1.67
S8_20190917	SW8081B	cis-Chlordane	2.10	ug/kg	J	0.583	2.09
S8_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.328	1.67
S8_20190917	SW8081B	Endosulfan Sulfate			UJ	0.332	0.698
S8_20190917	SW8081B	Endrin Aldehyde			UJ	0.733	2.09
S8_20190917	SW8081B	Endrin Ketone			UJ	0.431	1.67
S8_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.312	0.698
S8_20190917	SW8081B	Methoxychlor			UJ	0.977	3.14
S8_20190917	SW8081B	P,P'-DDD	5.00	ug/kg	J	0.597	1.67
S8_20190917	SW8081B	trans-Chlordane	1.58	ug/kg	J	0.553	2.09
S8_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.06	34.5
S8_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	3.45	34.5
S8_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	7.31	34.5
S8_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	4.65	34.5
S8_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	5.17	34.5
S8_20190917	SW8082A	PCB-1254 (Aroclor 1254)			UJ	3.77	34.5
S8_20190917	SW8082A	PCB-1260 (Aroclor 1260)			UJ	6.37	34.5
S8_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	4.38	34.5
S8_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	3.57	34.5
S8_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)			UJ	3.06	34.5
S8_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.23	0.68
S8_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.17	2.7
S8_20190917	SW8260C	Bromomethane			UJ	0.79	2.7
S8_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.2	14
S8_20190917	SW8260C	Naphthalene			UJ	0.89	5.5
S8_20190917	SW8260C	Styrene			UJ	0.27	1.4
S8_20190917	SW8260C	Trichlorofluoromethane			UJ	0.95	5.5
S8_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	20	170
S8_20190917	SW8270D	1,2-Dichlorobenzene			UJ	31	170
S8_20190917	SW8270D	1,3-Dichlorobenzene			UJ	30	170
S8_20190917	SW8270D	1,4-Dichlorobenzene			UJ	30	170
S8_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	8.0	26
S8_20190917	SW8270D	2,4-Dimethylphenol			UJ	58	170
S8_20190917	SW8270D	2,4-Dinitrophenol			UJ	81	840
S8_20190917	SW8270D	2-Chloronaphthalene			UJ	17	170
S8_20190917	SW8270D	4-Chloroaniline			UJ	32	170
S8_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	19	170
S8_20190917	SW8270D	Benzo(A)Pyrene	260	ug/kg	J-	42	140
S8_20190917	SW8270D	Benzoic Acid			UJ	180	560
S8_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	30	210
S8_20190917	SW8270D	Chrysene	260	ug/kg	J-	18	100
S8_20190917	SW8270D	Hexachlorobutadiene			UJ	26	170
S8_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	160	500
S8_20190917	SW8270D	Hexachloroethane			UJ	28	140
S8_20190917	SW8270D	Naphthalene	30	ug/kg	J-	21	170
S8_20190917	SW8270D	Pentachlorophenol			UJ	38	140
S8_20190917	SW9012B	Cyanide			UJ	0.22	1.0
S9_20190917	6010D	Aluminum	6820	mg/kg	J-	2.80	10.4
S9_20190917	6010D	Selenium	2.08	mg/kg	U	0.268	2.08
S9_20190917	E537(M)	Perfluorobutanoic Acid	1.29	ug/kg	U	0.029	1.29
S9_20190917	E537(M)	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.078	1.29
S9_20190917	E537(M)	Perfluorohexanoic acid (PFHxA)	1.29	ug/kg	U	0.068	1.29
S9_20190917	E537(M)	Perfluorooctane Sulfonamide (FOSA)			UJ	0.126	1.29
S9_20190917	E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	0.369	1.29
S9_20190917	E537(M)	Perfluorooctanesulfonic acid (PFOS)	2.58	ug/kg	J+	0.167	1.29
S9_20190917	E537(M)	Perfluorotridecanoic Acid (PFTriA)	0.350	ug/kg	J+	0.263	1.29
S9_20190917	SW8081B	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.778	2.05
S9_20190917	SW8081B	cis-Chlordane	11.7	ug/kg	J	0.715	2.56
S9_20190917	SW8081B	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.402	2.05
S9_20190917	SW8081B	Endosulfan Sulfate			UJ	0.407	0.855
S9_20190917	SW8081B	Endrin Aldehyde			UJ	0.898	2.56
S9_20190917	SW8081B	Endrin Ketone			UJ	0.528	2.05
S9_20190917	SW8081B	Gamma Bhc (Lindane)			UJ	0.382	0.855
S9_20190917	SW8081B	Methoxychlor			UJ	1.20	3.85
S9_20190917	SW8081B	trans-Chlordane	8.70	ug/kg	J	0.677	2.56
S9_20190917	SW8082A	PCB-1016 (Aroclor 1016)			UJ	3.74	42.2
S9_20190917	SW8082A	PCB-1221 (Aroclor 1221)			UJ	4.22	42.2
S9_20190917	SW8082A	PCB-1232 (Aroclor 1232)			UJ	8.94	42.2
S9_20190917	SW8082A	PCB-1242 (Aroclor 1242)			UJ	5.68	42.2
S9_20190917	SW8082A	PCB-1248 (Aroclor 1248)			UJ	6.32	42.2
S9_20190917	SW8082A	PCB-1254 (Aroclor 1254)	10.9	ug/kg	J-	4.61	42.2
S9_20190917	SW8082A	PCB-1260 (Aroclor 1260)			UJ	7.79	42.2
S9_20190917	SW8082A	PCB-1262 (Aroclor 1262)			UJ	5.35	42.2
S9_20190917	SW8082A	PCB-1268 (Aroclor 1268)			UJ	4.37	42.2
S9_20190917	SW8082A	Polychlorinated Biphenyl (PCBs)	10.9	ug/kg	J-	3.74	42.2
S9_20190917	SW8260C	1,1,2,2-Tetrachloroethane			UJ	0.23	0.70
S9_20190917	SW8260C	1,2,3-Trichloropropane			UJ	0.18	2.8
S9_20190917	SW8260C	Bromomethane			UJ	0.82	2.8

Validation Summary Table
Project G6-2420
Soils

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
S9_20190917	SW8260C	Dichlorodifluoromethane			UJ	1.3	14
S9_20190917	SW8260C	Naphthalene			UJ	0.91	5.6
S9_20190917	SW8260C	Styrene			UJ	0.28	1.4
S9_20190917	SW8260C	Trichlorofluoromethane			UJ	0.98	5.6
S9_20190917	SW8270D	1,2,4-Trichlorobenzene			UJ	25	220
S9_20190917	SW8270D	1,2-Dichlorobenzene			UJ	39	220
S9_20190917	SW8270D	1,3-Dichlorobenzene			UJ	38	220
S9_20190917	SW8270D	1,4-Dichlorobenzene			UJ	38	220
S9_20190917	SW8270D	1,4-Dioxane (P-Dioxane)			UJ	10	33
S9_20190917	SW8270D	2,4-Dimethylphenol			UJ	72	220
S9_20190917	SW8270D	2,4-Dinitrophenol			UJ	100	1000
S9_20190917	SW8270D	2-Chloronaphthalene			UJ	22	220
S9_20190917	SW8270D	3,3'-Dichlorobenzidine			UJ	58	220
S9_20190917	SW8270D	4-Chloroaniline			UJ	40	220
S9_20190917	SW8270D	4-Chlorophenyl Phenyl Ether			UJ	23	220
S9_20190917	SW8270D	Benzo(A)Anthracene	1200	ug/kg	J-	24	130
S9_20190917	SW8270D	Benzo(A)Pyrene	1100	ug/kg	J-	53	170
S9_20190917	SW8270D	Benzo(B)Fluoranthene	1600	ug/kg	J-	37	130
S9_20190917	SW8270D	Benzo(G,H,I)Perylene	860	ug/kg	J-	26	170
S9_20190917	SW8270D	Benzo(K)Fluoranthene	480	ug/kg	J-	35	130
S9_20190917	SW8270D	Benzoic Acid			UJ	220	710
S9_20190917	SW8270D	Benzyl Butyl Phthalate	70	ug/kg	J-	55	220
S9_20190917	SW8270D	Bis(2-Chloroisopropyl) Ether			UJ	37	260
S9_20190917	SW8270D	Bis(2-Ethylhexyl) Phthalate	990	ug/kg	J-	76	220
S9_20190917	SW8270D	Chrysene	1100	ug/kg	J-	23	130
S9_20190917	SW8270D	Dibenz(A,H)Anthracene	200	ug/kg	J-	25	130
S9_20190917	SW8270D	Di-N-Octylphthalate			UJ	74	220
S9_20190917	SW8270D	Hexachlorobutadiene			UJ	32	220
S9_20190917	SW8270D	Hexachlorocyclopentadiene			UJ	200	620
S9_20190917	SW8270D	Hexachloroethane			UJ	35	170
S9_20190917	SW8270D	Indeno(1,2,3-C,D)Pyrene	980	ug/kg	J-	30	170
S9_20190917	SW8270D	Naphthalene			UJ	26	220
S9_20190917	SW8270D	Pentachlorophenol			UJ	48	170
S9_20190917	SW8270D	Pyrene	1900	ug/kg	J-	22	130
S9_20190917	SW9012B	Cyanide			UJ	0.27	1.3
TRIP BLANK_20190918	SW8260C	1,1,1,2-Tetrachloroethane			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	1,1-Dichloroethane			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	1,2,3-Trichlorobenzene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	1,2,4-Trichlorobenzene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	1,2,4-Trimethylbenzene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	1,2-Dichlorobenzene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	1,2-Dichloroethane			UJ	0.13	0.50
TRIP BLANK_20190918	SW8260C	1,2-Dichloropropane			UJ	0.14	1.0
TRIP BLANK_20190918	SW8260C	1,3-Dichlorobenzene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	1,4-Dichlorobenzene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Acrylonitrile			UJ	1.5	5.0
TRIP BLANK_20190918	SW8260C	Benzene			UJ	0.16	0.50
TRIP BLANK_20190918	SW8260C	Bromobenzene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Bromochloromethane			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Bromomethane			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Carbon Disulfide			UJ	1.0	5.0
TRIP BLANK_20190918	SW8260C	Chlorobenzene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Chloromethane			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Cis-1,2-Dichloroethylene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Dichlorodifluoromethane			UJ	1.0	5.0
TRIP BLANK_20190918	SW8260C	Diethyl Ether (Ethyl Ether)			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Hexachlorobutadiene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Methylene Chloride			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	O-Xylene (1,2-Dimethylbenzene)			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Styrene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Toluene			UJ	0.70	2.5
TRIP BLANK_20190918	SW8260C	Vinyl Acetate			UJ	1.0	5.0

EPA Qualifier Definitions

U	**The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.**
J	**The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.**
J+	**The result is an estimated quantity, but the result may be biased high.**
J-	**The result is an estimated quantity, but the result may be biased low.**
NJ	**The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.**
UJ	**The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.**
R	**The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.**

ATTACHMENT B

CHAIN OF CUSTODY RECORD
Laboratory Job No. L1942859

ALPHA

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 9/18/19

ALPHA Job #: L1942859

Project Information
Project Name: G6-2420
Project Location: NY
Project #: G6-2420
(Use Project name as Project #) ☒
Project Manager: C. Hirschmann
ALPHAQuote #:

Client Information
Client: Hillmann Consulting
Address: 1600 Rt. 22 E
Union NJ 07083
Phone: (908) 688-7800
Fax:
Email:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☒ # of Days: 5 Day

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Billing Information
☒ Same as Client Info
PO # G6-2420

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☒ NY Restricted Use ☐ Other
☒ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:
Project combined into one report with samples to be submitted 9/18/19

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL/TCL+30	1,4 Dioxane	NY PFAA via EPA 537(M) Isotope Dilution						Sample Specific Comments	Total Bottle
42859-01	S1	9-17-19	0850	S	CH+RP	X	X	X							
02	S2	↓	0925	↓	↓	X	X	X							
03	S3	↓	0950	↓	↓	X	X	X							
04	S4	↓	1015	↓	↓	X	X	X							
05	S5	↓	1035	↓	↓	X	X	X							
06	S6	↓	1215	↓	↓	X	X	X							
07	S7	↓	1130	↓	↓	X	X	X							
08	S8	↓	1335	↓	↓	X	X	X							
09	S9	↓	1350	↓	↓	X	X	X							
10	S10	↓	1405	↓	↓	X	X	X							

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
R. K. [illegible]	9/18/19 10:45	[illegible]	09/18/19 09:45
[illegible]	09/18/19 14:10	Paul Mazzella	9/18/19 1640
Paul Mazzella	9/18/19 2056	[illegible] #42	9/18/19 2056

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 9/19/19

ALPHA Job #: L1942659

Client Information
Client: Hillmann Consulting
Address: 1600 Rt. 22 E
Union, NJ 07083
Phone: (908)688-7800
Fax:
Email:

Project Information
Project Name: G6-2420
Project Location: NY
Project #: G6-2420
(Use Project name as Project #) ☒
Project Manager: C. Hirschmann
ALPHAQuote #:

Turn-Around Time
Standard ☐
Rush (only if pre approved) ☒
Due Date:
# of Days: 5 Day

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☒ Same as Client Info
PO # G6-2420

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☒ NY Restricted Use ☐ Other
☒ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL/TCL+30	1,4 Dioxane	NY PFAAs via EPA 537(M) Isotope Dilution	SFLP PFAAs via EPA 537(M) Isotope Dilution	TCL 8260				Sample Specific Comments
42659 12	S11	9-18-19	0815	S	RP+BP	X	X	X	X					
13	S12		1130			X	X	X	X					
14	S13		1145			X	X	X	X					
15	S14		1220			X	X	X	X					
16	S15		1240			X	X	X	X					
17	S16		1340	↓		X	X	X	X					
18	Field Blank		1200	FB	↓	X								
19	Trip Blank	↓	1340	TB	-					X				
20	Field Blank 2	↓	1350	FB	RP	X								

Total Bottle

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	
Preservative	

Relinquished By:	Date/Time	Received By:	Date/Time
	9/18/19 1353		9/18/19 1355
	9/18/19 1714		9/18/19 1714
	9/19/19 0020		9/19/19 0020

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ATTACHMENT C

SELECTED PAGES FROM DATA PACKAGE -
QC EXCEEDANCES AND VALIDATION ISSUES
Laboratory Job No. L1942859

Surrogate Recovery Summary
Form 2
Volatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	SMC1 DCA	SMC2 TOL	SMC3 BFB	SMC4 DBFM	TOT OUT
S1 (L1942859-01)	99	94	96	104	0
S1 (L1942859-01)	103	98	96	105	0
S2 (L1942859-02)	102	93	98	103	0
S2 (L1942859-02)	105	100	95	108	0
S3 (L1942859-03)	102	94	95	105	0
S4 (L1942859-04)	102	94	95	104	0
S5 (L1942859-05)	100	93	95	104	0
S6 (L1942859-06)	100	94	96	104	0
S6 (L1942859-06)	101	99	98	105	0
S7 (L1942859-07)	152*	89	95	113	1
S7 (L1942859-07)	105	96	96	106	0
S8 (L1942859-08)	102	94	99	105	0
S9 (L1942859-09)	102	94	97	104	0
S10 (L1942859-10)	101	94	96	104	0
S11 (L1942859-12)	104	94	97	105	0
S12 (L1942859-13)	113	92	96	110	0
S12 (L1942859-13)	107	96	97	107	0
S13 (L1942859-14)	106	94	97	105	0
S14 (L1942859-15)	104	95	102	107	0
S15 (L1942859-16)	103	93	98	104	0
S16 (L1942859-17)	101	95	97	104	0
WG1288256-3LCS	100	95	97	105	0
WG1288256-4LCSD	101	94	97	105	0
WG1288256-5BLANK	102	93	94	103	0
WG1288462-3LCS	98	99	95	103	0
WG1288462-4LCSD	97	98	95	104	0
WG1288462-5BLANK	104	95	98	105	0

QC LIMITS

(70-130) DCA = 1,2-DICHLOROETHANE-D4
(70-130) TOL = TOLUENE-D8
(70-130) BFB = 4-BROMOFLUOROBENZENE
(70-130) DBFM = DIBROMOFLUOROMETHANE

*** Values outside of QC limits**

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1288104-3	**Analysis Date** : 09/24/19 07:58	**File ID** : VG190924A03
LCSD Sample ID	: WG1288104-4	**Analysis Date** : 09/24/19 08:24	**File ID** : VG190924A04

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	8.8	88	10	9.1	91	3	70-130	20
1,1-Dichloroethane	10	9.6	96	10	9.5	95	1	70-130	20
Chloroform	10	9.4	94	10	9.3	93	1	70-130	20
Carbon tetrachloride	10	10	100	10	10	100	0	63-132	20
1,2-Dichloropropane	10	9.0	90	10	9.0	90	0	70-130	20
Dibromochloromethane	10	8.9	89	10	8.7	87	2	63-130	20
1,1,2-Trichloroethane	10	8.9	89	10	8.6	86	3	70-130	20
Tetrachloroethene	10	9.1	91	10	8.9	89	2	70-130	20
Chlorobenzene	10	9.2	92	10	9.1	91	1	75-130	20
Trichlorofluoromethane	10	10	100	10	10	100	0	62-150	20
1,2-Dichloroethane	10	11	110	10	11	110	0	70-130	20
1,1,1-Trichloroethane	10	10	100	10	10	100	0	67-130	20
Bromodichloromethane	10	9.7	97	10	9.6	96	1	67-130	20
trans-1,3-Dichloropropene	10	9.3	93	10	9.1	91	2	70-130	20
cis-1,3-Dichloropropene	10	9.4	94	10	9.4	94	0	70-130	20
1,1-Dichloropropene	10	10	100	10	10	100	0	70-130	20
Bromoform	10	8.5	85	10	8.3	83	2	54-136	20
1,1,2,2-Tetrachloroethane	10	9.5	95	10	8.9	89	7	67-130	20
Benzene	10	9.2	92	10	9.1	91	1	70-130	20
Toluene	10	9.2	92	10	9.2	92	0	70-130	20
Ethylbenzene	10	9.3	93	10	9.1	91	2	70-130	20
Chloromethane	10	8.1	81	10	8.0	80	1	64-130	20
Bromomethane	10	4.8	48	10	4.6	46	4	39-139	20
Vinyl chloride	10	9.3	93	10	9.1	91	2	55-140	20
Chloroethane	10	9.7	97	10	9.5	95	2	55-138	20
1,1-Dichloroethene	10	9.2	92	10	9.0	90	2	61-145	20

Internal Standard Area and RT Summary
Form 8a
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: VOA104	**Analysis Date**	: 09/24/19 15:30
Sample No	: WG1288256-2	**Lab File ID**	: V04190924A01

	Fluorobenzene (IS)		Chlorobenzene-d5		1,4-Dichlorobenzene-D4	
	Area	RT	Area	RT	Area	RT
WG1288256-2	171816	5.70	144949	9.19	79240	11.96
Upper Limit	343632	6.20	289898	9.69	158480	12.46
Lower Limit	85908	5.20	72475	8.69	39620	11.46
Sample ID						
WG1288256-3 LCS	171816	5.70	144949	9.19	79240	11.96
WG1288256-4 LCSD	165989	5.70	141092	9.19	76885	11.96
WG1288256-5 BLANK	161395	5.70	137778	9.19	74827	11.96
S1	163520	5.70	139127	9.19	75309	11.96
S2	163448	5.70	139565	9.19	75709	11.96
S3	162898	5.70	138977	9.19	76224	11.96
S4	161516	5.70	138822	9.19	76217	11.96
S5	162679	5.70	137566	9.19	75264	11.96
S6	165646	5.70	140118	9.19	76414	11.96
S7	27523*	5.70	24042*	9.19	13364*	11.97
S8	161091	5.70	135259	9.19	70791	11.96
S9	163783	5.70	139215	9.19	74012	11.96
S10	164889	5.70	139058	9.19	75609	11.96
S11	160462	5.70	137491	9.19	73076	11.96
S12	149546	5.70	129903	9.19	69600	11.96
S13	156445	5.70	133165	9.19	71186	11.96
S14	156171	5.70	130357	9.19	64245	11.96
S15	159467	5.70	134301	9.19	69346	11.96
S16	157498	5.70	132010	9.19	69442	11.96

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area

RT Upper Limit = +0.50 minutes of internal standard RT
RT Lower Limit = -0.50 minutes of internal standard RT

* Values outside of QC limits

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA104\2019\190912\
Data File : V04190912A16.D
Acq On : 12 Sep 2019 7:39 am
Operator : VOA104:JC
Sample : C8260STDL20PPB
Misc : WG1283296,ICAL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 12 14:44:56 2019
Quant Method : I:\VOLATILES\VOA104\2019\190912\V104_190912A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Sep 12 14:43:20 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.05min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene		1.000	1.000	0.0	99	0.00
2	TP	Dichlorodifluoromethane		0.352	0.456	-29.5#	120	0.00
3	TP	Chloromethane		0.588	0.638	-8.5	115	0.00
4	TC	Vinyl chloride		0.440	0.515	-17.0	116	0.00
5	TP	Bromomethane	*	20.000	24.238	-21.2#	118	0.00
6	TP	Chloroethane		0.209	0.243	-16.3	110	0.00
7	TP	Trichlorofluoromethane		0.453	0.561	-23.8#	119	0.00
8	TP	Ethyl ether		0.142	0.170	-19.7	123	0.00
10	TC	1,1-Dichloroethene		0.287	0.311	-8.4	106	0.00
11	TP	Carbon disulfide		1.017	1.014	0.3	100	0.00
12	TP	Freon-113		0.282	0.316	-12.1	106	0.00
13	TP	Iodomethane		0.277	0.196	29.2#	77	0.00
14	TP	Acrolein		0.048	0.036#	25.0#	69	0.00
15	TP	Methylene chloride	*	20.000	21.929	-9.6	107	0.00
17	TP	Acetone		0.061	0.058#	4.9	98	0.00
18	TP	trans-1,2-Dichloroethene		0.317	0.344	-8.5	107	0.00
19	TP	Methyl acetate		0.164	0.172	-4.9	103	0.00
20	TP	Methyl tert-butyl ether		0.726	0.849	-16.9	118	0.00
21	TP	tert-Butyl alcohol		0.034	0.040#	-17.6	117	0.00
22	TP	Diisopropyl ether		1.413	1.663	-17.7	118	0.00
23	TP	1,1-Dichloroethane		0.747	0.809	-8.3	109	0.00
24	TP	Halothane		0.242	0.260	-7.4	106	0.00
25	TP	Acrylonitrile		0.082	0.082	0.0	95	0.00
26	TP	Ethyl tert-butyl ether		1.239	1.514	-22.2#	123	0.00
27	TP	Vinyl acetate		0.787	0.818	-3.9	99	0.00
28	TP	cis-1,2-Dichloroethene		0.343	0.370	-7.9	108	0.00
29	TP	2,2-Dichloropropane		0.468	0.496	-6.0	104	0.00
30	TP	Bromochloromethane		0.150	0.164	-9.3	110	0.00
31	TP	Cyclohexane		0.758	0.848	-11.9	104	0.00
32	TC	Chloroform		0.582	0.603	-3.6	108	0.00
33	TP	Ethyl acetate	*	20.000	21.563	-7.8	99	0.00
34	TP	Carbon tetrachloride		0.418	0.476	-13.9	109	0.00
35	TP	Tetrahydrofuran		0.088	0.107	-21.6#	117	0.00
36	S	Dibromofluoromethane		0.246	0.243	1.2	98	0.00
37	TP	1,1,1-Trichloroethane		0.480	0.556	-15.8	113	0.00
39	TP	2-Butanone		0.117	0.113	3.4	97	0.00
40	TP	1,1-Dichloropropene		0.422	0.489	-15.9	112	0.00
41	TP	Benzene		1.266	1.373	-8.5	109	0.00
42	TP	tert-Amyl methyl ether		0.781	0.946	-21.1#	120	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA104\2019\190912\
Data File : V04190912A16.D
Acq On : 12 Sep 2019 7:39 am
Operator : VOA104:JC
Sample : C8260STDL20PPB
Misc : WG1283296,ICAL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 12 14:44:56 2019
Quant Method : I:\VOLATILES\VOA104\2019\190912\V104_190912A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Sep 12 14:43:20 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.05min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
43	S	1,2-Dichloroethane-d4	0.241	0.234	2.9	97	0.00
44	TP	1,2-Dichloroethane	0.432	0.458	-6.0	108	0.00
47	TP	Methyl cyclohexane	0.498	0.560	-12.4	103	0.00
48	TP	Trichloroethene	0.324	0.373	-15.1	112	0.00
50	TP	Dibromomethane	0.162	0.180	-11.1	109	0.00
51	TC	1,2-Dichloropropane	0.424	0.460	-8.5	109	0.00
53	TP	2-Chloroethyl vinyl ether	0.182	0.184	-1.1	92	0.00
54	TP	Bromodichloromethane	0.411	0.439	-6.8	106	0.00
57	TP	1,4-Dioxane	*1000.000	1044.004	-4.4	97	0.00
58	TP	cis-1,3-Dichloropropene	0.479	0.530	-10.6	108	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	99	0.00
60	S	Toluene-d8	1.277	1.284	-0.5	99	0.00
61	TC	Toluene	1.033	1.149	-11.2	109	0.00
62	TP	4-Methyl-2-pentanone	0.148	0.164	-10.8	99	0.00
63	TP	Tetrachloroethene	0.426	0.503	-18.1	111	0.00
65	TP	trans-1,3-Dichloropropene	0.518	0.595	-14.9	110	0.00
67	TP	Ethyl methacrylate	0.381	0.505	-32.5#	123	0.00
68	TP	1,1,2-Trichloroethane	0.265	0.297	-12.1	109	0.00
69	TP	Chlorodibromomethane	0.393	0.423	-7.6	105	0.00
70	TP	1,3-Dichloropropane	0.522	0.576	-10.3	108	0.00
71	TP	1,2-Dibromoethane	0.304	0.345	-13.5	109	0.00
72	TP	2-Hexanone	0.232	0.258	-11.2	103	0.00
73	TP	Chlorobenzene	1.154	1.260	-9.2	108	0.00
74	TC	Ethylbenzene	1.978	2.277	-15.1	112	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.400	0.463	-15.8	112	0.00
76	TP	p/m Xylene	0.740	0.855	-15.5	110	0.00
77	TP	o Xylene	0.725	0.858	-18.3	115	0.00
78	TP	Styrene	1.154	1.418	-22.9#	117	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00
80	TP	Bromoform	0.441	0.485	-10.0	110	0.00
82	TP	Isopropylbenzene	3.747	4.154	-10.9	110	0.00
83	S	4-Bromofluorobenzene	0.932	0.903	3.1	99	0.00
84	TP	Bromobenzene	0.935	0.998	-6.7	110	0.00
85	TP	n-Propylbenzene	4.444	4.967	-11.8	110	0.00
86	TP	1,4-Dichlorobutane	1.432	1.764	-23.2#	123	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.750	0.804	-7.2	107	0.00
88	TP	4-Ethyltoluene	3.648	4.388	-20.3#	120	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2019\190913\
Data File : VG190913A19.D
Acq On : 13 Sep 2019 8:42 am
Operator : GONZO:PD
Sample : C8260STD10PPB
Misc : WG1283852,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 13 12:16:46 2019
Quant Method : I:\VOLATILES\Gonzo\2019\190913\G_190913_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Sep 13 12:14:34 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	95	0.00
2	TP	Dichlorodifluoromethane	0.211	0.247	-17.1	109	0.00
3	TP	Chloromethane	0.246	0.312	-26.8	121	0.00
4	TC	Vinyl chloride	0.205	0.240	-17.1	108	0.00
5	TP	Bromomethane	0.101	0.170	-68.3#	199	0.00
6	TP	Chloroethane	0.122	0.140	-14.8	110	0.00
7	TP	Trichlorofluoromethane	0.334	0.330	1.2	94	0.00
8	TP	Ethyl ether	0.085	0.114	-34.1#	125	0.00
10	TC	1,1-Dichloroethene	0.184	0.190	-3.3	101	0.00
11	TP	Carbon disulfide	0.530	0.658	-24.2	120	0.00
12	TP	Freon-113	0.193	0.194	-0.5	93	0.00
13	TP	Iodomethane	0.278	0.335	-20.5	111	0.00
14	TP	Acrolein	0.019	0.021	-10.5	116	0.00
15	TP	Methylene chloride	0.196	0.251	-28.1	128	0.00
17	TP	Acetone	* 10.000	10.525	-5.3	103	0.00
18	TP	trans-1,2-Dichloroethene	0.202	0.236	-16.8	115	0.00
19	TP	Methyl acetate	0.090	0.103	-14.4	105	0.00
20	TP	Methyl tert-butyl ether	0.427	0.539	-26.2	123	0.00
21	TP	tert-Butyl alcohol	0.010	0.011	-10.0	96	0.00
22	TP	Diisopropyl ether	0.652	0.840	-28.8	123	0.00
23	TP	1,1-Dichloroethane	0.364	0.442	-21.4	117	0.00
24	TP	Halothane	0.168	0.189	-12.5	107	0.00
25	TP	Acrylonitrile	0.038	0.055	-44.7#	142	0.00
26	TP	Ethyl tert-butyl ether	0.549	0.707	-28.8	124	0.00
27	TP	Vinyl acetate	0.429	0.525	-22.4	117	0.00
28	TP	cis-1,2-Dichloroethene	0.221	0.281	-27.1	124	0.00
29	TP	2,2-Dichloropropane	0.298	0.279	6.4	92	0.00
30	TP	Bromochloromethane	0.103	0.130	-26.2	119	0.00
31	TP	Cyclohexane	0.341	0.335	1.8	92	0.00
32	TC	Chloroform	0.365	0.438	-20.0#	121	0.00
33	TP	Ethyl acetate	0.136	0.140	-2.9	101	0.00
34	TP	Carbon tetrachloride	0.302	0.303	-0.3	97	0.00
35	TP	Tetrahydrofuran	0.040	0.041	-2.5	99	0.00
36	S	Dibromofluoromethane	0.240	0.237	1.3	95	0.00
37	TP	1,1,1-Trichloroethane	0.342	0.362	-5.8	102	0.00
39	TP	2-Butanone	0.056	0.060	-7.1	104	0.00
40	TP	1,1-Dichloropropene	0.277	0.293	-5.8	100	0.00
41	TP	Benzene	0.838	1.030	-22.9	116	0.00
42	TP	tert-Amyl methyl ether	0.486	0.618	-27.2	120	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2019\190913\
Data File : VG190913A19.D
Acq On : 13 Sep 2019 8:42 am
Operator : GONZO:PD
Sample : C8260STD10PPB
Misc : WG1283852,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 13 12:16:46 2019
Quant Method : I:\VOLATILES\Gonzo\2019\190913\G_190913_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Sep 13 12:14:34 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
43	S	1,2-Dichloroethane-d4	0.224	0.228	-1.8	101	0.00
44	TP	1,2-Dichloroethane	0.231	0.278	-20.3	119	0.00
47	TP	Methyl cyclohexane	0.371	0.348	6.2	87	0.00
48	TP	Trichloroethene	0.225	0.256	-13.8	110	0.00
50	TP	Dibromomethane	0.109	0.130	-19.3	117	0.00
51	TC	1,2-Dichloropropane	0.201	0.254	-26.4#	124	0.00
53	TP	2-Chloroethyl vinyl ether	0.097	0.120	-23.7	113	0.00
54	TP	Bromodichloromethane	0.276	0.330	-19.6	118	0.00
57	TP	1,4-Dioxane	0.00118	0.00136	-15.3	105	0.00
58	TP	cis-1,3-Dichloropropene	0.324	0.383	-18.2	116	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	96	0.00
60	S	Toluene-d8	1.271	1.266	0.4	95	0.00
61	TC	Toluene	0.732	0.883	-20.6#	116	0.00
62	TP	4-Methyl-2-pentanone	0.060	0.071	-18.3	108	0.00
63	TP	Tetrachloroethene	0.411	0.445	-8.3	106	0.00
65	TP	trans-1,3-Dichloropropene	0.363	0.425	-17.1	114	0.00
67	TP	Ethyl methacrylate	0.256	0.315	-23.0	118	0.00
68	TP	1,1,2-Trichloroethane	0.171	0.203	-18.7	113	0.00
69	TP	Chlorodibromomethane	0.266	0.310	-16.5	117	0.00
70	TP	1,3-Dichloropropane	0.345	0.407	-18.0	115	0.00
71	TP	1,2-Dibromoethane	0.207	0.240	-15.9	114	0.00
72	TP	2-Hexanone	0.117	0.132	-12.8	108	0.00
73	TP	Chlorobenzene	0.800	1.008	-26.0	122	0.00
74	TC	Ethylbenzene	1.424	1.671	-17.3	113	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.298	0.374	-25.5	126	0.00
76	TP	p/m Xylene	0.553	0.663	-19.9	115	0.00
77	TP	o Xylene	0.519	0.648	-24.9	120	0.00
78	TP	Styrene	0.849	1.121	-32.0#	127	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	98	0.00
80	TP	Bromoform	0.339	0.369	-8.8	112	0.00
82	TP	Isopropylbenzene	2.490	2.748	-10.4	105	0.00
83	S	4-Bromofluorobenzene	0.798	0.787	1.4	96	0.00
84	TP	Bromobenzene	0.697	0.898	-28.8	128	0.00
85	TP	n-Propylbenzene	2.921	3.279	-12.3	106	0.00
86	TP	1,4-Dichlorobutane	0.528	0.681	-29.0	124	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.375	0.431	-14.9	107	0.00
88	TP	4-Ethyltoluene	2.337	2.895	-23.9	118	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2019\190913\
Data File : VG190913A19.D
Acq On : 13 Sep 2019 8:42 am
Operator : GONZO:PD
Sample : C8260STD10PPB
Misc : WG1283852,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 13 12:16:46 2019
Quant Method : I:\VOLATILES\Gonzo\2019\190913\G_190913_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Sep 13 12:14:34 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
89 TP	2-Chlorotoluene	1.637	1.997	-22.0	116	0.00
90 TP	1,3,5-Trimethylbenzene	2.052	2.353	-14.7	109	0.00
91 TP	1,2,3-Trichloropropane	0.308	0.339	-10.1	105	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.091	0.097	-6.6	105	0.00
93 TP	4-Chlorotoluene	1.724	2.079	-20.6	118	0.00
94 TP	tert-Butylbenzene	1.836	2.001	-9.0	105	0.00
97 TP	1,2,4-Trimethylbenzene	2.023	2.464	-21.8	118	0.00
98 TP	sec-Butylbenzene	2.459	2.757	-12.1	106	0.00
99 TP	p-Isopropyltoluene	2.316	2.565	-10.8	106	0.00
100 TP	1,3-Dichlorobenzene	1.267	1.579	-24.6	124	0.00
101 TP	1,4-Dichlorobenzene	1.274	1.606	-26.1	124	0.00
102 TP	p-Diethylbenzene	1.299	1.505	-15.9	110	0.00
103 TP	n-Butylbenzene	1.946	2.134	-9.7	102	0.00
104 TP	1,2-Dichlorobenzene	1.135	1.401	-23.4	123	0.00
105 TP	1,2,4,5-Tetramethylbenzene	1.891	2.426	-28.3	122	0.00
106 TP	1,2-Dibromo-3-chloropropane	0.063	0.068	-7.9	100	0.00
107 TP	1,3,5-Trichlorobenzene	0.972	1.282	-31.9#	127	0.00
108 TP	Hexachlorobutadiene	0.435	0.462	-6.2	105	0.00
109 TP	1,2,4-Trichlorobenzene	0.811	1.056	-30.2#	127	0.00
110 TP	Naphthalene	1.128	1.296	-14.9	112	0.00
111 TP	1,2,3-Trichlorobenzene	0.639	0.818	-28.0	125	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 3

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: GONZO	**Calibration Date**	: 09/24/19 07:58		
Lab File ID	: VG190924A03	**Init. Calib. Date(s)**	: 09/13/19	09/13/19	
Sample No	: WG1288104-2	**Init. Calib. Times**	: 02:21	06:10	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	91	0
Dichlorodifluoromethane	0.211	0.167	-	20.9*	20	71	0
Chloromethane	0.246	0.199	-	19.1	20	74	0
Vinyl chloride	0.205	0.19	-	7.3	20	81	0
Bromomethane	0.101	0.049	-	51.5*	20	55	0
Chloroethane	0.122	0.118	-	3.3	20	89	0
Trichlorofluoromethane	0.334	0.332	-	0.6	20	90	0
Ethyl ether	0.085	0.078	-	8.2	20	82	0
1,1-Dichloroethene	0.184	0.169	-	8.2	20	86	0
Carbon disulfide	0.53	0.477	-	10	20	83	0
Freon-113	0.193	0.19	-	1.6	20	88	0
Iodomethane	0.278	0.054	-	80.6*	20	17	0
Acrolein	0.019	0.016	-	15.8	20	82	0
Methylene chloride	0.196	0.172	-	12.2	20	84	0
Acetone	10	10.608	-	-6.1	20	99	0
trans-1,2-Dichloroethene	0.202	0.19	-	5.9	20	88	0
Methyl acetate	0.09	0.094	-	-4.4	20	92	0
Methyl tert-butyl ether	0.427	0.422	-	1.2	20	92	0
tert-Butyl alcohol	0.01	0.013	-	-30*	20	110	0
Diisopropyl ether	0.652	0.666	-	-2.1	20	94	0
1,1-Dichloroethane	0.364	0.35	-	3.8	20	89	0
Halothane	0.168	0.161	-	4.2	20	87	0
Acrylonitrile	0.038	0.038	-	0	20	96	0
Ethyl tert-butyl ether	0.549	0.563	-	-2.6	20	95	0
Vinyl acetate	0.429	0.451	-	-5.1	20	96	0
cis-1,2-Dichloroethene	0.221	0.203	-	8.1	20	86	0
2,2-Dichloropropane	0.298	0.315	-	-5.7	20	100	0
Bromochloromethane	0.103	0.095	-	7.8	20	83	0
Cyclohexane	0.341	0.35	-	-2.6	20	93	0
Chloroform	0.365	0.344	-	5.8	20	91	0
Ethyl acetate	0.136	0.199	-	-46.3*	20	137	0
Carbon tetrachloride	0.302	0.314	-	-4	20	96	0
Tetrahydrofuran	0.04	0.04	-	0	20	93	0
Dibromofluoromethane	0.24	0.232	-	3.3	20	89	0
1,1,1-Trichloroethane	0.342	0.347	-	-1.5	20	94	0
2-Butanone	0.056	0.064	-	-14.3	20	107	0
1,1-Dichloropropene	0.277	0.281	-	-1.4	20	93	0
Benzene	0.838	0.773	-	7.8	20	84	0
tert-Amyl methyl ether	0.486	0.467	-	3.9	20	87	0
1,2-Dichloroethane-d4	0.224	0.241	-	-7.6	20	102	0
1,2-Dichloroethane	0.231	0.247	-	-6.9	20	101	0
Methyl cyclohexane	0.371	0.358	-	3.5	20	86	0
Trichloroethene	0.225	0.212	-	5.8	20	87	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: GONZO	**Calibration Date**	: 09/24/19 07:58		
Lab File ID	: VG190924A03	**Init. Calib. Date(s)**	: 09/13/19	09/13/19	
Sample No	: WG1288104-2	**Init. Calib. Times**	: 02:21	06:10	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.109	0.105	-	3.7	20	91	0
1,2-Dichloropropane	0.201	0.182	-	9.5	20	84	0
2-Chloroethyl vinyl ether	0.097	0.09	-	7.2	20	81	0
Bromodichloromethane	0.276	0.267	-	3.3	20	92	0
1,4-Dioxane	0.00118	0.00115	-	2.5	20	84	0
cis-1,3-Dichloropropene	0.324	0.306	-	5.6	20	89	0
Chlorobenzene-d5	1	1	-	0	20	96	0
Toluene-d8	1.271	1.191	-	6.3	20	90	0
Toluene	0.732	0.677	-	7.5	20	90	0
4-Methyl-2-pentanone	0.06	0.059	-	1.7	20	90	0
Tetrachloroethene	0.411	0.374	-	9	20	90	0
trans-1,3-Dichloropropene	0.363	0.339	-	6.6	20	92	0
Ethyl methacrylate	0.256	0.224	-	12.5	20	84	0
1,1,2-Trichloroethane	0.171	0.153	-	10.5	20	86	0
Chlorodibromomethane	0.266	0.237	-	10.9	20	90	0
1,3-Dichloropropane	0.345	0.316	-	8.4	20	90	0
1,2-Dibromoethane	0.207	0.184	-	11.1	20	88	0
2-Hexanone	0.117	0.124	-	-6	20	102	0
Chlorobenzene	0.8	0.733	-	8.4	20	90	0
Ethylbenzene	1.424	1.319	-	7.4	20	90	0
1,1,1,2-Tetrachloroethane	0.298	0.269	-	9.7	20	91	0
p/m Xylene	0.553	0.526	-	4.9	20	92	0
o Xylene	0.519	0.487	-	6.2	20	91	0
Styrene	0.849	0.803	-	5.4	20	92	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	101	0
Bromoform	0.339	0.289	-	14.7	20	90	0
Isopropylbenzene	2.49	2.443	-	1.9	20	96	0
4-Bromofluorobenzene	0.798	0.759	-	4.9	20	95	0
Bromobenzene	0.697	0.646	-	7.3	20	95	0
n-Propylbenzene	2.921	2.793	-	4.4	20	93	0
1,4-Dichlorobutane	0.528	0.54	-	-2.3	20	101	0
1,1,2,2-Tetrachloroethane	0.375	0.355	-	5.3	20	91	0
4-Ethyltoluene	2.337	2.3	-	1.6	20	96	0
2-Chlorotoluene	1.637	1.541	-	5.9	20	92	0
1,3,5-Trimethylbenzene	2.052	1.99	-	3	20	95	0
1,2,3-Trichloropropane	0.308	0.309	-	-0.3	20	98	0
trans-1,4-Dichloro-2-buten	0.091	0.088	-	3.3	20	98	0
4-Chlorotoluene	1.724	1.629	-	5.5	20	95	0
tert-Butylbenzene	1.836	1.713	-	6.7	20	92	0
1,2,4-Trimethylbenzene	2.023	1.965	-	2.9	20	97	0
sec-Butylbenzene	2.459	2.442	-	0.7	20	96	0
p-Isopropyltoluene	2.316	2.18	-	5.9	20	93	0
1,3-Dichlorobenzene	1.267	1.206	-	4.8	20	98	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: GONZO	**Calibration Date**	: 09/24/19 07:58		
Lab File ID	: VG190924A03	**Init. Calib. Date(s)**	: 09/13/19	09/13/19	
Sample No	: WG1288104-2	**Init. Calib. Times**	: 02:21	06:10	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene	1.274	1.234	-	3.1	20	98	0
p-Diethylbenzene	1.299	1.241	-	4.5	20	94	0
n-Butylbenzene	1.946	1.923	-	1.2	20	95	0
1,2-Dichlorobenzene	1.135	1.076	-	5.2	20	97	0
1,2,4,5-Tetramethylbenzene	1.891	1.751	-	7.4	20	91	0
1,2-Dibromo-3-chloropropan	0.063	0.063	-	0	20	96	0
1,3,5-Trichlorobenzene	0.972	0.891	-	8.3	20	91	0
Hexachlorobutadiene	0.435	0.338	-	22.3*	20	79	0
1,2,4-Trichlorobenzene	0.811	0.757	-	6.7	20	94	0
Naphthalene	1.128	1.168	-	-3.5	20	104	0
1,2,3-Trichlorobenzene	0.639	0.616	-	3.6	20	97	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: VOA104	**Calibration Date**	: 09/24/19 15:30		
Lab File ID	: V04190924A01	**Init. Calib. Date(s)**	: 09/12/19	09/12/19	
Sample No	: WG1288256-2	**Init. Calib. Times**	: 02:24	05:55	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	87	0
Dichlorodifluoromethane	0.352	0.328	-	6.8	20	75	0
Chloromethane	0.588	0.54	-	8.2	20	84	0
Vinyl chloride	0.44	0.412	-	6.4	20	81	0
Bromomethane	20	18.379	-	8.1	20	81	0
Chloroethane	0.209	0.207	-	1	20	82	0
Trichlorofluoromethane	0.453	0.45	-	0.7	20	83	0
Ethyl ether	0.142	0.131	-	7.7	20	82	0
1,1-Dichloroethene	0.287	0.273	-	4.9	20	81	0
Carbon disulfide	1.017	0.935	-	8.1	20	80	0
Freon-113	0.282	0.269	-	4.6	20	79	0
Acrolein	0.048	0.048*	-	0	20	80	0
Methylene chloride	20	21.621	-	-8.1	20	92	0
Acetone	0.061	0.058*	-	4.9	20	85	0
trans-1,2-Dichloroethene	0.317	0.312	-	1.6	20	85	0
Methyl acetate	0.164	0.156	-	4.9	20	82	0
Methyl tert-butyl ether	0.726	0.697	-	4	20	84	0
tert-Butyl alcohol	0.034	0.03*	-	11.8	20	78	0
Diisopropyl ether	1.413	1.326	-	6.2	20	82	0
1,1-Dichloroethane	0.747	0.724	-	3.1	20	85	0
Halothane	0.242	0.233	-	3.7	20	83	0
Acrylonitrile	0.082	0.081	-	1.2	20	82	0
Ethyl tert-butyl ether	1.239	1.199	-	3.2	20	85	0
Vinyl acetate	0.787	0.765	-	2.8	20	81	0
cis-1,2-Dichloroethene	0.343	0.331	-	3.5	20	84	0
2,2-Dichloropropane	0.468	0.479	-	-2.4	20	87	0
Bromochloromethane	0.15	0.146	-	2.7	20	86	0
Cyclohexane	0.758	0.732	-	3.4	20	78	0
Chloroform	0.582	0.558	-	4.1	20	87	0
Ethyl acetate	20	14.406	-	28*	20	63	0
Carbon tetrachloride	0.418	0.424	-	-1.4	20	85	0
Tetrahydrofuran	0.088	0.089	-	-1.1	20	85	0
Dibromofluoromethane	0.246	0.258	-	-4.9	20	91	0
1,1,1-Trichloroethane	0.48	0.486	-	-1.3	20	86	0
2-Butanone	0.117	0.1*	-	14.5	20	75	0
1,1-Dichloropropene	0.422	0.41	-	2.8	20	82	0
Benzene	1.266	1.201	-	5.1	20	83	0
tert-Amyl methyl ether	0.781	0.738	-	5.5	20	81	0
1,2-Dichloroethane-d4	0.241	0.24	-	0.4	20	87	0
1,2-Dichloroethane	0.432	0.414	-	4.2	20	85	0
Methyl cyclohexane	0.498	0.475	-	4.6	20	76	0
Trichloroethene	0.324	0.316	-	2.5	20	83	0
Dibromomethane	0.162	0.159	-	1.9	20	84	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: VOA104	**Calibration Date**	: 09/24/19 15:30		
Lab File ID	: V04190924A01	**Init. Calib. Date(s)**	: 09/12/19	09/12/19	
Sample No	: WG1288256-2	**Init. Calib. Times**	: 02:24	05:55	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.424	0.401	-	5.4	20	83	0
2-Chloroethyl vinyl ether	0.182	0.192	-	-5.5	20	83	0
Bromodichloromethane	0.411	0.409	-	0.5	20	86	0
1,4-Dioxane	1000	1113.359	-	-11.3	20	90	0
cis-1,3-Dichloropropene	0.479	0.487	-	-1.7	20	86	0
Chlorobenzene-d5	1	1	-	0	20	97	0
Toluene-d8	1.277	1.21	-	5.2	20	91	0
Toluene	1.033	0.905	-	12.4	20	84	0
4-Methyl-2-pentanone	0.148	0.133	-	10.1	20	79	0
Tetrachloroethene	0.426	0.394	-	7.5	20	85	0
trans-1,3-Dichloropropene	0.518	0.473	-	8.7	20	86	0
Ethyl methacrylate	0.381	0.342	-	10.2	20	81	0
1,1,2-Trichloroethane	0.265	0.227	-	14.3	20	82	0
Chlorodibromomethane	0.393	0.352	-	10.4	20	86	0
1,3-Dichloropropane	0.522	0.446	-	14.6	20	82	0
1,2-Dibromoethane	0.304	0.27	-	11.2	20	84	0
2-Hexanone	0.232	0.212	-	8.6	20	83	0
Chlorobenzene	1.154	1.009	-	12.6	20	85	0
Ethylbenzene	1.978	1.77	-	10.5	20	86	0
1,1,1,2-Tetrachloroethane	0.4	0.364	-	9	20	86	0
p/m Xylene	0.74	0.668	-	9.7	20	84	0
o Xylene	0.725	0.643	-	11.3	20	85	0
Styrene	1.154	1.052	-	8.8	20	85	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	102	0
Bromoform	0.441	0.368	-	16.6	20	85	0
Isopropylbenzene	3.747	3.172	-	15.3	20	85	0
4-Bromofluorobenzene	0.932	0.9	-	3.4	20	100	0
Bromobenzene	0.935	0.777	-	16.9	20	86	0
n-Propylbenzene	4.444	3.758	-	15.4	20	84	0
1,4-Dichlorobutane	1.432	1.161	-	18.9	20	82	0
1,1,2,2-Tetrachloroethane	0.75	0.587	-	21.7*	20	79	0
4-Ethyltoluene	3.648	3.121	-	14.4	20	86	0
2-Chlorotoluene	2.681	2.224	-	17	20	85	0
1,3,5-Trimethylbenzene	3.185	2.701	-	15.2	20	86	0
1,2,3-Trichloropropane	0.56	0.439	-	21.6*	20	81	0
trans-1,4-Dichloro-2-buten	0.22	0.192	-	12.7	20	78	0
4-Chlorotoluene	2.812	2.331	-	17.1	20	88	0
tert-Butylbenzene	2.665	2.241	-	15.9	20	84	0
1,2,4-Trimethylbenzene	3.142	2.649	-	15.7	20	86	0
sec-Butylbenzene	4.046	3.427	-	15.3	20	83	0
p-Isopropyltoluene	3.393	2.92	-	13.9	20	85	0
1,3-Dichlorobenzene	1.803	1.529	-	15.2	20	88	0
1,4-Dichlorobenzene	1.81	1.513	-	16.4	20	87	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC		**Lab Number**	: L1942859	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: VOA104		**Calibration Date**	: 09/24/19 15:30	
Lab File ID	: V04190924A01		**Init. Calib. Date(s)**	: 09/12/19	09/12/19
Sample No	: WG1288256-2		**Init. Calib. Times**	: 02:24	05:55
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.995	1.737	-	12.9	20	87	0
n-Butylbenzene	3.125	2.689	-	14	20	85	0
1,2-Dichlorobenzene	1.644	1.375	-	16.4	20	87	0
1,2,4,5-Tetramethylbenzene	3.172	2.753	-	13.2	20	87	0
1,2-Dibromo-3-chloropropan	0.104	0.088	-	15.4	20	83	0
1,3,5-Trichlorobenzene	1.236	1.094	-	11.5	20	90	0
Hexachlorobutadiene	0.577	0.504	-	12.7	20	86	0
1,2,4-Trichlorobenzene	1.064	0.926	-	13	20	90	0
Naphthalene	2.102	1.663	-	20.9*	20	80	0
1,2,3-Trichlorobenzene	0.944	0.789	-	16.4	20	86	0

*** Value outside of QC limits.**

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
FIELD BLANK (L1942859-18)	49	40	63	64	44	67	0
WG1287347-1BLANK	42	34	51	54	40	57	0
WG1287347-2LCS	64	56	77	76	59	74	0
WG1287347-3LCSD	53	48	65	69	58	76	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

* Values outside of QC limits

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
S1 (L1942859-01)	83	89	89	75	81	80	0
S2 (L1942859-02)	73	82	80	72	69	77	0
S3 (L1942859-03)	63	63	60	64	69	59	0
S4 (L1942859-04)	89	97	100	82	83	79	0
S5 (L1942859-05)	86	87	87	73	78	80	0
S6 (L1942859-06)	84	90	88	79	86	86	0
S7 (L1942859-07)	67	72	76	63	71	66	0
S8 (L1942859-08)	83	89	91	77	79	79	0
S9 (L1942859-09)	73	80	85	71	75	67	0
S10 (L1942859-10)	83	91	92	80	90	80	0
S11 (L1942859-12)	86	91	93	76	82	78	0
S12 (L1942859-13)	72	78	83	69	68	70	0
S13 (L1942859-14)	70	77	82	68	71	69	0
S14 (L1942859-15)	67	73	79	65	65	63	0
S15 (L1942859-16)	81	86	90	65	80	53	0
S16 (L1942859-17)	68	75	80	67	72	63	0
WG1287102-1BLANK	84	88	86	74	76	82	0
WG1287102-2LCS	81	84	82	70	76	75	0
WG1287102-3LCSD	80	85	81	73	78	79	0
WG1288750-1BLANK	88	88	64	70	110	78	0
WG1288750-2LCS	85	87	64	69	110	76	0
WG1288750-3LCSD	84	85	63	68	102	73	0

QC LIMITS

(25-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(30-120) FBP = 2-FLUOROBIPHENYL
(10-136) TBP = 2,4,6-TRIBROMOPHENOL
(18-120) TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1287102-2	**Analysis Date** : 09/25/19 00:01	**File ID** : 287102-2
LCSD Sample ID	: WG1287102-3	**Analysis Date** : 09/25/19 00:24	**File ID** : 287102-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	1300	910	70	1300	900	70	0	31-137	50
1,2,4-Trichlorobenzene	1300	860	66	1300	850	66	0	38-107	50
Hexachlorobenzene	1300	920	71	1300	940	73	3	40-140	50
Bis(2-chloroethyl)ether	1300	950	74	1300	940	72	3	40-140	50
2-Chloronaphthalene	1300	880	68	1300	890	69	1	40-140	50
1,2-Dichlorobenzene	1300	910	70	1300	890	69	1	40-140	50
1,3-Dichlorobenzene	1300	860	66	1300	840	65	2	40-140	50
1,4-Dichlorobenzene	1300	860	66	1300	870	68	3	28-104	50
3,3'-Dichlorobenzidine	1300	920	71	1300	950	74	4	40-140	50
2,4-Dinitrotoluene	1300	1100	84	1300	1100	85	1	40-132	50
2,6-Dinitrotoluene	1300	1000	79	1300	1000	81	3	40-140	50
Fluoranthene	1300	940	73	1300	970	75	3	40-140	50
4-Chlorophenyl phenyl ether	1300	880	68	1300	900	69	1	40-140	50
4-Bromophenyl phenyl ether	1300	910	70	1300	960	74	6	40-140	50
Bis(2-chloroisopropyl)ether	1300	740	57	1300	730	56	2	40-140	50
Bis(2-chloroethoxy)methane	1300	970	75	1300	980	76	1	40-117	50
Hexachlorobutadiene	1300	810	62	1300	800	62	0	40-140	50
Hexachlorocyclopentadiene	1300	780	60	1300	770	60	0	40-140	50
Hexachloroethane	1300	850	66	1300	850	66	0	40-140	50
Isophorone	1300	1000	78	1300	1000	80	3	40-140	50
Naphthalene	1300	900	69	1300	890	68	1	40-140	50
Nitrobenzene	1300	970	75	1300	960	74	1	40-140	50
NDPA/DPA	1300	930	72	1300	960	74	3	36-157	50
n-Nitrosodi-n-propylamine	1300	1000	79	1300	1000	78	1	32-121	50
Bis(2-ethylhexyl)phthalate	1300	1100	84	1300	1100	89	6	40-140	50
Butyl benzyl phthalate	1300	1100	85	1300	1100	88	3	40-140	50

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1287102-2	**Analysis Date** : 09/25/19 00:01	**File ID** : 287102-2
LCSD Sample ID	: WG1287102-3	**Analysis Date** : 09/25/19 00:24	**File ID** : 287102-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Di-n-butylphthalate	1300	1100	87	1300	1200	91	4	40-140	50
Di-n-octylphthalate	1300	1200	92	1300	1300	97	5	40-140	50
Diethyl phthalate	1300	970	75	1300	1000	78	4	40-140	50
Dimethyl phthalate	1300	940	72	1300	970	75	4	40-140	50
Benzo(a)anthracene	1300	980	76	1300	1000	79	4	40-140	50
Benzo(a)pyrene	1300	870	67	1300	900	70	4	40-140	50
Benzo(b)fluoranthene	1300	910	70	1300	940	73	4	40-140	50
Benzo(k)fluoranthene	1300	930	72	1300	960	74	3	40-140	50
Chrysene	1300	890	69	1300	920	71	3	40-140	50
Acenaphthylene	1300	910	70	1300	930	72	3	40-140	50
Anthracene	1300	970	75	1300	990	76	1	40-140	50
Benzo(ghi)perylene	1300	990	76	1300	1000	78	3	40-140	50
Fluorene	1300	950	73	1300	960	74	1	40-140	50
Phenanthrene	1300	910	70	1300	940	73	4	40-140	50
Dibenzo(a,h)anthracene	1300	1000	80	1300	1000	82	2	40-140	50
Indeno(1,2,3-cd)pyrene	1300	1100	83	1300	1100	86	4	40-140	50
Pyrene	1300	900	70	1300	930	72	3	35-142	50
Biphenyl	1300	980	76	1300	990	76	0	37-127	50
4-Chloroaniline	1300	770	59	1300	770	60	2	40-140	50
2-Nitroaniline	1300	1100	84	1300	1100	85	1	47-134	50
3-Nitroaniline	1300	920	71	1300	910	70	1	26-129	50
4-Nitroaniline	1300	920	71	1300	940	73	3	41-125	50
Dibenzofuran	1300	940	72	1300	960	74	3	40-140	50
2-Methylnaphthalene	1300	910	70	1300	920	71	1	40-140	50
1,2,4,5-Tetrachlorobenzene	1300	920	71	1300	930	72	1	40-117	50
Acetophenone	1300	1000	80	1300	1000	81	1	14-144	50

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1287102-2	**Analysis Date** : 09/25/19 00:01	**File ID** : 287102-2
LCSD Sample ID	: WG1287102-3	**Analysis Date** : 09/25/19 00:24	**File ID** : 287102-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
2,4,6-Trichlorophenol	1300	1000	78	1300	1000	81	4	30-130	50
p-Chloro-m-cresol	1300	1000	81	1300	1100	84	4	26-103	50
2-Chlorophenol	1300	1000	78	1300	1000	77	1	25-102	50
2,4-Dichlorophenol	1300	990	76	1300	1000	78	3	30-130	50
2,4-Dimethylphenol	1300	870	67	1300	930	72	7	30-130	50
2-Nitrophenol	1300	1000	82	1300	1000	81	1	30-130	50
4-Nitrophenol	1300	1000	78	1300	1000	81	4	11-114	50
2,4-Dinitrophenol	1300	760	59	1300	1000	79	29	4-130	50
4,6-Dinitro-o-cresol	1300	1200	90	1300	1200	96	6	10-130	50
Pentachlorophenol	1300	880	68	1300	910	70	3	17-109	50
Phenol	1300	1000	79	1300	1000	78	1	26-90	50
2-Methylphenol	1300	1100	83	1300	1100	82	1	30-130.	50
3-Methylphenol/4-Methylphenol	1300	1000	81	1300	1100	82	1	30-130	50
2,4,5-Trichlorophenol	1300	1000	78	1300	1000	81	4	30-130	50
Benzoic Acid	1300	310	24	1300	730	56	80 Q	10-110	50
Benzyl Alcohol	1300	1000	80	1300	1100	82	2	40-140	50
Carbazole	1300	990	76	1300	990	77	1	54-128	50
1,4-Dioxane	1300	720	55	1300	740	57	4	40-140	50

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1287347-2	**Analysis Date** : 09/25/19 03:44	**File ID** : 287333-2
LCSD Sample ID	: WG1287347-3	**Analysis Date** : 09/25/19 04:08	**File ID** : 287333-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	18	13.	70	18	12.	64	9	37-111	30
1,2,4-Trichlorobenzene	18	13.	72	18	11.	62	15	39-98	30
Hexachlorobenzene	18	12.	67	18	12.	66	2	40-140	30
Bis(2-chloroethyl)ether	18	14.	75	18	11.	63	17	40-140	30
2-Chloronaphthalene	18	14.	79	18	12.	69	14	40-140	30
1,2-Dichlorobenzene	18	13.	70	18	10.	58	19	40-140	30
1,3-Dichlorobenzene	18	13.	72	18	10.	57	23	40-140	30
1,4-Dichlorobenzene	18	13.	72	18	10.	57	23	36-97	30
3,3'-Dichlorobenzidine	18	13.	70	18	13.	69	1	40-140	30
2,4-Dinitrotoluene	18	13.	71	18	12.	69	3	48-143	30
2,6-Dinitrotoluene	18	14.	77	18	14.	76	1	40-140	30
Fluoranthene	18	14.	79	18	14.	80	1	40-140	30
4-Chlorophenyl phenyl ether	18	13.	73	18	13.	70	4	40-140	30
4-Bromophenyl phenyl ether	18	13.	71	18	13.	70	1	40-140	30
Bis(2-chloroisopropyl)ether	18	14.	77	18	12.	66	15	40-140	30
Bis(2-chloroethoxy)methane	18	14.	78	18	13.	72	8	40-140	30
Hexachlorobutadiene	18	14.	75	18	11.	62	19	40-140	30
Hexachlorocyclopentadiene	18	12.	68	18	11.	63	8	40-140	30
Hexachloroethane	18	13.	73	18	10.	58	23	40-140	30
Isophorone	18	15.	82	18	14.	74	10	40-140	30
Naphthalene	18	14.	76	18	12.	64	17	40-140	30
Nitrobenzene	18	14.	76	18	12.	65	16	40-140	30
NDPA/DPA	18	13.	72	18	13.	73	1	40-140	30
n-Nitrosodi-n-propylamine	18	15.	84	18	13.	74	13	29-132	30
Bis(2-ethylhexyl)phthalate	18	15.	85	18	18.	98	14	40-140	30
Butyl benzyl phthalate	18	16.	86	18	18.	96	11	40-140	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1287347-2	**Analysis Date** : 09/25/19 03:44	**File ID** : 287333-2
LCSD Sample ID	: WG1287347-3	**Analysis Date** : 09/25/19 04:08	**File ID** : 287333-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Di-n-butylphthalate	18	16.	85	18	16.	86	1	40-140	30
Di-n-octylphthalate	18	17.	93	18	19.	106	13	40-140	30
Diethyl phthalate	18	14.	80	18	14.	80	0	40-140	30
Dimethyl phthalate	18	15.	85	18	15.	84	1	40-140	30
Benzo(a)anthracene	18	15.	82	18	15.	83	1	40-140	30
Benzo(a)pyrene	18	13.	74	18	14.	76	3	40-140	30
Benzo(b)fluoranthene	18	14.	76	18	14.	77	1	40-140	30
Benzo(k)fluoranthene	18	14.	77	18	15.	82	6	40-140	30
Chrysene	18	14.	78	18	14.	75	4	40-140	30
Acenaphthylene	18	15.	80	18	14.	75	6	45-123	30
Anthracene	18	14.	80	18	14.	78	3	40-140	30
Benzo(ghi)perylene	18	14.	75	18	14.	78	4	40-140	30
Fluorene	18	13.	71	18	12.	68	4	40-140	30
Phenanthrene	18	14.	77	18	14.	75	3	40-140	30
Dibenzo(a,h)anthracene	18	14.	75	18	14.	77	3	40-140	30
Indeno(1,2,3-cd)pyrene	18	14.	79	18	15.	81	3	40-140	30
Pyrene	18	14.	76	18	14.	78	3	26-127	30
Biphenyl	18	14.	79	18	13.	72	9	40-140	30
4-Chloroaniline	18	13.	73	18	13.	70	4	40-140	30
2-Nitroaniline	18	14.	80	18	14.	75	6	52-143	30
3-Nitroaniline	18	12.	64	18	11.	63	2	25-145	30
4-Nitroaniline	18	11.	61	18	11.	62	2	51-143	30
Dibenzofuran	18	12.	69	18	12.	66	4	40-140	30
2-Methylnaphthalene	18	14.	77	18	12.	68	12	40-140	30
1,2,4,5-Tetrachlorobenzene	18	14.	75	18	12.	66	13	2-134	30
Acetophenone	18	14.	76	18	12.	66	14	39-129	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1287347-2	**Analysis Date** : 09/25/19 03:44	**File ID** : 287333-2
LCSD Sample ID	: WG1287347-3	**Analysis Date** : 09/25/19 04:08	**File ID** : 287333-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
2,4,6-Trichlorophenol	18	14.	78	18	13.	73	7	30-130	30
p-Chloro-m-cresol	18	16.	85	18	14.	79	7	23-97	30
2-Chlorophenol	18	14.	78	18	12.	67	15	27-123	30
2,4-Dichlorophenol	18	14.	79	18	13.	71	11	30-130	30
2,4-Dimethylphenol	18	10.	56	18	8.2	45	22	30-130	30
2-Nitrophenol	18	15.	83	18	13.	72	14	30-130	30
4-Nitrophenol	18	10.	55	18	10.	56	2	10-80	30
2,4-Dinitrophenol	18	14.	80	18	14.	80	0	20-130	30
4,6-Dinitro-o-cresol	18	15.	81	18	15.	82	1	20-164	30
Pentachlorophenol	18	13.	70	18	14.	76	8	9-103	30
Phenol	18	11.	62	18	9.4	52	18	12-110	30
2-Methylphenol	18	13.	74	18	12.	64	14	30-130	30
3-Methylphenol/4-Methylphenol	18	14.	76	18	12.	67	13	30-130	30
2,4,5-Trichlorophenol	18	15.	83	18	14.	78	6	30-130	30
Benzoic Acid	18	14.	76	18	12.	68	11	10-164	30
Benzyl Alcohol	18	14.	75	18	12.	67	11	26-116	30
Carbazole	18	14.	79	18	14.	78	1	55-144	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1288750-2	**Analysis Date** : 09/27/19 15:02	**File ID** : 288750-2
LCSD Sample ID	: WG1288750-3	**Analysis Date** : 09/27/19 15:29	**File ID** : 288750-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	1300	1100	82	1300	1000	79	4	31-137	50
1,2,4-Trichlorobenzene	1300	1000	76	1300	1000	77	1	38-107	50
Hexachlorobenzene	1300	1200	94	1300	1200	88	7	40-140	50
Bis(2-chloroethyl)ether	1300	1000	76	1300	970	74	3	40-140	50
2-Chloronaphthalene	1300	1100	82	1300	1100	82	0	40-140	50
1,2-Dichlorobenzene	1300	1000	77	1300	980	75	3	40-140	50
1,3-Dichlorobenzene	1300	960	72	1300	950	72	0	40-140	50
1,4-Dichlorobenzene	1300	960	73	1300	940	72	1	28-104	50
3,3'-Dichlorobenzidine	1300	1000	75	1300	1000	79	5	40-140	50
2,4-Dinitrotoluene	1300	1200	92	1300	1200	89	3	40-132	50
2,6-Dinitrotoluene	1300	1200	89	1300	1100	86	3	40-140	50
Fluoranthene	1300	1100	85	1300	1100	84	1	40-140	50
4-Chlorophenyl phenyl ether	1300	1100	85	1300	1100	82	4	40-140	50
4-Bromophenyl phenyl ether	1300	1200	89	1300	1100	85	5	40-140	50
Bis(2-chloroisopropyl)ether	1300	730	55	1300	710	54	2	40-140	50
Bis(2-chloroethoxy)methane	1300	1000	76	1300	980	74	3	40-117	50
Hexachlorobutadiene	1300	940	70	1300	950	72	3	40-140	50
Hexachlorocyclopentadiene	1300	1200	93	1300	1200	95	2	40-140	50
Hexachloroethane	1300	920	70	1300	870	66	6	40-140	50
Isophorone	1300	1000	77	1300	1000	76	1	40-140	50
Naphthalene	1300	1000	78	1300	1000	77	1	40-140	50
Nitrobenzene	1300	980	74	1300	990	75	1	40-140	50
NDPA/DPA	1300	1200	88	1300	1100	84	5	36-157	50
n-Nitrosodi-n-propylamine	1300	1000	75	1300	1000	76	1	32-121	50
Bis(2-ethylhexyl)phthalate	1300	1200	87	1300	1100	87	0	40-140	50
Butyl benzyl phthalate	1300	1200	87	1300	1100	85	2	40-140	50

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1288750-2	**Analysis Date** : 09/27/19 15:02	**File ID** : 288750-2
LCSD Sample ID	: WG1288750-3	**Analysis Date** : 09/27/19 15:29	**File ID** : 288750-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
Di-n-butylphthalate	1300	1200	87	1300	1100	85	2	40-140	50
Di-n-octylphthalate	1300	1200	87	1300	1200	89	2	40-140	50
Diethyl phthalate	1300	1100	84	1300	1100	81	4	40-140	50
Dimethyl phthalate	1300	1100	81	1300	1000	79	3	40-140	50
Benzo(a)anthracene	1300	1100	84	1300	1100	82	2	40-140	50
Benzo(a)pyrene	1300	1100	86	1300	1200	88	2	40-140	50
Benzo(b)fluoranthene	1300	1200	89	1300	1200	88	1	40-140	50
Benzo(k)fluoranthene	1300	1200	88	1300	1200	94	7	40-140	50
Chrysene	1300	1100	82	1300	1100	83	1	40-140	50
Acenaphthylene	1300	1100	84	1300	1100	83	1	40-140	50
Anthracene	1300	1200	87	1300	1100	85	2	40-140	50
Benzo(ghi)perylene	1300	1200	87	1300	1100	84	4	40-140	50
Fluorene	1300	1100	86	1300	1100	83	4	40-140	50
Phenanthrene	1300	1100	82	1300	1100	81	1	40-140	50
Dibenzo(a,h)anthracene	1300	1100	86	1300	1100	84	2	40-140	50
Indeno(1,2,3-cd)pyrene	1300	1100	85	1300	1100	85	0	40-140	50
Pyrene	1300	1100	83	1300	1100	82	1	35-142	50
Biphenyl	1300	1200	87	1300	1200	87	0	37-127	50
4-Chloroaniline	1300	960	72	1300	1000	77	7	40-140	50
2-Nitroaniline	1300	1200	92	1300	1200	89	3	47-134	50
3-Nitroaniline	1300	980	74	1300	960	72	3	26-129	50
4-Nitroaniline	1300	1200	88	1300	1100	85	3	41-125	50
Dibenzofuran	1300	1100	84	1300	1100	83	1	40-140	50
2-Methylnaphthalene	1300	1100	83	1300	1100	84	1	40-140	50
1,2,4,5-Tetrachlorobenzene	1300	1100	81	1300	1100	82	1	40-117	50
Acetophenone	1300	1100	82	1300	1100	82	0	14-144	50

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1288750-2	**Analysis Date** : 09/27/19 15:02	**File ID** : 288750-2
LCSD Sample ID	: WG1288750-3	**Analysis Date** : 09/27/19 15:29	**File ID** : 288750-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
2,4,6-Trichlorophenol	1300	1200	91	1300	1200	91	0	30-130	50
p-Chloro-m-cresol	1300	1200	92	1300	1200	90	2	26-103	50
2-Chlorophenol	1300	1100	83	1300	1100	81	2	25-102	50
2,4-Dichlorophenol	1300	1200	89	1300	1100	86	3	30-130	50
2,4-Dimethylphenol	1300	1200	93	1300	1200	92	1	30-130	50
2-Nitrophenol	1300	1100	82	1300	1100	85	4	30-130	50
4-Nitrophenol	1300	1100	86	1300	1100	80	7	11-114	50
2,4-Dinitrophenol	1300	1100	81	1300	1000	79	3	4-130	50
4,6-Dinitro-o-cresol	1300	1100	86	1300	1100	81	6	10-130	50
Pentachlorophenol	1300	1200	93	1300	1200	91	2	17-109	50
Phenol	1300	1200	89	1300	1200	88	1	26-90	50
2-Methylphenol	1300	1100	86	1300	1100	86	0	30-130.	50
3-Methylphenol/4-Methylphenol	1300	1100	86	1300	1100	86	0	30-130	50
2,4,5-Trichlorophenol	1300	1200	95	1300	1100	86	10	30-130	50
Benzoic Acid	1300	1000	79	1300	1000	80	1	10-110	50
Benzyl Alcohol	1300	1100	86	1300	1100	85	1	40-140	50
Carbazole	1300	1100	85	1300	1100	83	2	54-128	50
1,4-Dioxane	1300	620	47	1300	630	48	2	40-140	50

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: GCMS5	**Calibration Date**	: 09/24/19 22:30
Lab File ID	: ABN0924N	**Init. Calib. Date(s)**	: 06/09/19 06/10/19
Sample No	: WG1288090-3	**Init. Calib. Times**	: 14:39 04:22
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
IS1_1,4-Dichlorobenzene-d4	1	1	-	0	20	115	0
n-Nitrosodimethylamine	0.714	0.728	-	-2	20	119	0
Pyridine	1.267	1.197	-	5.5	20	108	0
2-Fluorophenol	1.106	1.166	-	-5.4	20	121	0
Aniline	1.797	1.746	-	2.8	20	116	0
2-Chlorophenol	1.244	1.243	-	0.1	20	114	0
Phenol-d6	1.339	1.37	-	-2.3	20	119	0
Phenol	1.568	1.388	-	11.5	20	103	0
Bis(2-chloroethyl)ether	1.062	1.027	-	3.3	20	115	0
1,3-Dichlorobenzene	1.524	1.407	-	7.7	20	111	0
1,4-Dichlorobenzene	1.528	1.424	-	6.8	20	111	0
1,2-Dichlorobenzene	1.426	1.342	-	5.9	20	111	0
Benzyl alcohol	0.914	0.939	-	-2.7	20	115	0
Bis(2-chloroisopropyl)ethe	1.856	1.415	-	23.8*	20	90	0
2-Methylphenol	1.072	1.06	-	1.1	20	110	0
Hexachloroethane	0.577	0.552	-	4.3	20	111	0
n-Nitrosodi-n-propylamine	0.824	0.831	-	-0.8	20	112	0
3-Methylphenol/4-Methylphe	1.162	1.13	-	2.8	20	109	0
Nitrobenzene-d5	1.2	1.501	-	-25.1*	20	138	0
Nitrobenzene	1.231	1.174	-	4.6	20	107	0
Isophorone	2.161	2.119	-	1.9	20	111	0
2-Nitrophenol	0.646	0.686	-	-6.2	20	118	0
2,4-Dimethylphenol	1.2	0.991	-	17.4	20	92	0
Bis(2-chloroethoxy)methane	1.48	1.384	-	6.5	20	111	0
2,4-Dichlorophenol	1.192	1.111	-	6.8	20	101	0
1,2,4-Trichlorobenzene	1.424	1.204	-	15.4	20	101	0
IS1_Naphthalene-d8	1	1	-	0	20	115	0
Naphthalene	1.015	0.891	-	12.2	20	105	0
Benzoic Acid	50	50.213	-	-0.4	20	117	0
4-Chloroaniline	0.125	0.105	-	16	20	101	0
Hexachlorobutadiene	0.22	0.192	-	12.7	20	102	0
p-Chloro-m-cresol	0.281	0.273	-	2.8	20	104	0
2-Methylnaphthalene	0.739	0.643	-	13	20	101	0
1-Methylnaphthalene	0.244	0.193	-	20.9*	20	95	0
Hexachlorocyclopentadiene	0.277	0.221	-	20.2*	20	88	0
2,4,6-Trichlorophenol	0.249	0.237	-	4.8	20	105	0
2,4,5-Trichlorophenol	0.264	0.25	-	5.3	20	103	0
2-Fluorobiphenyl	0.862	0.882	-	-2.3	20	123	0
2-Chloronaphthalene	0.747	0.642	-	14.1	20	102	0
2-Nitroaniline	0.223	0.226	-	-1.3	20	109	0
1,4-Dinitrobenzene	0.093	0.1	-	-7.5	20	116	0
1,3-Dinitrobenzene	0.104	0.109	-	-4.8	20	117	0
Dimethyl phthalate	0.844	0.73	-	13.5	20	101	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC		**Lab Number**	: L1942859	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: BUFFY		**Calibration Date**	: 09/26/19 07:47	
Lab File ID	: ABN0926		**Init. Calib. Date(s)**	: 07/25/19	07/26/19
Sample No	: WG1288862-3		**Init. Calib. Times**	: 16:27	05:19
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
IS1_1,4-Dichlorobenzene-d4	1	1	-	0	20	110	0
n-Nitrosodimethylamine	0.602	0.553	-	8.1	20	100	0
Pyridine	1.066	1.026	-	3.8	20	101	0
2-Fluorophenol	1.096	1.068	-	2.6	20	106	0
Aniline	1.736	1.682	-	3.1	20	108	0
2-Chlorophenol	1.356	1.299	-	4.2	20	105	0
Phenol-d6	1.355	1.324	-	2.3	20	107	0
Phenol	1.489	1.442	-	3.2	20	107	0
Bis(2-chloroethyl)ether	1.029	0.923	-	10.3	20	104	0
1,3-Dichlorobenzene	1.538	1.453	-	5.5	20	107	0
1,4-Dichlorobenzene	1.599	1.503	-	6	20	107	0
1,2-Dichlorobenzene	1.523	1.376	-	9.7	20	103	0
Benzyl alcohol	0.868	0.958	-	-10.4	20	119	0
Bis(2-chloroisopropyl)ethe	1.405	1.143	-	18.6	20	90	0
2-Methylphenol	1.129	1.091	-	3.4	20	108	0
Hexachloroethane	0.557	0.53	-	4.8	20	106	0
n-Nitrosodi-n-propylamine	0.757	0.752	-	0.7	20	109	0
3-Methylphenol/4-Methylphe	1.187	1.148	-	3.3	20	107	0
Nitrobenzene-d5	1.062	1.514	-	-42.6*	20	151	0
Nitrobenzene	1.078	1.2	-	-11.3	20	121	0
Isophorone	2.137	2.145	-	-0.4	20	111	0
2-Nitrophenol	0.596	0.751	-	-26*	20	125	0
2,4-Dimethylphenol	1.133	1.259	-	-11.1	20	118	0
Bis(2-chloroethoxy)methane	1.415	1.293	-	8.6	20	102	0
2,4-Dichlorophenol	1.194	1.215	-	-1.8	20	108	0
1,2,4-Trichlorobenzene	1.414	1.296	-	8.3	20	104	0
IS1_Naphthalene-d8	1	1	-	0	20	110	0
Naphthalene	1.035	0.974	-	5.9	20	108	0
Benzoic Acid	0.213	0.22	-	-3.3	20	113	0
4-Chloroaniline	0.095	0.103	-	-8.4	20	117	0
Hexachlorobutadiene	0.201	0.19	-	5.5	20	109	0
p-Chloro-m-cresol	0.262	0.288	-	-9.9	20	120	0
2-Methylnaphthalene	0.718	0.663	-	7.7	20	106	0
1-Methylnaphthalene	0.208	0.216	-	-3.8	20	118	0
Hexachlorocyclopentadiene	50	33.093	-	33.8*	20	74	0
2,4,6-Trichlorophenol	0.228	0.219	-	3.9	20	104	0
2,4,5-Trichlorophenol	0.25	0.256	-	-2.4	20	109	0
2-Fluorobiphenyl	0.812	0.974	-	-20	20	135	0
2-Chloronaphthalene	0.71	0.684	-	3.7	20	109	0
2-Nitroaniline	0.198	0.242	-	-22.2*	20	126	0
1,4-Dinitrobenzene	0.08	0.105	-	-31.2*	20	137	0
1,3-Dinitrobenzene	0.098	0.113	-	-15.3	20	122	0
Dimethyl phthalate	0.832	0.837	-	-0.6	20	112	0

* Value outside of QC limits.

Evaluate Continuing Calibration Report

Data Path : I:\8270\SV106\190429nlviical\
Data File : ABNICV.D
Acq On : 30 Apr 2019 5:10 am
Operator : SV106:als
Sample : CQICV1,32,,ABNICV Lot # 8105
Misc : wg1231960,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 30 12:59:56 2019
Quant Method : I:\8270\SV106\190429nlviical\FS190429nLVISV106.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Tue Apr 30 12:59:43 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	IS1_1,4-Dichlorobenzene-d4	*	4.000	4.000	0.0	102	0.00
2	t	n-Nitrosodimethylamine		0.442	0.399	9.7	90	0.00
3	t	Pyridine		0.755	0.681	9.8	87	0.00
4	S	2-Fluorophenol		0.741	0.657	11.3	90	0.00
5	T	Aniline		1.103	1.021	7.4	93	0.00
6	t	2-Chlorophenol		0.835	0.767	8.1	93	0.00
7	S	Phenol-d6		0.882	0.782	11.3	92	0.00
8	T	Phenol		0.912	0.848	7.0	94	0.00
9	T	Bis(2-chloroethyl)ether		0.768	0.684	10.9	94	0.00
10	T	1,3-Dichlorobenzene		0.987	0.911	7.7	97	0.00
11	T	1,4-Dichlorobenzene		0.994	0.909	8.6	94	0.00
12	T	1,2-Dichlorobenzene		0.958	0.874	8.8	95	0.00
13	t	Benzyl alcohol		0.559	0.480	14.1	89	0.00
14	T	Bis(2-chloroisopropyl)ether		1.122	0.949	15.4	89	0.00
15	T	2-Methylphenol		0.700	0.637	9.0	93	0.00
16	T	Hexachloroethane		0.360	0.337	6.4	97	0.00
17	T	n-Nitrosodi-n-propylamine		0.482	0.405	16.0	86	0.00
18	T	3-Methylphenol/4-Methylphen		0.735	0.669	9.0	91	0.00
19	S	Nitrobenzene-d5		0.753	0.660	12.4	89	0.00
20	T	Nitrobenzene		0.775	0.692	10.7	91	0.00
21	T	Isophorone		1.328	1.147	13.6	91	0.00
22	T	2-Nitrophenol		0.396	0.326	17.7	87	0.00
23	T	2,4-Dimethylphenol		0.742	0.676	8.9	93	0.00
24	T	Bis(2-chloroethoxy)methane		0.941	0.853	9.4	95	0.00
25	T	2,4-Dichlorophenol		0.697	0.637	8.6	94	0.00
26	T	1,2,4-Trichlorobenzene		0.813	0.740	9.0	95	0.00
34	I	IS1_Naphthalene-d8		1.000	1.000	0.0	101	0.00
35	T	Naphthalene		1.072	0.987	7.9	96	0.00
36	T	Benzoic Acid	*	5.000	3.758	24.8	72	0.00
37	T	4-Chloroaniline		0.108	0.096	11.1	92	0.00
38	T	Hexachlorobutadiene		0.174	0.164	5.7	99	0.00
39	T	p-Chloro-m-cresol		0.252	0.226	10.3	93	0.00
40	T	2-Methylnaphthalene		0.698	0.637	8.7	94	0.00
41	T	1-Methylnaphthalene		0.228	0.202	11.4	93	0.00
42	T	Hexachlorocyclopentadiene		0.217	0.198	8.8	94	0.00
43	T	2,4,6-Trichlorophenol		0.199	0.176	11.6	94	0.00
44	T	2,4,5-Trichlorophenol		0.210	0.188	10.5	95	0.00
45	S	2-Fluorobiphenyl		0.754	0.697	7.6	97	0.00

Evaluate Continuing Calibration Report

Data Path : I:\8270\SV106\190429nlviical\
Data File : ABNICV.D
Acq On : 30 Apr 2019 5:10 am
Operator : SV106:als
Sample : CQICV1,32,,ABNICV Lot # 8105
Misc : wg1231960,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Apr 30 12:59:56 2019
Quant Method : I:\8270\SV106\190429nlviical\FS190429nLVISV106.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Tue Apr 30 12:59:43 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
46	T	2-Chloronaphthalene		0.658	0.611	7.1	96	0.00
47	T	2-Nitroaniline	*	5.000	4.008	19.8	88	0.00
48	T	1,4-Dinitrobenzene	*	5.000	4.226	15.5	88	0.00
49	T	1,3-Dinitrobenzene	*	5.000	4.206	15.9	89	0.00
50	T	Dimethyl phthalate		0.712	0.653	8.3	96	0.00
51	T	Acenaphthylene		1.006	0.953	5.3	96	0.00
52	T	2,6-Dinitrotoluene	*	5.000	4.203	15.9	91	0.00
53	T	1,2-Dinitrobenzene		0.067	0.057	14.9	90	0.00
62	I	IS1_Acenaphthene-d10		1.000	1.000	0.0	103	0.00
63	T	3-Nitroaniline		0.364	0.315	13.5	89	0.00
64	T	Acenaphthene		1.263	1.173	7.1	97	0.00
65	T	2,4-Dinitrophenol	*	5.000	3.981	20.4	75	0.00
66	T	Dibenzofuran		2.011	1.864	7.3	99	0.00
67	T	2,4-Dinitrotoluene	*	5.000	4.136	17.3	94	0.00
68	T	4-Nitrophenol		0.248	0.206	16.9	89	0.00
69	T	2,3,5,6-Tetrachlorophenol		0.355	0.308	13.2	91	0.00
70	T	2,3,4,6-Tetrachlorophenol		0.368	0.318	13.6	92	0.00
71	T	Diethyl phthalate		1.455	1.339	8.0	97	0.00
72	T	Fluorene		1.501	1.419	5.5	99	0.00
73	T	4-Chlorophenyl phenyl ether		0.700	0.651	7.0	99	0.00
74	T	4-Nitroaniline		0.369	0.335	9.2	94	0.00
75	T	4,6-Dinitro-o-cresol	*	5.000	4.290	14.2	89	0.00
76	T	NDPA/DPA		1.214	1.140	6.1	97	0.00
77	T	Azobenzene		1.334	1.282	3.9	97	0.00
78	S	2,4,6-Tribromophenol	*	5.000	4.124	17.5	93	0.00
79	T	4-Bromophenyl phenyl ether		0.395	0.367	7.1	101	0.00
80	T	Hexachlorobenzene		0.474	0.434	8.4	97	0.00
81	T	Pentachlorophenol	*	5.000	4.222	15.6	93	0.00
87	I	IS1_Phenanthrene-d10		1.000	1.000	0.0	103	0.00
88	T	Phenanthrene		1.153	1.084	6.0	100	0.00
89	T	Anthracene		1.133	1.062	6.3	96	0.00
90	T	Carbazole		1.015	0.990	2.5	97	0.00
91	T	Di-n-butylphthalate		1.219	1.059	13.1	100	0.00
92	T	Fluoranthene		1.179	1.120	5.0	100	0.00
93	T	Benzidine	*	5.000	4.258	14.8	93	0.00
94	T	Pyrene		1.249	1.243	0.5	103	0.00
95	S	4-Terphenyl-d14		0.808	0.772	4.5	101	0.00

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC		Lab Number	: L1942859	
Project Name	: G6-2420		Project Number	: G6-2420	
Instrument ID	: GCMS5		Calibration Date	: 09/24/19 22:30	
Lab File ID	: ABN0924N		Init. Calib. Date(s)	: 06/09/19	06/10/19
Sample No	: WG1288090-3		Init. Calib. Times	: 14:39	04:22
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
IS1_1,4-Dichlorobenzene-d4	1	1	-	0	20	115	0
n-Nitrosodimethylamine	0.714	0.728	-	-2	20	119	0
Pyridine	1.267	1.197	-	5.5	20	108	0
2-Fluorophenol	1.106	1.166	-	-5.4	20	121	0
Aniline	1.797	1.746	-	2.8	20	116	0
2-Chlorophenol	1.244	1.243	-	0.1	20	114	0
Phenol-d6	1.339	1.37	-	-2.3	20	119	0
Phenol	1.568	1.388	-	11.5	20	103	0
Bis(2-chloroethyl)ether	1.062	1.027	-	3.3	20	115	0
1,3-Dichlorobenzene	1.524	1.407	-	7.7	20	111	0
1,4-Dichlorobenzene	1.528	1.424	-	6.8	20	111	0
1,2-Dichlorobenzene	1.426	1.342	-	5.9	20	111	0
Benzyl alcohol	0.914	0.939	-	-2.7	20	115	0
Bis(2-chloroisopropyl)ethe	1.856	1.415	-	23.8*	20	90	0
2-Methylphenol	1.072	1.06	-	1.1	20	110	0
Hexachloroethane	0.577	0.552	-	4.3	20	111	0
n-Nitrosodi-n-propylamine	0.824	0.831	-	-0.8	20	112	0
3-Methylphenol/4-Methylphe	1.162	1.13	-	2.8	20	109	0
Nitrobenzene-d5	1.2	1.501	-	-25.1*	20	138	0
Nitrobenzene	1.231	1.174	-	4.6	20	107	0
Isophorone	2.161	2.119	-	1.9	20	111	0
2-Nitrophenol	0.646	0.686	-	-6.2	20	118	0
2,4-Dimethylphenol	1.2	0.991	-	17.4	20	92	0
Bis(2-chloroethoxy)methane	1.48	1.384	-	6.5	20	111	0
2,4-Dichlorophenol	1.192	1.111	-	6.8	20	101	0
1,2,4-Trichlorobenzene	1.424	1.204	-	15.4	20	101	0
IS1_Naphthalene-d8	1	1	-	0	20	115	0
Naphthalene	1.015	0.891	-	12.2	20	105	0
Benzoic Acid	50	50.213	-	-0.4	20	117	0
4-Chloroaniline	0.125	0.105	-	16	20	101	0
Hexachlorobutadiene	0.22	0.192	-	12.7	20	102	0
p-Chloro-m-cresol	0.281	0.273	-	2.8	20	104	0
2-Methylnaphthalene	0.739	0.643	-	13	20	101	0
1-Methylnaphthalene	0.244	0.193	-	20.9*	20	95	0
Hexachlorocyclopentadiene	0.277	0.221	-	20.2*	20	88	0
2,4,6-Trichlorophenol	0.249	0.237	-	4.8	20	105	0
2,4,5-Trichlorophenol	0.264	0.25	-	5.3	20	103	0
2-Fluorobiphenyl	0.862	0.882	-	-2.3	20	123	0
2-Chloronaphthalene	0.747	0.642	-	14.1	20	102	0
2-Nitroaniline	0.223	0.226	-	-1.3	20	109	0
1,4-Dinitrobenzene	0.093	0.1	-	-7.5	20	116	0
1,3-Dinitrobenzene	0.104	0.109	-	-4.8	20	117	0
Dimethyl phthalate	0.844	0.73	-	13.5	20	101	0

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC	Lab Number	: L1942859
Project Name	: G6-2420	Project Number	: G6-2420
Instrument ID	: BUFFY	Calibration Date	: 09/26/19 07:47
Lab File ID	: ABN0926	Init. Calib. Date(s)	: 07/25/19 07/26/19
Sample No	: WG1288862-3	Init. Calib. Times	: 16:27 05:19
Channel	:		

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
IS1_1,4-Dichlorobenzene-d4	1	1	-	0	20	110	0
n-Nitrosodimethylamine	0.602	0.553	-	8.1	20	100	0
Pyridine	1.066	1.026	-	3.8	20	101	0
2-Fluorophenol	1.096	1.068	-	2.6	20	106	0
Aniline	1.736	1.682	-	3.1	20	108	0
2-Chlorophenol	1.356	1.299	-	4.2	20	105	0
Phenol-d6	1.355	1.324	-	2.3	20	107	0
Phenol	1.489	1.442	-	3.2	20	107	0
Bis(2-chloroethyl)ether	1.029	0.923	-	10.3	20	104	0
1,3-Dichlorobenzene	1.538	1.453	-	5.5	20	107	0
1,4-Dichlorobenzene	1.599	1.503	-	6	20	107	0
1,2-Dichlorobenzene	1.523	1.376	-	9.7	20	103	0
Benzyl alcohol	0.868	0.958	-	-10.4	20	119	0
Bis(2-chloroisopropyl)ethe	1.405	1.143	-	18.6	20	90	0
2-Methylphenol	1.129	1.091	-	3.4	20	108	0
Hexachloroethane	0.557	0.53	-	4.8	20	106	0
n-Nitrosodi-n-propylamine	0.757	0.752	-	0.7	20	109	0
3-Methylphenol/4-Methylphe	1.187	1.148	-	3.3	20	107	0
Nitrobenzene-d5	1.062	1.514	-	-42.6*	20	151	0
Nitrobenzene	1.078	1.2	-	-11.3	20	121	0
Isophorone	2.137	2.145	-	-0.4	20	111	0
2-Nitrophenol	0.596	0.751	-	-26*	20	125	0
2,4-Dimethylphenol	1.133	1.259	-	-11.1	20	118	0
Bis(2-chloroethoxy)methane	1.415	1.293	-	8.6	20	102	0
2,4-Dichlorophenol	1.194	1.215	-	-1.8	20	108	0
1,2,4-Trichlorobenzene	1.414	1.296	-	8.3	20	104	0
IS1_Naphthalene-d8	1	1	-	0	20	110	0
Naphthalene	1.035	0.974	-	5.9	20	108	0
Benzoic Acid	0.213	0.22	-	-3.3	20	113	0
4-Chloroaniline	0.095	0.103	-	-8.4	20	117	0
Hexachlorobutadiene	0.201	0.19	-	5.5	20	109	0
p-Chloro-m-cresol	0.262	0.288	-	-9.9	20	120	0
2-Methylnaphthalene	0.718	0.663	-	7.7	20	106	0
1-Methylnaphthalene	0.208	0.216	-	-3.8	20	118	0
Hexachlorocyclopentadiene	50	33.093	-	33.8*	20	74	0
2,4,6-Trichlorophenol	0.228	0.219	-	3.9	20	104	0
2,4,5-Trichlorophenol	0.25	0.256	-	-2.4	20	109	0
2-Fluorobiphenyl	0.812	0.974	-	-20	20	135	0
2-Chloronaphthalene	0.71	0.684	-	3.7	20	109	0
2-Nitroaniline	0.198	0.242	-	-22.2*	20	126	0
1,4-Dinitrobenzene	0.08	0.105	-	-31.2*	20	137	0
1,3-Dinitrobenzene	0.098	0.113	-	-15.3	20	122	0
Dimethyl phthalate	0.832	0.837	-	-0.6	20	112	0

* Value outside of QC limits.

Surrogate Recovery Summary
Form 2
PCBs

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Water

GC Column 1: CLP-Pesticide
GC Column 2: CLP-PesticideII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
FIELD BLANK (L1942859-18)	70	68	63	61			0
WG1287188-1BLANK	78	71	89	84			0
WG1287188-2LCS	90	81	95	91			0
WG1287188-3LCSD	90	77	98	86			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Surrogate Recovery Summary
Form 2
PCBs

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Soil

GC Column 1: CLP-Pesticide
GC Column 2: CLP-PesticideII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
S1 (L1942859-01)	57	60	66	67			0
S2 (L1942859-02)	50	51	46	50			0
S3 (L1942859-03)	51	52	55	57			0
S4 (L1942859-04)	54	54	59	63			0
S5 (L1942859-05)	49	51	47	49			0
S6 (L1942859-06)	63	65	52	53			0
S7 (L1942859-07)	49	48	60	66			0
S8 (L1942859-08)	61	61	69	75			0
S9 (L1942859-09)	30	28*	33	39			1
S10 (L1942859-10)	52	52	58	61			0
S11 (L1942859-12)	53	52	58	62			0
S12 (L1942859-13)	56	56	62	66			0
S13 (L1942859-14)	50	49	55	63			0
S14 (L1942859-15)	26*	26*	29*	32			3
S14 (L1942859-15RE)	22*	21*	18*	19*			4
S15 (L1942859-16)	50	49	55	62			0
S16 (L1942859-17)	50	50	57	65			0
WG1287374-1BLANK	58	61	64	68			0
WG1287374-2LCS	63	65	67	69			0
WG1287374-3LCSD	66	68	70	75			0
WG1287940-1BLANK	62	62	48	46			0
WG1287940-2LCS	65	65	47	47			0
WG1287940-3LCSD	61	58	47	47			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Laboratory Control Sample Summary
Form 3
PCBs

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1287374-2	**Analysis Date** : 09/23/19 20:41	**File ID** : P7190923a-73
LCSD Sample ID	: WG1287374-3	**Analysis Date** : 09/23/19 20:54	**File ID** : P7190923a-74

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	**True (ug/kg)**	**Found (ug/kg)**	**%R**	**True (ug/kg)**	**Found (ug/kg)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
Aroclor 1016	199	136	68	198	138	70	3	40-140	50
Aroclor 1260	199	122	61	198	129	65	6	40-140	50

Laboratory Control Sample Summary
Form 3
PCBs

Client	: Hillmann Consulting, LLC			**Lab Number**	: L1942859
Project Name	: G6-2420			**Project Number**	: G6-2420
Matrix	: SOIL				
LCS Sample ID	: WG1287940-2	**Analysis Date** :	09/25/19 12:44	**File ID**	: 12190925a-13
LCSD Sample ID	: WG1287940-3	**Analysis Date** :	09/25/19 12:56	**File ID**	: 12190925a-14

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	**True (ug/kg)**	**Found (ug/kg)**	**%R**	**True (ug/kg)**	**Found (ug/kg)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
Aroclor 1016	197	133	68	206	132	64	6	40-140	50
Aroclor 1260	197	113	57	206	117	57	0	40-140	50

Surrogate Recovery Summary
Form 2
Pesticides

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Water

GC Column 1: CLPPesticides
GC Column 2: CLPPesticidesII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
FIELD BLANK (L1942859-18)	75	75	59	45			0
WG1287189-1BLANK	55	58	60	80			0
WG1287189-2LCS	54	57	61	83			0
WG1287189-3LCSD	52	55	63	86			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

FORM II NYTCL-8081

Surrogate Recovery Summary
Form 2
Pesticides

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Soil

GC Column 1: CLPPesticides
GC Column 2: CLPPesticidesII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
S1 (L1942859-01)	94	91	91	90			0
S2 (L1942859-02)	86	82	88	87			0
S3 (L1942859-03)	88	86	92	91			0
S4 (L1942859-04)	103	98	98	114			0
S5 (L1942859-05)	94	92	99	103			0
S6 (L1942859-06)	91	88	93	93			0
S7 (L1942859-07)	71	64	74	71			0
S8 (L1942859-08)	90	88	80	100			0
S9 (L1942859-09)	87	85	91	100			0
S10 (L1942859-10)	81	80	68	97			0
S11 (L1942859-12)	40	40	45	38			0
S12 (L1942859-13)	88	89	89	106			0
S13 (L1942859-14)	90	90	84	106			0
S14 (L1942859-15)	80	80	74	103			0
S15 (L1942859-16)	84	84	72	117			0
S16 (L1942859-17)	78	73	81	91			0
WG1287098-1BLANK	87	88	69	65			0
WG1287098-2LCS	92	99	66	65			0
WG1287098-3LCSD	99	104	79	63			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1287098-2	**Analysis Date** : 09/25/19 03:38	**File ID** : 20190924b-38
LCSD Sample ID	: WG1287098-3	**Analysis Date** : 09/25/19 03:49	**File ID** : 20190924b-39

	Laboratory Control Sample			Laboratory Control Duplicate						
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD		Recovery Limits	RPD Limit
Delta-BHC	32.2	38.5	120	31.9	30.1	94	24		30-150	30
Lindane	32.2	36.5	114	31.9	29.4	92	21		30-150	30
Alpha-BHC	32.2	38.6	120	31.9	31.8	100	18		30-150	30
Beta-BHC	32.2	35.8	111	31.9	28.0	88	23		30-150	30
Heptachlor	32.2	35.7	111	31.9	30.2	95	16		30-150	30
Aldrin	32.2	33.1	103	31.9	28.1	88	16		30-150	30
Heptachlor epoxide	32.2	34.1	106	31.9	28.9	91	15		30-150	30
Endrin	32.2	37.7	117	31.9	31.7	99	17		30-150	30
Endrin aldehyde	32.2	19.8	62	31.9	14.1	44	34	Q	30-150	30
Endrin ketone	32.2	31.4	98	31.9	22.0	69	35	Q	30-150	30
Dieldrin	32.2	37.6	117	31.9	31.6	99	17		30-150	30
4,4'-DDE	32.2	35.3	110	31.9	29.6	93	17		30-150	30
4,4'-DDD	32.2	37.8	118	31.9	31.6	99	18		30-150	30
4,4'-DDT	32.2	39.8	124	31.9	33.8	106	16		30-150	30
Endosulfan I	32.2	32.8	102	31.9	27.6	87	16		30-150	30
Endosulfan II	32.2	36.4	113	31.9	29.7	93	19		30-150	30
Endosulfan sulfate	32.2	28.2	88	31.9	18.5	58	41	Q	30-150	30
Methoxychlor	32.2	38.7	120	31.9	27.0	85	34	Q	30-150	30
cis-Chlordane	32.2	29.6	92	31.9	23.7	74	22		30-150	30
trans-Chlordane	32.2	33.7	105	31.9	27.1	85	21		30-150	30

Laboratory Control Sample Summary
Form 3
Pesticides

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1287189-2	**Analysis Date** : 09/24/19 12:56	**File ID** : 10190924a-08
LCSD Sample ID	: WG1287189-3	**Analysis Date** : 09/24/19 13:08	**File ID** : 10190924a-09

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Delta-BHC	0.0357	0.023	65	0.0357	0.022	61	6	30-150	20
Lindane	0.0357	0.023	64	0.0357	0.024	66	3	30-150	20
Alpha-BHC	0.0357	0.023	64	0.0357	0.023	63	0	30-150	20
Beta-BHC	0.0357	0.027	76	0.0357	0.023	65	15	30-150	20
Heptachlor	0.0357	0.023	63	0.0357	0.024	66	4	30-150	20
Aldrin	0.0357	0.022	61	0.0357	0.021	59	3	30-150	20
Heptachlor epoxide	0.0357	0.026	72	0.0357	0.026	71	0	30-150	20
Endrin	0.0357	0.026	73	0.0357	0.026	73	1	30-150	20
Endrin aldehyde	0.0357	0.021	60	0.0357	0.022	61	1	30-150	20
Endrin ketone	0.0357	0.033	91	0.0357	0.035	98	7	30-150	20
Dieldrin	0.0357	0.025	71	0.0357	0.025	71	0	30-150	20
4,4'-DDE	0.0357	0.021	59	0.0357	0.022	61	4	30-150	20
4,4'-DDD	0.0357	0.022	61	0.0357	0.022	62	2	30-150	20
4,4'-DDT	0.0357	0.028	78	0.0357	0.030	84	8	30-150	20
Endosulfan I	0.0357	0.027	75	0.0357	0.028	79	5	30-150	20
Endosulfan II	0.0357	0.022	63	0.0357	0.023	65	4	30-150	20
Endosulfan sulfate	0.0357	0.026	73	0.0357	0.025	71	3	30-150	20
Methoxychlor	0.0357	0.024	67	0.0357	0.027	75	11	30-150	20
cis-Chlordane	0.0357	0.018	50	0.0357	0.017	47	6	30-150	20
trans-Chlordane	0.0357	0.028	77	0.0357	0.028	78	1	30-150	20

Calibration Verification Summary
Form 7
Pesticides

Client	: Hillmann Consulting, LLC		**Lab Number**	: L1942859	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: PEST20		**Calibration Date**	: 09/24/19 17:15	
Lab File ID	: 20190924b-03		**Init. Calib. Date(s)**	: 08/06/19	08/06/19
Sample No	: WG1288083-2		**Init. Calib. Times**	: 10:44	16:08
Channel	: A				

Compound	Amount	Calc.	Min RRF	%D	Max %D	Area%	Dev(min)
1-br-2-nb_Chlordane	25	25	-	0	20	97	0
chlordane-1	1000	837.327	-	16.3	20	81	0
chlordane-3	1000	811.89	-	18.8	20	79	0
chlordane-4	1000	799.109	-	20.1*	20	78	0
chlordane-5	1000	889.414	-	11.1	20	86	0

*** Value outside of QC limits.**

Identification Summary
Form 10
Pesticides

Client	:	**Hillmann Consulting, LLC**	**Lab Number**	:	**L1942859**
Project Name	:	**G6-2420**	**Project Number**	:	**G6-2420**
Lab Sample ID	:	**L1942859-07**			
Client ID	:	**S7**			
Date Analyzed (1)	:	**09/26/19 04:38**	**Date Analyzed (2)**	:	**09/26/19 04:38**
Instrument ID (1)	:	**PEST15**	**Instrument ID (2)**	:	**PEST15**
GC Column (1)	:	**CLPPesticides**	**GC Column (2)**	:	**CLPPesticidesII**

Analyte	Col	RT	RT Window From	RT Window To	Concentration	RPD
Heptachlor Epoxide	1	4.10	4.05	4.15	3.33	
	2	4.51	4.46	4.56	3.77	12
Dieldrin	1	4.60	4.55	4.65	3.95	
	2	5.02	4.97	5.07	3.56	10
4,4'-DDE	1	4.37	4.32	4.42	34.5	
	2	4.89	4.84	4.94	26.	28
4,4'-DDT	1	5.03	4.98	5.08	40.5	
	2	5.53	5.48	5.58	44.6	10
alpha-Chlordane (cis	1	4.30	4.26	4.36	60.3	
	2	4.77	4.72	4.82	17.5	110
gamma-Chlordane (tra	1	4.21	4.16	4.26	10.6	
	2	4.66	4.61	4.71	13.6	25

Identification Summary
Form 10
Pesticides

Client	:	Hillmann Consulting, LLC	**Lab Number**	:	L1942859
Project Name	:	G6-2420	**Project Number**	:	G6-2420
Lab Sample ID	:	L1942859-08			
Client ID	:	S8			
Date Analyzed (1)	:	09/26/19 06:47	**Date Analyzed (2)**	:	09/26/19 06:47
Instrument ID (1)	:	PEST15	**Instrument ID (2)**	:	PEST15
GC Column (1)	:	CLPPesticides	**GC Column (2)**	:	CLPPesticidesII

Analyte	Col	RT	RT Window From	RT Window To	Concentration	RPD
Heptachlor Epoxide	1	4.11	4.05	4.15	1.49	
	2	4.51	4.46	4.56	0.974J	NC
Dieldrin	1	4.60	4.55	4.65	2.29	
	2	5.02	4.97	5.07	2.24	2
4,4'-DDE	1	4.37	4.32	4.42	21.9	
	2	4.89	4.84	4.94	22.9	4
4,4'-DDD	1	4.83	4.77	4.87	3.25	
	2	5.31	5.26	5.36	5.	42
4,4'-DDT	1	5.03	4.98	5.08	39.4	
	2	5.53	5.48	5.58	41.4	5
alpha-Chlordane (cis	1	4.30	4.26	4.36	5.32	
	2	4.77	4.72	4.82	2.1	87
gamma-Chlordane (tra	1	4.21	4.16	4.26	1.58	
	2	4.67	4.61	4.71	12.4	NC

Identification Summary
Form 10
Pesticides

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab Sample ID	: L1942859-09		
Client ID	: S9		
Date Analyzed (1)	: 09/26/19 05:55	**Date Analyzed (2)**	: 09/26/19 05:55
Instrument ID (1)	: PEST15	**Instrument ID (2)**	: PEST15
GC Column (1)	: CLPPesticides	**GC Column (2)**	: CLPPesticidesII

Analyte	Col	RT	RT Window From	RT Window To	Concentration	RPD
Heptachlor Epoxide	1	4.10	4.05	4.15	2.31J	
	2	4.51	4.46	4.56	1.89J	NC
Dieldrin	1	4.60	4.55	4.65	5.18	
	2	5.02	4.97	5.07	5.14	1
4,4'-DDE	1	4.37	4.32	4.42	18.6	
	2	4.89	4.84	4.94	16.3	13
4,4'-DDT	1	5.03	4.98	5.08	26.7	
	2	5.53	5.48	5.58	34.	24
alpha-Chlordane (cis	1	4.30	4.26	4.36	20.2	
	2	4.77	4.72	4.82	11.7	53
gamma-Chlordane (tra	1	4.21	4.16	4.26	5.84	
	2	4.66	4.61	4.71	8.7	39

Identification Summary
Form 10
Pesticides

Client	:	**Hillmann Consulting, LLC**	**Lab Number**	:	**L1942859**
Project Name	:	**G6-2420**	**Project Number**	:	**G6-2420**
Lab Sample ID	:	**L1942859-10**			
Client ID	:	**S10**			
Date Analyzed (1)	:	**09/26/19 06:08**	**Date Analyzed (2)**	:	**09/26/19 06:08**
Instrument ID (1)	:	**PEST15**	**Instrument ID (2)**	:	**PEST15**
GC Column (1)	:	**CLPPesticides**	**GC Column (2)**	:	**CLPPesticidesII**

			RT Window			
Analyte	**Col**	**RT**	**From**	**To**	**Concentration**	**RPD**
Heptachlor Epoxide	**1**	**4.10**	**4.05**	**4.15**	**1.63J**	
	2	**4.50**	**4.46**	**4.56**	**1.7J**	**NC**
Dieldrin	**1**	**4.60**	**4.55**	**4.65**	**3.13**	
	2	**5.02**	**4.97**	**5.07**	**2.62**	**18**
4,4'-DDE	**1**	**4.37**	**4.32**	**4.42**	**36.5**	
	2	**4.89**	**4.84**	**4.94**	**38.5**	**5**
4,4'-DDD	**1**	**4.82**	**4.77**	**4.87**	**3.3**	
	2	**5.31**	**5.26**	**5.36**	**3.97**	**18**
4,4'-DDT	**1**	**5.03**	**4.98**	**5.08**	**42.4**	
	2	**5.53**	**5.48**	**5.58**	**47.6**	**12**
alpha-Chlordane (cis	**1**	**4.30**	**4.26**	**4.36**	**7.98**	
	2	**4.77**	**4.72**	**4.82**	**3.9**	**69**
gamma-Chlordane (tra	**1**	**4.21**	**4.16**	**4.26**	**1.78**	
	2	**4.67**	**4.61**	**4.71**	**5.77**	**NC**

Identification Summary
Form 10
Pesticides

Client	:	Hillmann Consulting, LLC	Lab Number	:	L1942859
Project Name	:	G6-2420	Project Number	:	G6-2420
Lab Sample ID	:	L1942859-12			
Client ID	:	S11			
Date Analyzed (1)	:	09/26/19 04:51	Date Analyzed (2)	:	09/26/19 04:51
Instrument ID (1)	:	PEST15	Instrument ID (2)	:	PEST15
GC Column (1)	:	CLPPesticides	GC Column (2)	:	CLPPesticidesII

			RT Window			
Analyte	Col	RT	From	To	Concentration	RPD
Heptachlor Epoxide	1	4.10	4.05	4.15	ND	
	2	4.51	4.46	4.56	ND	NC
Dieldrin	1	4.60	4.55	4.65	3.43	
	2	5.02	4.97	5.07	3.7	8
4,4'-DDE	1	4.37	4.32	4.42	11.2	
	2	4.89	4.84	4.94	10.2	9
4,4'-DDD	1	4.82	4.77	4.87	0.666	
	2	5.30	5.26	5.36	5.77	NC
4,4'-DDT	1	5.03	4.98	5.08	15.6	
	2	5.53	5.48	5.58	17.3	10
alpha-Chlordane (cis	1	4.30	4.26	4.36	11.4	
	2	4.77	4.72	4.82	4.06	95
gamma-Chlordane (tra	1	4.21	4.16	4.26	2.3	
	2	4.66	4.61	4.71	2.91	23

Identification Summary
Form 10
Pesticides

Client	:	**Hillmann Consulting, LLC**	**Lab Number**	:	**L1942859**
Project Name	:	**G6-2420**	**Project Number**	:	**G6-2420**
Lab Sample ID	:	**L1942859-13**			
Client ID	:	**S12**			
Date Analyzed (1)	:	**09/26/19 05:04**	**Date Analyzed (2)**	:	**09/26/19 05:04**
Instrument ID (1)	:	**PEST15**	**Instrument ID (2)**	:	**PEST15**
GC Column (1)	:	**CLPPesticides**	**GC Column (2)**	:	**CLPPesticidesII**

Analyte	Col	RT	RT Window From	RT Window To	Concentration	RPD
Heptachlor Epoxide	1	4.10	4.05	4.15	1.35J	
	2	4.51	4.46	4.56	0.991J	NC
Dieldrin	1	4.59	4.55	4.65	1.9	
	2	5.02	4.97	5.07	0.812J	NC
4,4'-DDE	1	4.37	4.32	4.42	31.9	
	2	4.89	4.84	4.94	22.	37
4,4'-DDD	1	4.82	4.77	4.87	3.03	
	2	5.31	5.26	5.36	4.58	41
4,4'-DDT	1	5.03	4.98	5.08	25.2	
	2	5.53	5.48	5.58	28.3	12
alpha-Chlordane (cis	1	4.30	4.26	4.36	4.2	
	2	4.77	4.72	4.82	2.26	60
gamma-Chlordane (tra	1	4.21	4.16	4.26	1.94	
	2	4.67	4.61	4.71	8.	NC

Identification Summary
Form 10
Pesticides

Client	:	Hillmann Consulting, LLC	Lab Number	:	L1942859
Project Name	:	G6-2420	Project Number	:	G6-2420
Lab Sample ID	:	L1942859-14			
Client ID	:	S13			
Date Analyzed (1)	:	09/26/19 06:21	Date Analyzed (2)	:	09/26/19 06:21
Instrument ID (1)	:	PEST15	Instrument ID (2)	:	PEST15
GC Column (1)	:	CLPPesticides	GC Column (2)	:	CLPPesticidesII

			RT Window			
Analyte	Col	RT	From	To	Concentration	RPD
Heptachlor Epoxide	1	4.10	4.05	4.15	2.75J	
	2	4.51	4.46	4.56	2.51J	NC
Dieldrin	1	4.60	4.55	4.65	3.39	
	2	5.02	4.97	5.07	2.71	22
4,4'-DDE	1	4.37	4.32	4.42	46.8	
	2	4.89	4.84	4.94	49.	5
4,4'-DDD	1	4.82	4.77	4.87	5.09	
	2	5.31	5.26	5.36	6.72	28
4,4'-DDT	1	5.03	4.98	5.08	47.4	
	2	5.53	5.48	5.58	52.6	10

Identification Summary
Form 10
Pesticides

Client	:	**Hillmann Consulting, LLC**	**Lab Number**	:	**L1942859**
Project Name	:	**G6-2420**	**Project Number**	:	**G6-2420**
Lab Sample ID	:	**L1942859-15**			
Client ID	:	**S14**			
Date Analyzed (1)	:	**09/26/19 06:34**	**Date Analyzed (2)**	:	**09/26/19 06:34**
Instrument ID (1)	:	**PEST15**	**Instrument ID (2)**	:	**PEST15**
GC Column (1)	:	**CLPPesticides**	**GC Column (2)**	:	**CLPPesticidesII**

Analyte	Col	RT	RT Window From	RT Window To	Concentration	RPD
Heptachlor Epoxide	1	4.10	4.05	4.15	2.13	
	2	4.51	4.46	4.56	1.36J	NC
Dieldrin	1	4.60	4.55	4.65	3.06	
	2	5.02	4.97	5.07	2.62	16
4,4'-DDE	1	4.37	4.32	4.42	22.	
	2	4.89	4.84	4.94	14.6	40
4,4'-DDT	1	5.03	4.98	5.08	15.5	
	2	5.53	5.48	5.58	22.1	35
alpha-Chlordane (cis	1	4.30	4.26	4.36	22.1	
	2	4.77	4.72	4.82	6.1	114
gamma-Chlordane (tra	1	4.21	4.16	4.26	2.9	
	2	4.67	4.61	4.71	13.4	129

Identification Summary
Form 10
Pesticides

Client	:	**Hillmann Consulting, LLC**	**Lab Number**	:	**L1942859**
Project Name	:	**G6-2420**	**Project Number**	:	**G6-2420**
Lab Sample ID	:	**L1942859-16**			
Client ID	:	**S15**			
Date Analyzed (1)	:	**09/26/19 05:29**	**Date Analyzed (2)**	:	**09/26/19 05:29**
Instrument ID (1)	:	**PEST15**	**Instrument ID (2)**	:	**PEST15**
GC Column (1)	:	**CLPPesticides**	**GC Column (2)**	:	**CLPPesticidesII**

Analyte	Col	RT	RT Window From	RT Window To	Concentration	RPD
Heptachlor Epoxide	1	4.10	4.05	4.15	5.59	
	2	4.51	4.46	4.56	5.3	5
4,4'-DDE	1	4.37	4.32	4.42	11.7	
	2	4.89	4.84	4.94	12.	2
4,4'-DDT	1	5.03	4.98	5.08	12.9	
	2	5.53	5.48	5.58	20.4	45
gamma-Chlordane (tra	1	4.21	4.16	4.26	1.16J	
	2	4.66	4.61	4.71	1.88	NC

Identification Summary
Form 10
Pesticides

Client	:	Hillmann Consulting, LLC	Lab Number	:	L1942859
Project Name	:	G6-2420	Project Number	:	G6-2420
Lab Sample ID	:	L1942859-17			
Client ID	:	S16			
Date Analyzed (1)	:	09/26/19 05:42	Date Analyzed (2)	:	09/26/19 05:42
Instrument ID (1)	:	PEST15	Instrument ID (2)	:	PEST15
GC Column (1)	:	CLPPesticides	GC Column (2)	:	CLPPesticidesII

			RT Window			
Analyte	Col	RT	From	To	Concentration	RPD
Heptachlor Epoxide	1	4.11	4.05	4.15	2.75J	
	2	4.51	4.46	4.56	2.5J	NC
Dieldrin	1	4.60	4.55	4.65	5.1	
	2	5.02	4.97	5.07	5.17	1
4,4'-DDE	1	4.37	4.32	4.42	34.6	
	2	4.89	4.84	4.94	35.8	3
4,4'-DDD	1	4.83	4.77	4.87	4.49	
	2	5.30	5.26	5.36	10.7	82
4,4'-DDT	1	5.03	4.98	5.08	47.4	
	2	5.53	5.48	5.58	50.2	6
alpha-Chlordane (cis	1	4.30	4.26	4.36	14.2	
	2	4.77	4.72	4.82	8.9	46
gamma-Chlordane (tra	1	4.21	4.16	4.26	4.28	
	2	4.66	4.61	4.71	8.62	67

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE7		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :	R1234430-2		R1234430-5		R1234430-7		R1234430-9		WG1287903-1	
Date Analyzed :	09/24/19 08:07		09/24/19 08:38		09/24/19 09:56		09/24/19 10:49		09/24/19 17:47	
Parameter	**mg/l**	**Q**	**mg/l**	**Q**	**mg/l**	**Q**	**mg/l**	**Q**	**mg/kg**	**Q**
Aluminum	0.0270	U	0.0270	U	0.0270	U	0.0270	U	1.08	U
Antimony	0.00380	U	0.00450	J	0.00660	J	0.00480	J	0.304	J
Arsenic	0.00460	J	0.00210	J	0.00208	U	0.00270	J	0.083	U
Barium	0.00174	U	0.00174	U	0.00174	U	0.00174	U	0.070	U
Beryllium	0.000330	U	0.000330	U	0.000330	U	0.000330	U	0.013	U
Cadmium	0.000980	U	0.000980	U	0.000980	U	0.000980	U	0.039	U
Calcium	0.0350	U	0.0350	U	0.0350	U	0.0350	U	1.40	U
Chromium	0.000960	U	0.000960	U	0.000960	U	0.000960	U	0.038	U
Cobalt	0.00166	U	0.00166	U	0.00166	U	0.00166	U	0.066	U
Copper	0.00258	U	0.00258	U	0.00280	J	0.00280	J	0.144	J
Iron	0.00903	U	0.00903	U	0.00903	U	0.00903	U	0.392	J
Lead	0.00268	U	0.00268	U	0.00268	U	0.00268	U	0.107	U
Magnesium	0.0154	U	0.0154	U	0.0154	U	0.0154	U	0.616	U
Manganese	0.00159	U	0.00159	U	0.00159	U	0.00159	U	0.064	U
Nickel	0.00242	U	0.00242	U	0.00242	U	0.00242	U	0.097	U
Potassium	0.144	U	0.144	U	0.144	U	0.144	U	5.76	U
Selenium	0.00258	U	0.00310	J	0.00258	U	0.00258	U	0.103	U
Silver	0.00283	U	0.00283	U	0.00283	U	0.00283	U	0.113	U
Sodium	0.0315	U	0.0315	U	0.0315	U	0.0315	U	1.26	U
Thallium	0.00315	U	0.00315	U	0.00315	U	0.00315	U	0.126	U
Vanadium	0.00203	U	0.00203	U	0.00203	U	0.00203	U	0.081	U
Zinc	0.00293	U	0.00293	U	0.00293	U	0.00293	U	0.117	U

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE7		

		Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID	:	R1234430-28		R1234430-11		R1234430-13		R1234430-15			
Date Analyzed	:	09/24/19 19:11		09/24/19 11:50		09/24/19 12:43		09/24/19 13:30			
Parameter		mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q		Q
Aluminum		0.0270	U	0.0270	U	0.0270	U	0.0270	U		
Antimony		0.00620	J	0.00550	J	0.00750	J	0.00690	J		
Arsenic		0.00208	U	0.00208	U	0.00208	U	0.00210	J		
Barium		0.00174	U	0.00174	U	0.00174	U	0.00174	U		
Beryllium		0.000330	U	0.000330	U	0.000330	U	0.000330	U		
Cadmium		0.000980	U	0.000980	U	0.000980	U	0.000980	U		
Calcium		0.0350	U	0.0350	U	0.0350	U	0.0350	U		
Chromium		0.000960	U	0.000960	U	0.000960	U	0.000960	U		
Cobalt		0.00166	U	0.00166	U	0.00166	U	0.00166	U		
Copper		0.00258	U	0.00320	J	0.00280	J	0.00350	J		
Iron		0.00903	U	0.0120	J	0.0104	J	0.00903	U		
Lead		0.00268	U	0.00268	U	0.00268	U	0.00268	U		
Magnesium		0.0154	U	0.0154	U	0.0154	U	0.0154	U		
Manganese		0.00159	U	0.00159	U	0.00159	U	0.00159	U		
Nickel		0.00242	U	0.00242	U	0.00242	U	0.00242	U		
Potassium		0.144	U	0.144	U	0.144	U	0.144	U		
Selenium		0.00258	U	0.00258	U	0.00258	U	0.00260	J		
Silver		0.00283	U	0.00283	U	0.00283	U	0.00283	U		
Sodium		0.0315	U	0.0315	U	0.0315	U	0.0315	U		
Thallium		0.00315	U	0.00315	U	0.00315	U	0.00315	U		
Vanadium		0.00203	U	0.00203	U	0.00203	U	0.00203	U		
Zinc		0.00293	U	0.00293	U	0.00293	U	0.00293	U		

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE7		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1234430-17		R1234430-19		R1234430-21			
Date Analyzed :			09/24/19 14:22		09/24/19 15:05		09/24/19 15:57			
Parameter	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q		Q
Aluminum			0.0270	U	0.0270	U	0.0270	U		
Antimony			0.00690	J	0.00810	J	0.00590	J		
Arsenic			0.00208	U	0.00290	J	0.00220	J		
Barium			0.00174	U	0.00174	U	0.00174	U		
Beryllium			0.000330	U	0.000330	U	0.000330	U		
Cadmium			0.000980	U	0.000980	U	0.000980	U		
Calcium			0.0350	U	0.0350	U	0.0350	U		
Chromium			0.000960	U	0.000960	U	0.000960	U		
Cobalt			0.00166	U	0.00166	U	0.00166	U		
Copper			0.00330	J	0.00340	J	0.00310	J		
Iron			0.00980	J	0.00903	U	0.00903	U		
Lead			0.00268	U	0.00268	U	0.00268	U		
Magnesium			0.0154	U	0.0154	U	0.0154	U		
Manganese			0.00159	U	0.00159	U	0.00159	U		
Nickel			0.00242	U	0.00242	U	0.00242	U		
Potassium			0.144	U	0.144	U	0.144	U		
Selenium			0.00258	U	0.00340	J	0.00258	U		
Silver			0.00283	U	0.00283	U	0.00283	U		
Sodium			0.0315	U	0.0315	U	0.0315	U		
Thallium			0.00315	U	0.00315	U	0.00315	U		
Vanadium			0.00203	U	0.00203	U	0.00203	U		
Zinc			0.00293	U	0.00293	U	0.00293	U		

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE7		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1234430-23		R1234430-25		R1234430-34			
Date Analyzed:			09/24/19 16:49		09/24/19 17:42		09/24/19 18:35			
Parameter	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q		Q
Aluminum			0.0270	U	0.0270	U	0.0270	U		
Antimony			0.00770	J	0.00730	J	0.00810	J		
Arsenic			0.00320	J	0.00208	U	0.00270	J		
Barium			0.00174	U	0.00174	U	0.00174	U		
Beryllium			0.000330	U	0.000330	U	0.000330	U		
Cadmium			0.000980	U	0.000980	U	0.000980	U		
Calcium			0.0350	U	0.0350	U	0.0350	U		
Chromium			0.000960	U	0.000960	U	0.000960	U		
Cobalt			0.00166	U	0.00166	U	0.00166	U		
Copper			0.00360	J	0.00430	J	0.00320	J		
Iron			0.00903	U	0.0122	J	0.00903	U		
Lead			0.00268	U	0.00268	U	0.00268	U		
Magnesium			0.0154	U	0.0154	U	0.0154	U		
Manganese			0.00159	U	0.00159	U	0.00159	U		
Nickel			0.00242	U	0.00242	U	0.00242	U		
Potassium			0.144	U	0.144	U	0.144	U		
Selenium			0.00258	U	0.00258	U	0.00258	U		
Silver			0.00283	U	0.00283	U	0.00283	U		
Sodium			0.0315	U	0.0315	U	0.0315	U		
Thallium			0.00315	U	0.00315	U	0.00315	U		
Vanadium			0.00203	U	0.00203	U	0.00203	U		
Zinc			0.00293	U	0.00293	U	0.00293	U		

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE7		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1234430-30		R1234430-32					
Date Analyzed :			09/24/19 20:03		09/24/19 20:56					
Parameter	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q		Q
Aluminum			0.0270	U	0.0270	U				
Antimony			0.00480	J	0.00380	J				
Arsenic			0.00208	U	0.00208	U				
Barium			0.00174	U	0.00174	U				
Beryllium			0.000330	U	0.000330	U				
Cadmium			0.000980	U	0.000980	U				
Calcium			0.0350	U	0.0350	U				
Chromium			0.000960	U	0.000960	U				
Cobalt			0.00166	U	0.00166	U				
Copper			0.00258	U	0.00258	U				
Iron			0.00903	U	0.00903	U				
Lead			0.00268	U	0.00268	U				
Magnesium			0.0154	U	0.0154	U				
Manganese			0.00159	U	0.00159	U				
Nickel			0.00242	U	0.00242	U				
Potassium			0.144	U	0.144	U				
Selenium			0.00258	U	0.00258	U				
Silver			0.00283	U	0.00283	U				
Sodium			0.0315	U	0.0315	U				
Thallium			0.00315	U	0.00315	U				
Vanadium			0.00203	U	0.00203	U				
Zinc			0.00293	U	0.00293	U				

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE5		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :	R1234530-2		R1234530-5		R1234530-7		R1234530-9		WG1287794-1	
Date Analyzed :	09/24/19 09:52		09/24/19 10:24		09/24/19 11:44		09/24/19 12:38		09/24/19 21:07	
Parameter	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q
Aluminum	0.0318	U	0.0318	U	0.0318	U	0.0318	U	0.032	U
Antimony	0.00710	U	0.00710	U	0.00710	U	0.00710	U	0.007	U
Arsenic	0.00190	U	0.00190	U	0.00190	U	0.00190	U	0.002	U
Barium	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.002	U
Beryllium	0.000900	U	0.000900	U	0.000900	U	0.000900	U	0.001	U
Cadmium	0.00100	U	0.00100	U	0.00100	U	0.00100	U	0.001	U
Calcium	0.0350	U	0.0350	U	0.0350	U	0.0350	U	0.035	U
Chromium	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.002	U
Cobalt	0.00170	U	0.00170	U	0.00170	U	0.00170	U	0.002	U
Copper	0.00220	U	0.00220	U	0.00220	U	0.00220	U	0.002	U
Iron	0.00900	U	0.00900	U	0.00900	U	0.00900	U	0.009	U
Lead	0.00270	U	0.00270	U	0.00270	U	0.00270	U	0.003	U
Magnesium	0.0153	U	0.0153	U	0.0153	U	0.0153	U	0.015	U
Manganese	0.00160	U	0.00160	U	0.00160	U	0.00160	U	0.002	U
Nickel	0.00240	U	0.00240	U	0.00240	U	0.00240	U	0.002	U
Potassium	0.237	U	0.237	U	0.237	U	0.237	U	0.237	U
Selenium	0.00350	U	0.00350	U	0.00350	U	0.00350	U	0.004	U
Silver	0.00280	U	0.00280	U	0.00280	U	0.00280	U	0.003	U
Sodium	0.120	U	0.120	U	0.120	U	0.120	U	0.120	U
Thallium	0.00250	U	0.00250	U	0.00250	U	0.00250	U	0.003	U
Vanadium	0.00200	U	0.00200	U	0.00200	U	0.00200	U	0.002	U
Zinc	0.00210	U	0.00210	U	0.00210	U	0.00210	U	0.002	U

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE5		

		Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID	:	R1234530-23		R1234530-11		R1234530-13		R1234530-15			
Date Analyzed	:	09/24/19 17:31		09/24/19 13:34		09/24/19 13:53		09/24/19 14:54			
Parameter		mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q		Q
Aluminum		0.0318	U	0.0318	U	0.0318	U	0.0318	U		
Antimony		0.00710	U	0.00710	U	0.00710	U	0.00710	U		
Arsenic		0.00190	U	0.00190	U	0.00190	U	0.00190	U		
Barium		0.00210	U	0.00210	U	0.00210	U	0.00210	U		
Beryllium		0.000900	U	0.000900	U	0.000900	U	0.000900	U		
Cadmium		0.00100	U	0.00100	U	0.00100	U	0.00100	U		
Calcium		0.0350	U	0.0350	U	0.0350	U	0.0350	U		
Chromium		0.00210	U	0.00210	U	0.00210	U	0.00210	U		
Cobalt		0.00170	U	0.00170	U	0.00170	U	0.00170	U		
Copper		0.00220	U	0.00220	U	0.00220	U	0.00220	U		
Iron		0.00900	U	0.00900	U	0.00900	U	0.00900	U		
Lead		0.00270	U	0.00270	U	0.00270	U	0.00270	U		
Magnesium		0.0153	U	0.0153	U	0.0153	U	0.0153	U		
Manganese		0.00160	U	0.00160	U	0.00160	U	0.00160	U		
Nickel		0.00240	U	0.00240	U	0.00240	U	0.00240	U		
Potassium		0.237	U	0.237	U	0.237	U	0.237	U		
Selenium		0.00350	U	0.00350	U	0.00350	U	0.00350	U		
Silver		0.00280	U	0.00280	U	0.00280	U	0.00280	U		
Sodium		0.120	U	0.120	U	0.120	U	0.120	U		
Thallium		0.00250	U	0.00250	U	0.00250	U	0.00250	U		
Vanadium		0.00200	U	0.00200	U	0.00200	U	0.00200	U		
Zinc		0.00210	U	0.00210	U	0.00210	U	0.00210	U		

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE5		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1234530-17		R1234530-19		R1234530-21			
Date Analyzed :			09/24/19 15:58		09/24/19 16:50		09/24/19 17:02			
Parameter	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q		Q
Aluminum			0.0318	U	0.0318	U	0.0318	U		
Antimony			0.00710	U	0.00710	U	0.00710	U		
Arsenic			0.00190	U	0.00190	U	0.00190	U		
Barium			0.00210	U	0.00210	U	0.00210	U		
Beryllium			0.000900	U	0.000900	U	0.000900	U		
Cadmium			0.00100	U	0.00100	U	0.00100	U		
Calcium			0.0350	U	0.0350	U	0.0350	U		
Chromium			0.00210	U	0.00210	U	0.00210	U		
Cobalt			0.00170	U	0.00170	U	0.00170	U		
Copper			0.00220	U	0.00220	U	0.00220	U		
Iron			0.00900	U	0.00900	U	0.00900	U		
Lead			0.00270	U	0.00270	U	0.00270	U		
Magnesium			0.0153	U	0.0153	U	0.0153	U		
Manganese			0.00160	U	0.00160	U	0.00160	U		
Nickel			0.00240	U	0.00240	U	0.00240	U		
Potassium			0.237	U	0.237	U	0.237	U		
Selenium			0.00350	U	0.00350	U	0.00350	U		
Silver			0.00280	U	0.00280	U	0.00280	U		
Sodium			0.120	U	0.120	U	0.120	U		
Thallium			0.00250	U	0.00250	U	0.00250	U		
Vanadium			0.00200	U	0.00200	U	0.00200	U		
Zinc			0.00210	U	0.00210	U	0.00210	U		

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE5		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1234530-25		R1234530-27		R1234530-29			
Date Analyzed:			09/24/19 18:27		09/24/19 19:23		09/24/19 20:08			
Parameter	mg/l	Q	mg/l	Q	mg/l	Q	mg/l	Q		Q
Aluminum			0.0318	U	0.0318	U	0.0318	U		
Antimony			0.00710	U	0.00710	U	0.00710	U		
Arsenic			0.00190	U	0.00190	U	0.00190	U		
Barium			0.00210	U	0.00210	U	0.00210	U		
Beryllium			0.000900	U	0.000900	U	0.000900	U		
Cadmium			0.00100	U	0.00100	U	0.00100	U		
Calcium			0.0350	U	0.0350	U	0.0350	U		
Chromium			0.00210	U	0.00210	U	0.00210	U		
Cobalt			0.00170	U	0.00170	U	0.00170	U		
Copper			0.00220	U	0.00220	U	0.00220	U		
Iron			0.00900	U	0.00900	U	0.00900	U		
Lead			0.00270	U	0.00270	U	0.00270	U		
Magnesium			0.0153	U	0.0153	U	0.0153	U		
Manganese			0.00160	U	0.00160	U	0.00160	U		
Nickel			0.00240	U	0.00240	U	0.00240	U		
Potassium			0.237	U	0.237	U	0.237	U		
Selenium			0.00350	U	0.00350	U	0.00350	U		
Silver			0.00280	U	0.00280	U	0.00280	U		
Sodium			0.120	U	0.120	U	0.120	U		
Thallium			0.00250	U	0.00250	U	0.00250	U		
Vanadium			0.00200	U	0.00200	U	0.00200	U		
Zinc			0.00210	U	0.00210	U	0.00210	U		

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: TRACE5		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1234530-31		R1234530-33					
Date Analyzed :			09/24/19 21:03		09/24/19 21:58					
Parameter	**mg/l**	**Q**	**mg/l**	**Q**	**mg/l**	**Q**	**mg/l**	**Q**		**Q**
Aluminum			0.0318	U	0.0318	U				
Antimony			0.00710	U	0.00710	U				
Arsenic			0.00190	U	0.00190	U				
Barium			0.00210	U	0.00210	U				
Beryllium			0.000900	U	0.000900	U				
Cadmium			0.00100	U	0.00100	U				
Calcium			0.0350	U	0.0350	U				
Chromium			0.00210	U	0.00210	U				
Cobalt			0.00170	U	0.00170	U				
Copper			0.00220	U	0.00220	U				
Iron			0.00900	U	0.00900	U				
Lead			0.00270	U	0.00270	U				
Magnesium			0.0153	U	0.0153	U				
Manganese			0.00160	U	0.00160	U				
Nickel			0.00240	U	0.00240	U				
Potassium			0.237	U	0.237	U				
Selenium			0.00350	U	0.00350	U				
Silver			0.00280	U	0.00280	U				
Sodium			0.120	U	0.120	U				
Thallium			0.00250	U	0.00250	U				
Vanadium			0.00200	U	0.00200	U				
Zinc			0.00210	U	0.00210	U				

Form 7
Laboratory Control Sample

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Client Sample ID	: NA	**Matrix**	: SOLID
Lab Sample ID	: WG1287903-2	**LCS Analysis Date**	: 09/24/19 17:29
Dup Sample ID	:	**LCSD Analysis Date**	:

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (mg/kg)	Found (mg/kg)	%R	True (mg/kg)	Found (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Aluminum, Total	8800	5940	68.					51-149	20
Antimony, Total	147.	262.	178.					19-249	20
Arsenic, Total	143.	153.	107.					70-130	20
Barium, Total	415.	400.	96.					75-125	20
Beryllium, Total	179.	175.	98.					75-125	20
Cadmium, Total	56.2	55.5	99.					75-125	20
Calcium, Total	4960	4540	92.					73-127	20
Chromium, Total	101.	99.9	99.					70-130	20
Cobalt, Total	189.	181.	96.					75-125	20
Copper, Total	63.1	68.5	108.					75-125	20
Iron, Total	15700	13300	85.					38-162	20
Lead, Total	125.	118.	94.					71-128	20
Magnesium, Total	2410	2060	85.					63-137	20
Manganese, Total	382.	344.	90.					76-124	20
Nickel, Total	108.	102.	94.					70-131	20
Potassium, Total	2110	1720	82.					60-140	20
Selenium, Total	77.9	78.1	100.					63-137	20
Silver, Total	34.3	37.4	109.					69-131	20
Sodium, Total	1430	1260	88.					37-162	20
Thallium, Total	113.	113.	100.					68-132	20
Vanadium, Total	83.7	86.2	103.					65-135	20
Zinc, Total	240.	238.	99.					70-130	20

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
L1943161-01 T				UNK	09/23/19 04:36:20 pm	0.000	59	102.67	
Replicates	-7.3	140.3	49.2	55.0					
L1943161-02 T				UNK	09/23/19 04:38:02 pm	0.088	424	15.76	
Replicates	451.1	500.7	401.7	344.5					
WG1286848-1 T				UNK	09/23/19 04:39:45 pm	-0.032	-75	32.60	
Replicates	-94.0	-49.7	-59.3	-98.8					
WG1286848-2 T 2X				UNK	09/23/19 04:41:28 pm	20.500	42811	4.66	
Replicates	39877.3	43291.2	44225.3	43851.8					
L1940513-02 T				UNK	09/23/19 04:43:11 pm	0.194	867	2.56	
Replicates	867.1	883.7	882.5	836.0					
WG1286848-3 T				UNK	09/23/19 04:44:54 pm	0.977	4141	5.24	
Replicates	3822.7	4214.3	4311.3	4215.5					
CCV				CCV	09/23/19 04:46:37 pm	9.880	41349	1.44	
Replicates	40633.7	41849.0	41833.2	41081.0					
% Recovery	98.77								
CCB				CCB	09/23/19 04:48:20 pm	0.014	115	14.39	
Replicates	121.7	120.3	128.3	91.0					
WG1286848-4 T				UNK	09/23/19 04:50:04 pm	0.152	695	9.27	
Replicates	601.3	739.5	702.8	735.3					
0513-02 PS				UNK	09/23/19 04:51:47 pm	9.170	38378	3.17	
Replicates	36573.9	38890.3	39247.8	38800.7					
L1942737-01 T				UNK	09/23/19 04:53:31 pm	0.290	1271	7.57	
Replicates	1128.7	1333.0	1299.8	1324.3					
L1942859-01 T				UNK	09/23/19 04:55:16 pm	0.327	1423	9.78	
Replicates	1255.7	1379.0	1472.5	1583.2					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
L1942859-02 T				UNK	09/23/19 04:57:00 pm	1.350	5720	10.27	
Replicates	4980.6	5514.7	6182.8	6201.0					
L1942859-03 T				UNK	09/23/19 04:58:43 pm	0.111	523	10.25	
Replicates	451.3	514.3	574.3	550.7					
L1942859-04 T				UNK	09/23/19 05:00:26 pm	0.253	1116	8.76	
Replicates	973.4	1133.3	1188.8	1168.5					
L1942859-05 T				UNK	09/23/19 05:02:09 pm	4.780	20044	3.34	
Replicates	19057.7	20326.3	20552.3	20238.0					
L1942859-06 T				UNK	09/23/19 05:03:52 pm	0.109	511	7.72	
Replicates	456.6	522.7	550.5	514.2					
L1942859-07 T				UNK	09/23/19 05:05:35 pm	3.610	15167	3.83	
Replicates	14300.7	15385.0	15519.7	15463.8					
CCV				CCV	09/23/19 05:07:19 pm	9.720	40692	5.41	
Replicates	37539.3	40817.0	42233.3	42178.2					
% Recovery	97.19								
CCB				CCB	09/23/19 05:09:02 pm	0.073	361	20.35	
Replicates	461.4	304.3	308.0	371.7					
L1942859-08 T				UNK	09/23/19 05:10:45 pm	4.370	18318	4.56	
Replicates	17096.7	18493.0	18953.3	18729.5					
L1942859-09 T				UNK	09/23/19 05:12:28 pm	2.130	8977	3.72	
Replicates	8485.7	9206.0	9164.2	9050.5					
L1942859-10 T				UNK	09/23/19 05:14:11 pm	6.680	27969	5.72	
Replicates	25685.4	28038.5	29132.2	29020.7					
L1942859-12 T				UNK	09/23/19 05:15:55 pm	4.320	18133	5.61	
Replicates	16672.4	18199.2	18857.5	18801.5					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
L1942859-13 T				UNK	09/23/19 05:17:39 pm	7.650	32053	6.91	
Replicates	29008.7	31823.5	33549.5	33831.0					
L1942859-14 T				UNK	09/23/19 05:19:23 pm	6.730	28189	6.23	
Replicates	25694.0	28219.0	29423.7	29419.5					
L1942859-15 T				UNK	09/23/19 05:21:08 pm	4.720	19771	6.51	
Replicates	17974.0	19714.2	20628.7	20768.2					
L1942859-16 T				UNK	09/23/19 05:22:51 pm	4.910	20595	4.67	
Replicates	19182.4	20809.8	21269.7	21120.0					
L1942859-17 T				UNK	09/23/19 05:24:34 pm	2.100	8839	5.39	
Replicates	8155.9	8870.0	9178.5	9152.0					
L1943050-07 T				UNK	09/23/19 05:26:18 pm	0.198	886	2.67	
Replicates	871.7	909.5	903.5	861.2					
L1943216-01 T				UNK	09/23/19 05:28:01 pm	0.129	598	8.85	
Replicates	621.7	588.0	651.8	528.5					
CCV				CCV	09/23/19 05:29:44 pm	9.600	40195	5.42	
Replicates	37054.1	40393.5	41734.0	41596.7					
% Recovery	96.00								
CCB				CCB	09/23/19 05:31:28 pm	0.042	233	23.62	
Replicates	204.6	217.7	196.5	315.2					
WG1286921-1 T				UNK	09/23/19 05:33:11 pm	0.042	232	3.10	
Replicates	233.6	222.8	229.8	240.0					
WG1286921-2 T 2X				UNK	09/23/19 05:35:16 pm	22.200	46475	6.36	
Replicates	42306.4	46437.5	48639.5	48518.3					
L1943331-03 T				UNK	09/23/19 05:36:59 pm	1.220	5158	5.11	
Replicates	4796.4	5153.0	5414.8	5266.7					

Form 7
Laboratory Control Sample

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Client Sample ID	: NA	**Matrix**	: SOIL
Lab Sample ID	: WG1285955-2	**LCS Analysis Date**	: 09/19/19 14:09
Dup Sample ID	: WG1285955-3	**LCSD Analysis Date**	: 09/19/19 14:12

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (mg/kg)	Found (mg/kg)	%R	True (mg/kg)	Found (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Cyanide, Total	150.	100.	68.	150.	130	86.	25	80-120	35

Form 7
Laboratory Control Sample

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Client Sample ID	: NA	**Matrix**	: SOIL
Lab Sample ID	: WG1286075-2	**LCS Analysis Date**	: 09/19/19 17:12
Dup Sample ID	: WG1286075-3	**LCSD Analysis Date**	: 09/19/19 16:12

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (mg/kg)	Found (mg/kg)	%R	True (mg/kg)	Found (mg/kg)	%R	RPD	Recovery Limits	RPD Limit
Cyanide, Total	150.	120.	79.	150.	120	82.	4	80-120	35

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC	Lab Number	: L1942859
Project Name	: G6-2420	Project Number	: G6-2420
Instrument ID	: LCMS02	Calibration Date	: 10/01/19 18:27
Lab File ID	: I10483	Init. Calib. Date(s)	: 09/12/19 09/12/19
Sample No	: WG1290660-3	Init. Calib. Times	: 07:46 09:42
Channel	:		

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.500	0.500	100	50-150
Perfluoropentanoic Acid (PFPeA)	0.462	0.500	92.4	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.364	0.440	82.2	50-150
Perfluorohexanoic Acid (PFHxA)	0.604	0.500	120.7	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.413	0.470	88.3	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.460	0.470	97.9	50-150
Perfluoroheptanoic Acid (PFHpA)	0.515	0.500	103	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.059	0.090	69.5	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.387	0.370	104.7	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.446	0.460	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)				
Perfluorooctanoic Acid-Linear (L-PFOA)	0.521	0.500	104.1	50-150
Perfluorooctanoic Acid (PFOA)	0.521	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.318	0.480	67	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.292	0.480	61.6	50-150
Perfluorononanoic Acid (PFNA)	0.503	0.500	100.6	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.222	0.100	222.5*	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.285	0.370	78	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.507	0.460	-	50-150
Perfluorodecanoic Acid (PFDA)	0.467	0.500	93.4	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.428	0.480	89.1	50-150
Perfluorononanesulfonic Acid (PFNS)	0.325	0.480	67.7	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.493	0.500	98.5	50-150
Perfluoroundecanoic Acid (PFUnA)	0.445	0.500	88.9	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.384	0.480	79.5	50-150
Perfluorooctanesulfonamide (FOSA)	0.432	0.500	86.3	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.476	0.500	95.2	50-150
Perfluorododecanoic Acid (PFDoA)	0.532	0.500	106.5	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.597	0.500	119.3	50-150
Perfluorotetradecanoic Acid (PFTA)	0.523	0.500	104.5	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.673	10.000	96.7	50-150
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	9.877	10.000	98.8	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	8.544	10.000	85.4	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	8.335	10.000	83.4	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	9.537	10.000	95.4	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	9.511	10.000	95.1	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	9.132	10.000	91.3	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.623	10.000	96.2	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	9.737	10.000	97.4	50-150
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	10.343	10.000	103.4	50-150
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	9.062	10.000	90.6	50-150
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	10.120	10.000	101.2	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	10.194	10.000	101.9	50-150

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC	Lab Number	: L1942859
Project Name	: G6-2420	Project Number	: G6-2420
Instrument ID	: LCMS02	Calibration Date	: 10/02/19 01:05
Lab File ID	: I10507	Init. Calib. Date(s)	: 09/12/19 09/12/19
Sample No	: WG1290660-5	Init. Calib. Times	: 07:46 09:42
Channel	:		

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.520	0.500	103.9	50-150
Perfluoropentanoic Acid (PFPeA)	0.472	0.500	94.3	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.402	0.440	90.9	50-150
Perfluorohexanoic Acid (PFHxA)	0.626	0.500	125.2	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.391	0.470	83.7	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.426	0.470	90.6	50-150
Perfluoroheptanoic Acid (PFHpA)	0.506	0.500	101.2	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.039	0.090	45.8*	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.371	0.370	100.2	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.410	0.460	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)				
Perfluorooctanoic Acid-Linear (L-PFOA)	0.520	0.500	103.9	50-150
Perfluorooctanoic Acid (PFOA)	0.520	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.419	0.480	88.1	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.281	0.480	59.1	50-150
Perfluorononanoic Acid (PFNA)	0.501	0.500	100.2	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.110	0.100	109.5	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.252	0.370	69.1	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.362	0.460	-	50-150
Perfluorodecanoic Acid (PFDA)	0.463	0.500	92.6	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.199	0.480	41.5*	50-150
Perfluorononanesulfonic Acid (PFNS)	0.340	0.480	70.8	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.255	0.500	51.1	50-150
Perfluoroundecanoic Acid (PFUnA)	0.512	0.500	102.4	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.530	0.480	109.9	50-150
Perfluorooctanesulfonamide (FOSA)	0.402	0.500	80.5	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.553	0.500	110.6	50-150
Perfluorododecanoic Acid (PFDoA)	0.509	0.500	101.8	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.647	0.500	129.4	50-150
Perfluorotetradecanoic Acid (PFTA)	0.480	0.500	96	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.656	10.000	96.6	50-150
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	9.736	10.000	97.4	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	8.575	10.000	85.7	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	8.809	10.000	88.1	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	9.820	10.000	98.2	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	9.702	10.000	97	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	8.967	10.000	89.7	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.855	10.000	98.5	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	8.860	10.000	88.6	50-150
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	10.253	10.000	102.5	50-150
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	9.642	10.000	96.4	50-150
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	9.942	10.000	99.4	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	10.751	10.000	107.5	50-150

* Value outside of QC limits.

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S8 ()	S9 ()	S10 ()	S11 ()	S12 ()	S13 ()	S14 ()
S1 (L1942859-01)	107	97	92	96	123	68	98
S2 (L1942859-02)	95	93	85	90	122	57	92
S3 (L1942859-03)	99	88	89	89	127	68	87
S4 (L1942859-04)	103	93	99	89	121	64	96
S5 (L1942859-05)	105	97	100	95	133	55	100
S6 (L1942859-06)	112	91	99	93	132	61	95
S7 (L1942859-07)	114	84	90	84	125	60	87
S8 (L1942859-08)	102	78	87	81	108	47	81
S9 (L1942859-09)	99	87	90	85	112	55	91
S10 (L1942859-10)	112	98	97	95	127	67	97
S11 (L1942859-12)	97	86	93	86	132	34*	88
S12 (L1942859-13)	104	99	103	98	141	62	101
S13 (L1942859-14)	101	84	90	84	108	50	86
S14 (L1942859-15)	97	81	95	82	119	50	87
S15 (L1942859-16)	103	87	90	87	132	64	91
S16 (L1942859-17)	96	85	92	85	124	61	89
WG1289502-1BLANK	98	97	90	92	119	75	98
WG1289502-2LCS	118	95	96	94	151	84	98
WG1289502-3LCSD	111	95	99	93	135	85	100
S1MS	88	99	103	96	114	67	99
S2DUP	92	89	94	88	131	52	92

QC LIMITS

(32-182) S8 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]OCTANESULFONIC ACID (M2-6:2FTS)
(61-154) S9 = PERFLUORO[13C9]NONANOIC ACID (M9PFNA)
(65-151) S10 = PERFLUORO[13C8]OCTANESULFONIC ACID (M8PFOS)
(65-150) S11 = PERFLUORO[1,2,3,4,5,6-13C6]DECANOIC ACID (M6PFDA)
(25-186) S12 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]DECANESULFONIC ACID (M2-8:2FTS)
(45-137) S13 = N-DEUTERIOMETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D3-NMEFOSAA)
(45-137) S14 = PERFLUORO[1,2,3,4,5,6,7-13C7]UNDECANOIC ACID (M7-PFUDA)

*** Values outside of QC limits**

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1942859
Project Number: G6-2420
Matrix: Soil

CLIENT ID (LAB SAMPLE NO.)	S15 ()	S16 ()	S17 ()	S18 ()	S19 ()	S20 ()	S21 ()	TOT OUT
S1 (L1942859-01)	93	71	88	79	79	--	--	0
S2 (L1942859-02)	26	53	81	69	69	--	--	0
S3 (L1942859-03)	47	70	77	62	62	--	--	0
S4 (L1942859-04)	92	65	82	78	78	--	--	0
S5 (L1942859-05)	13	64	90	76	76	--	--	0
S6 (L1942859-06)	6	62	84	70	70	--	--	0
S7 (L1942859-07)	3	63	80	65	65	--	--	0
S8 (L1942859-08)	1	43	69	45	45	--	--	3
S9 (L1942859-09)	10	54	77	49	49	--	--	0
S10 (L1942859-10)	35	67	85	79	79	--	--	0
S11 (L1942859-12)	1	40*	79	53	53	--	--	3
S12 (L1942859-13)	3	64	85	76	76	--	--	0
S13 (L1942859-14)	17	50	73	54	54	--	--	0
S14 (L1942859-15)	10	55	76	53	53	--	--	0
S15 (L1942859-16)	31	62	84	74	74	--	--	0
S16 (L1942859-17)	7	56	78	49	49	--	--	0
WG1289502-1BLANK	2	80	86	72	72	--	--	0
WG1289502-2LCS	3	73	88	76	76	--	--	0
WG1289502-3LCSD	2	77	88	75	75	--	--	0
S1MS	104	69	90	83	83	--	--	0
S2DUP	11	61	78	70	70	--	--	0

QC LIMITS

(1-125) S15 = PERFLUORO[13C8]OCTANESULFONAMIDE (M8FOSA)
(42-136) S16 = N-DEUTERIOETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D5-NETFOSAA)
(56-148) S17 = PERFLUORO[1,2-13C2]DODECANOIC ACID (MPFDOA)
(26-160) S18 = PERFLUORO[1,2-13C2]TETRADECANOIC ACID (M2PFTEDA)
(33-143) S19 = PERFLUORO[1,2-13C2]TETRADECANOIC ACID (M2PFTEDA)

* Values outside of QC limits

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: SOIL		
LCS Sample ID	: WG1289502-2	**Analysis Date** : 10/01/19 13:26	**File ID** : I10465
LCSD Sample ID	: WG1289502-3	**Analysis Date** : 10/01/19 13:42	**File ID** : I10466

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/kg)	Found (ug/kg)	%R	True (ug/kg)	Found (ug/kg)	%R	RPD	Recovery Limits	RPD Limit
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	5	5.64	113	5	5.50	110	3	63-144	30
Perfluoroundecanoic Acid (PFUnA)	5	5.49	110	5	5.50	110	0	64-136	30
Perfluorodecanesulfonic Acid (PFDS)	4.83	5.56	115	4.83	5.20	108	6	59-134	30
Perfluorooctanesulfonamide (FOSA)	5	3.94	79	5	5.78	116	38 Q	67-137	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	5	5.94	119	5	6.16	123	3	61-139	30
Perfluorododecanoic Acid (PFDoA)	5	5.88	118	5	5.95	119	1	69-135	30
Perfluorotridecanoic Acid (PFTrDA)	5	6.27	125	5	6.53	130	4	66-139	30
Perfluorotetradecanoic Acid (PFTA)	5	5.56	111	5	5.69	114	3	69-133	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1290720-2	**Analysis Date** : 10/02/19 19:56	**File ID** : I10570
LCSD Sample ID	: WG1290720-3	**Analysis Date** : 10/02/19 20:12	**File ID** : I10571

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ng/l)	Found (ng/l)	%R	True (ng/l)	Found (ng/l)	%R	RPD	Recovery Limits	RPD Limit
Perfluorobutanoic Acid (PFBA)	40	46.8	117	40	49.3	123	5	67-148	30
Perfluoropentanoic Acid (PFPeA)	40	42.7	107	40	45.3	113	5	63-161	30
Perfluorobutanesulfonic Acid (PFBS)	35.4	36.5	103	35.4	38.4	108	5	65-157	30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	37.4	44.1	118	37.4	46.9	125	6	37-219	30
Perfluorohexanoic Acid (PFHxA)	40	46.8	117	40	50.5	126	7	69-168	30
Perfluoropentanesulfonic Acid (PFPeS)	36	42.7	119	36	44.3	123	3	52-156	30
Perfluoroheptanoic Acid (PFHpA)	40	47.0	117	40	49.7	124	6	58-159	30
Perfluorohexanesulfonic Acid (PFHxS)	36.5	46.1	126	36.5	48.3	132	5	69-177	30
Perfluorooctanoic Acid (PFOA)	40	47.7	119	40	51.4	128	7	63-159	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	38	50.2	132	38	45.7	120	10	49-187	30
Perfluoroheptanesulfonic Acid (PFHpS)	38	37.6	99	38	43.7	115	15	61-179	30
Perfluorononanoic Acid (PFNA)	40	46.5	116	40	49.3	123	6	68-171	30
Perfluorooctanesulfonic Acid	37	43.6	118	37	45.8	124	5	52-151	30

Matrix Spike Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1942859
Project Name	: G6-2420	**Project Number**	: G6-2420
Client Sample ID	: S1	**Matrix**	: SOIL
Lab Sample ID	: L1942859-01	**Analysis Date**	: 10/01/19 19:00
Matrix Spike	: WG1289502-4	**MS Analysis Date**	: 10/01/19 14:32
Matrix Spike Dup	:	**MSD Analysis Date**	:

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	**Sample Conc. (ug/kg)**	**Spike Added (ug/kg)**	**Spike Conc. (ug/kg)**	**%R**	**Spike Added (ug/kg)**	**Spike Conc. (ug/kg)**	**%R**	**RPD**	**Recovery Limits**	**RPD Limit**
Perfluorodecanesulfonic Acid (PFDS)	ND	5.71	5.74	101					59-134	30
Perfluorooctanesulfonamide (FOSA)	ND	5.91	5.64	96					67-137	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	5.91	6.62	112					61-139	30
Perfluorododecanoic Acid (PFDoA)	ND	5.91	6.97	118					69-135	30
Perfluorotridecanoic Acid (PFTrDA)	ND	5.91	7.79	132					66-139	30
Perfluorotetradecanoic Acid (PFTA)	ND	5.91	6.57	111					69-133	30

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: Hillmann Consulting, LLC	Lab Number	: L1942859
Project Name	: G6-2420	Project Number	: G6-2420
Lab ID	: WG1289502-1	Date Collected	: NA
Client ID	: WG1289502-1BLANK	Date Received	: NA
Sample Location	:	Date Analyzed	: 10/01/19 12:53
Sample Matrix	: SOIL	Date Extracted	: 09/27/19
Analytical Method	: 122,537(M)	Dilution Factor	: 1
Lab File ID	: I10463	Analyst	: JW
Sample Amount	: 4 g	Instrument ID	: LCMS02
Extraction Method	: EPA 537(M)	GC Column	: Acquity UPLC BEH C18
Extract Volume	: 2000 uL	%Solids	: NA
GPC Cleanup	: N	Injection Volume	: 3 uL

		ug/Kg			
CAS NO.	Parameter	Results	RL	MDL	Qualifier
375-22-4	Perfluorobutanoic Acid (PFBA)	0.139	1.00	0.023	J
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	1.00	0.046	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	1.00	0.039	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.057	1.00	0.053	J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	1.00	0.045	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	1.00	0.061	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	1.00	0.042	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	1.00	0.180	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.00	0.136	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	1.00	0.075	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	1.00	0.130	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	1.00	0.067	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	1.00	0.287	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	1.00	0.202	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	1.00	0.047	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	1.00	0.153	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	1.00	0.098	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.00	0.085	U

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC	Lab Number	: L1942859
Project Name	: G6-2420	Project Number	: G6-2420
Instrument ID	: LCMS02	Calibration Date	: 10/01/19 18:27
Lab File ID	: I10483	Init. Calib. Date(s)	: 09/12/19 09/12/19
Sample No	: WG1290660-3	Init. Calib. Times	: 07:46 09:42
Channel	:		

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.500	0.500	100	50-150
Perfluoropentanoic Acid (PFPeA)	0.462	0.500	92.4	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.364	0.440	82.2	50-150
Perfluorohexanoic Acid (PFHxA)	0.604	0.500	120.7	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.413	0.470	88.3	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.460	0.470	97.9	50-150
Perfluoroheptanoic Acid (PFHpA)	0.515	0.500	103	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.059	0.090	69.5	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.387	0.370	104.7	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.446	0.460	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)				
Perfluorooctanoic Acid-Linear (L-PFOA)	0.521	0.500	104.1	50-150
Perfluorooctanoic Acid (PFOA)	0.521	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.318	0.480	67	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.292	0.480	61.6	50-150
Perfluorononanoic Acid (PFNA)	0.503	0.500	100.6	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.222	0.100	222.5*	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.285	0.370	78	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.507	0.460	-	50-150
Perfluorodecanoic Acid (PFDA)	0.467	0.500	93.4	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.428	0.480	89.1	50-150
Perfluorononanesulfonic Acid (PFNS)	0.325	0.480	67.7	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.493	0.500	98.5	50-150
Perfluoroundecanoic Acid (PFUnA)	0.445	0.500	88.9	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.384	0.480	79.5	50-150
Perfluorooctanesulfonamide (FOSA)	0.432	0.500	86.3	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.476	0.500	95.2	50-150
Perfluorododecanoic Acid (PFDoA)	0.532	0.500	106.5	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.597	0.500	119.3	50-150
Perfluorotetradecanoic Acid (PFTA)	0.523	0.500	104.5	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.673	10.000	96.7	50-150
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	9.877	10.000	98.8	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	8.544	10.000	85.4	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	8.335	10.000	83.4	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	9.537	10.000	95.4	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	9.511	10.000	95.1	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	9.132	10.000	91.3	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.623	10.000	96.2	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	9.737	10.000	97.4	50-150
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	10.343	10.000	103.4	50-150
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	9.062	10.000	90.6	50-150
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	10.120	10.000	101.2	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	10.194	10.000	101.9	50-150

* Value outside of QC limits.

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC	Lab Number	: L1942859
Project Name	: G6-2420	Project Number	: G6-2420
Instrument ID	: LCMS02	Calibration Date	: 10/02/19 01:05
Lab File ID	: I10507	Init. Calib. Date(s)	: 09/12/19 09/12/19
Sample No	: WG1290660-5	Init. Calib. Times	: 07:46 09:42
Channel	:		

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.520	0.500	103.9	50-150
Perfluoropentanoic Acid (PFPeA)	0.472	0.500	94.3	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.402	0.440	90.9	50-150
Perfluorohexanoic Acid (PFHxA)	0.626	0.500	125.2	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.391	0.470	83.7	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.426	0.470	90.6	50-150
Perfluoroheptanoic Acid (PFHpA)	0.506	0.500	101.2	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.039	0.090	45.8*	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.371	0.370	100.2	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.410	0.460	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)				
Perfluorooctanoic Acid-Linear (L-PFOA)	0.520	0.500	103.9	50-150
Perfluorooctanoic Acid (PFOA)	0.520	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.419	0.480	88.1	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.281	0.480	59.1	50-150
Perfluorononanoic Acid (PFNA)	0.501	0.500	100.2	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.110	0.100	109.5	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.252	0.370	69.1	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.362	0.460	-	50-150
Perfluorodecanoic Acid (PFDA)	0.463	0.500	92.6	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.199	0.480	41.5*	50-150
Perfluorononanesulfonic Acid (PFNS)	0.340	0.480	70.8	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.255	0.500	51.1	50-150
Perfluoroundecanoic Acid (PFUnA)	0.512	0.500	102.4	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.530	0.480	109.9	50-150
Perfluorooctanesulfonamide (FOSA)	0.402	0.500	80.5	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.553	0.500	110.6	50-150
Perfluorododecanoic Acid (PFDoA)	0.509	0.500	101.8	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.647	0.500	129.4	50-150
Perfluorotetradecanoic Acid (PFTA)	0.480	0.500	96	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.656	10.000	96.6	50-150
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	9.736	10.000	97.4	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	8.575	10.000	85.7	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	8.809	10.000	88.1	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	9.820	10.000	98.2	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	9.702	10.000	97	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	8.967	10.000	89.7	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.855	10.000	98.5	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	8.860	10.000	88.6	50-150
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	10.253	10.000	102.5	50-150
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	9.642	10.000	96.4	50-150
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	9.942	10.000	99.4	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	10.751	10.000	107.5	50-150

* Value outside of QC limits.

March 23, 2020

Mr. Chris Hirschmann, CHMM
Hillmann Consulting, LLC
1600 Route 22 East
Union, N.J. 07083

Re: Data Usability Summary Report – Alpha Analytical – Air Samples

Dear Mr. Hirschmann:

The evaluation of analytical data for volatile organic analysis parameters by Alpha Analytical for nine air quality samples for project G6-2420, which were reported in a single data package under Job No. L1943629, has been completed. The data package was received by ddms, inc. (ddms) for review, and the following samples were reported:

IA-15	SV-15	IA-16	SV-16
IA-17	SV-17	IA-18	SV-18
AA-19			

Analyses were performed in accordance with USEPA Method TO-15 full scan and Selected Ion Monitoring (SIM). ddms' review was performed, to the extent possible, in accordance with the analytical methods and "DER-10/Technical Guidance for Site Investigation and Remediation". Professional judgment was applied as necessary and appropriate. Qualifiers consistent with those defined by EPA Region 2 were applied as necessary and appropriate.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See Following Sections
4.	Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5.	Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6.	Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7.	Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes

Based on the data review effort, results are usable, with the following qualifications:

- The results for all compounds in SV-15 and SV-17 were qualified as estimated (J, UJ) because the canisters were received at ambient.

- The results for ethanol in all samples were qualified as estimated (J, UJ) due to high relative standard deviation (RSD) in the initial calibration (IC)

All qualifiers applied as a result of the validation process are reflected on the table included as Attachment A to this report. Only the samples documenting qualification of data have been included in this table. Qualifier definitions are also provided in the attachment. A copy of the chain of custody record is provided in Attachment B. Pages from the data package illustrating the exceedances and issues described in this validation report are included as Attachment C.

The following components were reviewed, where applicable:

- Chain of Custody
- Receiving conditions
- Holding times
- Sample Integrity
- Analyte lists
- Reporting limits
- Requested method
- Units
- Sample related quality control data:
    - Blanks
    - LCS/LCSD recoveries
    - Internal standard areas
    - Duplicates
- Instrument related quality control data:
    - Instrument tunes
    - Calibration summaries

In the remaining sections of this report, only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed.

When a sample result is qualified estimated 'J' in addition to estimated 'J+' or 'J-', the 'J' qualifier takes precedence and the bias is indeterminate. When a sample result is rejected (R), the 'R' qualifier takes precedence over any previous qualification.

Documentation: A completeness review of the data package was performed, and the data package was determined to be a complete Category B data package. No documentation issues were observed during the review effort.

Holding Times, Preservation, Sample Integrity:

A copy of the applicable chain of custody (COC) record was included in the data package, documenting a collection date of September 20, 2019. The samples were received by the

laboratory on September 20, 2019. All samples were properly preserved and prepared and/or analyzed within analytical method required holding times with the following exceptions:

- SV-15 and SV-17 were received at the laboratory at ambient. The results for all compounds in SV-15 and SV-17 were qualified as estimated (J, UJ) because the sample integrity may have been compromised.

A. Volatile Organic Compounds

1. Calibration:

One IC was performed in support of sample analyses. All relative response factors (RRFs) and RSDs were acceptable with the exception of the RSD for ethanol (34.8%). The results for ethanol in all samples were qualified as estimated (J, UJ) due to high RSD in the IC.

One second source initial calibration verification (ICV) standard was analyzed and all percent differences (%Ds) were acceptable (<20%D). One continuing calibration (CC) standard was analyzed in support of sample analyses and all RRFs and %Ds were acceptable.

Please feel free to contact me at (908) 370-3431 or jrossi@ddmsinc.com if you have any questions regarding this data package review report or need further information.

Sincerely,

de maximis Data Management Solutions, Inc.

Jeri L Rossi, CEAC
Sr. Environmental Chemist

ATTACHMENT A

Qualification Summary Table
Laboratory Job No. L1943629

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
AA-19_20190920	TO15	Ethanol	21.3	ug/m3	J	1.48	9.42
IA-15_20190920	TO15	Ethanol	129	ug/m3	J	1.48	9.42
IA-16_20190920	TO15	Ethanol	84.0	ug/m3	J	1.48	9.42
IA-17_20190920	TO15	Ethanol	60.9	ug/m3	J	1.48	9.42
IA-18_20190920	TO15	Ethanol	43.5	ug/m3	J	1.48	9.42
SV-15_20190920	TO15	1,2,4-Trimethylbenzene	2.06	ug/m3	J	0.341	1.64
SV-15_20190920	TO15	2,2,4-Trimethylpentane	3.19	ug/m3	J	0.305	1.56
SV-15_20190920	TO15	Methyl Ethyl Ketone (2-Butanone)	4.66	ug/m3	J	0.234	2.46
SV-15_20190920	TO15	Acetone	51.3	ug/m3	J	2.15	3.97
SV-15_20190920	TO15	Benzene	9.01	ug/m3	J	0.263	1.06
SV-15_20190920	TO15	Carbon Disulfide	23.0	ug/m3	J	0.286	1.04
SV-15_20190920	TO15	Chloroform	49.3	ug/m3	J	0.513	1.63
SV-15_20190920	TO15	Cyclohexane	6.09	ug/m3	J	0.223	1.15
SV-15_20190920	TO15	Dichlorodifluoromethane	13.7	ug/m3	J	0.493	1.65
SV-15_20190920	TO15	Ethanol	59.9	ug/m3	J	2.47	15.7
SV-15_20190920	TO15	Ethylbenzene	1.57	ug/m3	J	0.338	1.45
SV-15_20190920	TO15	N-Heptane	265	ug/m3	J	0.361	1.36
SV-15_20190920	TO15	Isopropanol	17.0	ug/m3	J	1.43	2.05
SV-15_20190920	TO15	Methylene Chloride	8.58	ug/m3	J	0.406	2.90
SV-15_20190920	TO15	Styrene	1.77	ug/m3	J	0.338	1.42
SV-15_20190920	TO15	Tert-Butyl Alcohol	8.79	ug/m3	J	0.225	2.53
SV-15_20190920	TO15	Tetrachloroethylene (PCE)	29.2	ug/m3	J	0.759	2.26
SV-15_20190920	TO15	Toluene	10.6	ug/m3	J	0.342	1.25
SV-15_20190920	TO15	Trichlorofluoromethane	624	ug/m3	J	0.708	1.87
SV-15_20190920	TO15	N-Hexane	6.84	ug/m3	J	0.214	1.17
SV-15_20190920	TO15	m,p-Xylene	3.37	ug/m3	J	0.730	2.90
SV-15_20190920	TO15	1,1,1-Trichloroethane (TCA)			UJ	0.504	1.82
SV-15_20190920	TO15	1,1,2,2-Tetrachloroethane			UJ	0.700	2.29
SV-15_20190920	TO15	1,1,2-Trichloroethane			UJ	0.633	1.82
SV-15_20190920	TO15	1,1-Dichloroethane			UJ	0.425	1.35
SV-15_20190920	TO15	1,1-Dichloroethene			UJ	0.404	1.32
SV-15_20190920	TO15	1,2,4-Trichlorobenzene			UJ	0.935	2.47
SV-15_20190920	TO15	1,2-Dibromoethane (Ethylene Dibromide)			UJ	0.739	2.56
SV-15_20190920	TO15	1,2-Dichlorobenzene			UJ	0.655	2.00
SV-15_20190920	TO15	1,2-Dichloroethane			UJ	0.429	1.35
SV-15_20190920	TO15	1,2-Dichloropropane			UJ	0.476	1.54
SV-15_20190920	TO15	1,3,5-Trimethylbenzene (Mesitylene)			UJ	0.605	1.64
SV-15_20190920	TO15	1,3-Butadiene			UJ	0.232	0.737
SV-15_20190920	TO15	1,3-Dichlorobenzene			UJ	0.661	2.00
SV-15_20190920	TO15	1,4-Dichlorobenzene			UJ	0.685	2.00
SV-15_20190920	TO15	1,4-Dioxane (P-Dioxane)			UJ	0.541	1.20
SV-15_20190920	TO15	2-Hexanone			UJ	0.451	1.36
SV-15_20190920	TO15	Allyl Chloride (3-Chloropropene)			UJ	0.270	1.04
SV-15_20190920	TO15	4-Ethyltoluene			UJ	0.336	1.64
SV-15_20190920	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)			UJ	0.317	3.42
SV-15_20190920	TO15	Benzyl Chloride			UJ	0.470	1.72
SV-15_20190920	TO15	Bromodichloromethane			UJ	0.596	2.23
SV-15_20190920	TO15	Bromoform			UJ	1.22	3.44
SV-15_20190920	TO15	Bromomethane			UJ	0.462	1.29
SV-15_20190920	TO15	Carbon Tetrachloride			UJ	0.588	2.09
SV-15_20190920	TO15	Chlorobenzene			UJ	0.488	1.53
SV-15_20190920	TO15	Chloroethane			UJ	0.346	0.879
SV-15_20190920	TO15	Chloromethane			UJ	0.252	0.688
SV-15_20190920	TO15	Dibromochloromethane			UJ	0.954	2.84
SV-15_20190920	TO15	Ethyl Acetate			UJ	0.822	3.01
SV-15_20190920	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane			UJ	0.828	2.55

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-15_20190920	TO15	1,2-Dichlorotetrafluoroethane			UJ	0.713	2.33
SV-15_20190920	TO15	Hexachlorobutadiene			UJ	0.987	3.55
SV-15_20190920	TO15	Tert-Butyl Methyl Ether			UJ	0.343	1.20
SV-15_20190920	TO15	Tetrahydrofuran			UJ	0.313	2.46
SV-15_20190920	TO15	Trichloroethylene (TCE)			UJ	0.459	1.79
SV-15_20190920	TO15	Vinyl Bromide			UJ	0.507	1.46
SV-15_20190920	TO15	Vinyl Chloride			UJ	0.255	0.851
SV-15_20190920	TO15	Cis-1,2-Dichloroethylene			UJ	0.793	1.32
SV-15_20190920	TO15	Cis-1,3-Dichloropropene			UJ	0.349	1.51
SV-15_20190920	TO15	O-Xylene (1,2-Dimethylbenzene)			UJ	0.369	1.45
SV-15_20190920	TO15	Trans-1,2-Dichloroethene			UJ	0.428	1.32
SV-15_20190920	TO15	Trans-1,3-Dichloropropene			UJ	0.371	1.51
SV-16_20190920	TO15	Ethanol	162	ug/m3	J	3.71	23.6
SV-17_20190920	TO15	1,1,1-Trichloroethane (TCA)	19.8	ug/m3	J	1.51	5.46
SV-17_20190920	TO15	1,1-Dichloroethane	20.4	ug/m3	J	1.27	4.05
SV-17_20190920	TO15	Acetone	76.3	ug/m3	J	6.46	11.9
SV-17_20190920	TO15	Benzene	9.01	ug/m3	J	0.789	3.19
SV-17_20190920	TO15	Carbon Disulfide	16.2	ug/m3	J	0.859	3.11
SV-17_20190920	TO15	Carbon Tetrachloride	10.3	ug/m3	J	1.76	6.29
SV-17_20190920	TO15	Chloroform	25.3	ug/m3	J	1.54	4.88
SV-17_20190920	TO15	Cyclohexane	3.72	ug/m3	J	0.668	3.44
SV-17_20190920	TO15	Dichlorodifluoromethane	2080	ug/m3	J	1.48	4.94
SV-17_20190920	TO15	Ethanol	82.2	ug/m3	J	7.42	47.1
SV-17_20190920	TO15	N-Heptane	398	ug/m3	J	1.08	4.10
SV-17_20190920	TO15	Isopropanol	25.3	ug/m3	J	4.28	6.15
SV-17_20190920	TO15	Tetrachloroethylene (PCE)	23.3	ug/m3	J	2.28	6.78
SV-17_20190920	TO15	Toluene	6.56	ug/m3	J	1.03	3.77
SV-17_20190920	TO15	Trichloroethylene (TCE)	43.2	ug/m3	J	1.38	5.37
SV-17_20190920	TO15	Trichlorofluoromethane	171	ug/m3	J	2.12	5.62
SV-17_20190920	TO15	N-Hexane	18.3	ug/m3	J	0.641	3.52
SV-17_20190920	TO15	1,1,2,2-Tetrachloroethane			UJ	2.10	6.87
SV-17_20190920	TO15	1,1,2-Trichloroethane			UJ	1.89	5.46
SV-17_20190920	TO15	1,1-Dichloroethene			UJ	1.21	3.96
SV-17_20190920	TO15	1,2,4-Trichlorobenzene			UJ	2.82	7.42
SV-17_20190920	TO15	1,2,4-Trimethylbenzene			UJ	1.02	4.92
SV-17_20190920	TO15	1,2-Dibromoethane (Ethylene Dibromide)			UJ	2.21	7.69
SV-17_20190920	TO15	1,2-Dichlorobenzene			UJ	1.96	6.01
SV-17_20190920	TO15	1,2-Dichloroethane			UJ	1.28	4.05
SV-17_20190920	TO15	1,2-Dichloropropane			UJ	1.43	4.62
SV-17_20190920	TO15	1,3,5-Trimethylbenzene (Mesitylene)			UJ	1.81	4.92
SV-17_20190920	TO15	1,3-Butadiene			UJ	0.697	2.21
SV-17_20190920	TO15	1,3-Dichlorobenzene			UJ	1.98	6.01
SV-17_20190920	TO15	1,4-Dichlorobenzene			UJ	2.04	6.01
SV-17_20190920	TO15	1,4-Dioxane (P-Dioxane)			UJ	1.63	3.60
SV-17_20190920	TO15	2,2,4-Trimethylpentane			UJ	0.915	4.67
SV-17_20190920	TO15	Methyl Ethyl Ketone (2-Butanone)			UJ	0.702	7.37
SV-17_20190920	TO15	2-Hexanone			UJ	1.36	4.10
SV-17_20190920	TO15	Allyl Chloride (3-Chloropropene)			UJ	0.808	3.13
SV-17_20190920	TO15	4-Ethyltoluene			UJ	1.01	4.92
SV-17_20190920	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)			UJ	0.951	10.2
SV-17_20190920	TO15	Benzyl Chloride			UJ	1.41	5.18
SV-17_20190920	TO15	Bromodichloromethane			UJ	1.79	6.70
SV-17_20190920	TO15	Bromoform			UJ	3.68	10.3
SV-17_20190920	TO15	Bromomethane			UJ	1.38	3.88
SV-17_20190920	TO15	Chlorobenzene			UJ	1.46	4.61
SV-17_20190920	TO15	Chloroethane			UJ	1.03	2.64

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-17_20190920	TO15	Chloromethane			UJ	0.760	2.07
SV-17_20190920	TO15	Dibromochloromethane			UJ	2.86	8.52
SV-17_20190920	TO15	Ethyl Acetate			UJ	2.47	9.01
SV-17_20190920	TO15	Ethylbenzene			UJ	1.02	4.34
SV-17_20190920	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane			UJ	2.48	7.66
SV-17_20190920	TO15	1,2-Dichlorotetrafluoroethane			UJ	2.12	6.99
SV-17_20190920	TO15	Hexachlorobutadiene			UJ	2.97	10.7
SV-17_20190920	TO15	Tert-Butyl Methyl Ether			UJ	1.03	3.61
SV-17_20190920	TO15	Methylene Chloride			UJ	1.22	8.69
SV-17_20190920	TO15	Styrene			UJ	1.01	4.26
SV-17_20190920	TO15	Tert-Butyl Alcohol			UJ	0.676	7.58
SV-17_20190920	TO15	Tetrahydrofuran			UJ	0.935	7.37
SV-17_20190920	TO15	Vinyl Bromide			UJ	1.52	4.37
SV-17_20190920	TO15	Vinyl Chloride			UJ	0.764	2.56
SV-17_20190920	TO15	Cis-1,2-Dichloroethylene			UJ	2.38	3.96
SV-17_20190920	TO15	Cis-1,3-Dichloropropene			UJ	1.04	4.54
SV-17_20190920	TO15	O-Xylene (1,2-Dimethylbenzene)			UJ	1.11	4.34
SV-17_20190920	TO15	m,p-Xylene			UJ	2.19	8.69
SV-17_20190920	TO15	Trans-1,2-Dichloroethene			UJ	1.28	3.96
SV-17_20190920	TO15	Trans-1,3-Dichloropropene			UJ	1.12	4.54
SV-18_20190920	TO15	Ethanol	110	ug/m3	J	2.11	13.5

EPA Qualifier Definitions

U	**The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.**
J	**The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.**
J+	**The result is an estimated quantity, but the result may be biased high.**
J-	**The result is an estimated quantity, but the result may be biased low.**
NJ	**The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.**
UJ	**The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.**
R	**The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.**

ATTACHMENT B

CHAIN OF CUSTODY RECORD
Laboratory Job No. L1943629

AIR ANALYSIS

PAGE 1 OF 1

ALPHA ANALYTICAL — *CHAIN OF CUSTODY*

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 9/21/19

ALPHA Job #: L1943629

Client Information

Client: Hillmann Consulting
Address: 1600 Rt. 22 East
Union, NJ 07083
Phone: (908) 688-7800
Fax:
Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: G6-2420
Project Location: NY
Project #: G6-2420
Project Manager: C. Hirschmann
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)

Date Due: 5 Day Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #: G6-2420

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐ TO-15 analysis for NY

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I.D. Can	I.D. - Flow Controller	TO-15	TO-15 SIM	APH Subtract Nonpetroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15		Sample Comments (i.e. PID)
943629-01	IA-15	9-20-19	1245	1245	-30.23	-3.89	IA	RP/BP	6L	1515	01114	X						
-02	SV-15		1245	1245	-30.28	-0	SV			603	01111	X						
-03	IA-16		1300	1300	-30.29	-4	IA			1838	0334	X						
-04	SV-16		1300	1300	-27.87	-3.75	SV			997	01290	X						
-05	IA-17		1325	1325	-30.35	-3.3	IA			1575	01224	X						
-06	SV-17		1325	1325	-30.10	-0	SV			1617	01201	X						
-07	IA-18		1400	1400	-30.84	-5	IA			1655	0099	X						
-08	SV-18		1400	1400	-30.22	-3.1	SV			1555	0720	X						
-09	AA-19	↓	1400	1400	-30.71	-5	AA	↓	↓	694	0139	X						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time
R. K. Poole	9-19-19/1615	Ramni Peters	9/20/19
Ramni Peters	9/20/19 1615	[illegible]	9-20-19 16:21
[illegible]	9-20-19 17:47	[illegible]	9/20/19 2200
[illegible]	9/21/19 0348	[illegible]	[illegible]

Form No. 101-02 (Rev. 2-Sep-15)

ATTACHMENT C

SELECTED PAGES FROM DATA PACKAGE -
QC EXCEEDANCES AND VALIDATION ISSUES
Laboratory Job No. L1943629

Initial Calibration Summary
Form 6
Air Volatiles

Client	**: Hillmann Consulting, LLC**	**Lab Number**	**: L1943629**
Project Name	**: G6-2420**	**Project Number**	**: G6-2420**
Instrument ID	**: AIRPIANO4**	**Ical Ref**	**: ICAL16156**
Calibration dates	**: 09/20/19 17:17 09/20/19 22:05**		

Calibration Files
0.2 =r45395.D 0.5 =r45396.D 1.0 =r45397.D 5.0 =r45398.D 10 =r45399.D 20 =r45400.D 50 =r45401.D
100 =r45402.D

		Compound	0.2	0.5	1.0	5.0	10	20	50	100	Avg	%RSD
1)	I	bromochloromethane	ISTD									
2)		chlorodifluoromethane	1.049	0.977	0.951	0.874	0.852	0.709	0.635	0.684	0.8417	17.93
3)		propylene		0.682	0.659	0.615	0.603	0.508	0.469	0.506	0.5775	14.42
4)		propane		0.712	0.707	0.643	0.627	0.525	0.472	0.513	0.5998	16.15
5)		dichlorodifluoromethane	1.222	1.137	1.130	1.054	1.004	0.780	0.642	0.644	0.9517	24.24
6)	C	chloromethane	0.595	0.564	0.555	0.519	0.500	0.405	0.364	0.402	0.4881	17.74
7)		Freon-114	1.596	1.496	1.456	1.353	1.277	0.980	0.788	0.761	1.2134	26.96
8)	C	methanol			0.247	0.246	0.235	0.173	0.156	0.169	0.2042	20.80
9)	C	vinyl chloride	0.782	0.736	0.743	0.692	0.675	0.543	0.486	0.522	0.6473	17.58
10)	C	1,3-butadiene	0.648	0.611	0.594	0.556	0.545	0.445	0.397	0.428	0.5281	17.65
11)		butane	1.469	1.337	1.259	1.115	1.085	0.894	0.797	0.863	1.1026	21.91
12)	C	acetaldehyde		0.326	0.309	0.288	0.272	0.201	0.165	0.167	0.2469	27.48
13)	C	bromomethane	0.597	0.562	0.543	0.517	0.508	0.409	0.360	0.387	0.4855	18.17
14)	C	chloroethane	0.439	0.401	0.398	0.373	0.369	0.300	0.274	0.304	0.3573	16.26
15)		ethanol			0.660	0.512	0.474	0.341	0.306	0.270	0.4272	34.77#
16)		dichlorofluoromethane	1.373	1.270	1.252	1.123	1.105	0.906	0.828	0.840	1.0872	19.19
17)	C	vinyl bromide	0.629	0.577	0.569	0.517	0.510	0.418	0.370	0.397	0.4982	18.87
18)	C	acrolein		0.349	0.335	0.301	0.297	0.246	0.227	0.252	0.2865	16.28
19)		acetone	1.340	1.183	1.150	1.088	1.039	0.948	0.640	0.626	1.0018	25.38
20)	C	acetonitrile	0.802	0.714	0.687	0.649	0.633	0.493	0.443	0.470	0.6113	21.15
21)		trichlorofluoromethane	1.122	1.071	1.059	0.967	0.941	0.948	0.647	0.671	0.9281	19.20
22)		isopropyl alcohol	1.698	1.449	1.368	1.304	1.275	1.135	0.861	0.912	1.2501	22.15
23)	C	acrylonitrile	0.607	0.581	0.571	0.534	0.528	0.492	0.400	0.449	0.5201	13.50
24)		pentane	1.611	1.633	1.578	1.373	1.340	1.300	0.982	1.239	1.3820	16.03
25)		ethyl ether	1.013	0.968	0.945	0.869	0.890	0.926	0.619	0.816	0.8809	13.87
26)	C	1,1-dichloroethene	1.044	0.989	0.970	0.907	0.892	0.838	0.630	0.663	0.8667	17.32
27)		tertiary butyl alcohol		1.462	1.429	1.293	1.277	1.229	0.935	1.011	1.2336	16.03
28)	C	methylene chloride		0.762	0.749	0.686	0.673	0.633	0.484	0.530	0.6454	16.27
29)	C	3-chloropropene	1.283	1.183	1.145	1.035	1.019	0.990	0.759	0.829	1.0305	17.06
30)	C	carbon disulfide	2.084	2.017	1.990	1.806	1.784	1.674	1.265	1.352	1.7466	17.36
31)		Freon 113	1.237	1.176	1.149	1.070	1.045	0.954	0.723	0.746	1.0125	18.99
32)		trans-1,2-dichloroethene	1.141	1.080	1.055	0.963	0.949	0.888	0.808	0.731	0.9517	14.68
33)	C	1,1-dichloroethane	1.423	1.334	1.300	1.214	1.191	1.057	0.970	0.941	1.1788	14.85
34)	C	MTBE	1.944	1.870	1.866	1.726	1.694	1.644	1.484	1.351	1.6973	11.96
35)	C	vinyl acetate			1.796	1.675	1.666	1.618	1.498	1.371	1.6040	9.31
36)	C	2-butanone		1.813	1.625	1.508	1.500	1.421	1.338	1.208	1.4875	13.17

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1943629-01	IA-15	01114	Flow 2	09/18/19	301574		-	-	-	Pass	3.3	3.4	3
L1943629-01	IA-15	1515	6.0L Can	09/18/19	301574	L1941096-02	Pass	-29.5	-4.1	-	-	-	-
L1943629-02	SV-15	01111	Flow 1	09/18/19	301574		-	-	-	Pass	3.3	22.7	149
L1943629-02	SV-15	603	6.0L Can	09/18/19	301574	L1941096-01	Pass	-29.7	0.0	-	-	-	-
L1943629-03	IA-16	0334	Flow 5	09/18/19	301574		-	-	-	Pass	3.3	3.6	9
L1943629-03	IA-16	1838	6.0L Can	09/18/19	301574	L1940603-06	Pass	-29.5	-4.1	-	-	-	-
L1943629-04	SV-16	01290	Flow 5	09/18/19	301574		-	-	-	Pass	3.3	6.3	63
L1943629-04	SV-16	997	6.0L Can	09/18/19	301574	L1941096-01	Pass	-29.6	-1.5	-	-	-	-
L1943629-05	IA-17	01224	Flow 5	09/18/19	301574		-	-	-	Pass	3.3	2.3	36
L1943629-05	IA-17	1575	6.0L Can	09/18/19	301574	L1940603-06	Pass	-29.5	-4.1	-	-	-	-
L1943629-06	SV-17	01201	Flow 5	09/18/19	301574		-	-	-	Pass	3.3	9.0	93
L1943629-06	SV-17	1617	6.0L Can	09/18/19	301574	L1941096-01	Pass	-29.6	0.0	-	-	-	-
L1943629-07	IA-18	0099	Flow 4	09/18/19	301574		-	-	-	Pass	3.3	3.3	0
L1943629-07	IA-18	1655	6.0L Can	09/18/19	301574	L1941096-02	Pass	-29.5	-4.1	-	-	-	-
L1943629-08	SV-18	0720	Flow 5	09/18/19	301574		-	-	-	Pass	3.3	4.5	31

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1943629-08	SV-18	1555	6.0L Can	09/18/19	301574	L1940603-06	Pass	-29.5	-1.7	-	-	-	-
L1943629-09	AA-19	0139	Flow 5	09/18/19	301574		-	-	-	Pass	3.3	3.3	0
L1943629-09	AA-19	694	6.0L Can	09/18/19	301574	L1941096-02	Pass	-29.5	-4.0	-	-	-	-

November 22, 2019

Mr. Chris Hirschmann, CHMM
Hillmann Consulting, LLC
1600 Route 22 East
Union, N.J. 07083

Re: Data Usability Summary Report – Alpha Analytical – Groundwater Samples

Dear Mr. Hirschmann:

The evaluation of analytical data for organic and inorganic analysis parameters by Alpha Analytical for four groundwaters, one field blank and one trip blank for project G6-2420, which were reported in a single data package under Job No. L1948512, has been completed. The data package was received by ddms, inc. (ddms) for review, and the following samples were reported:

MW-2	MW-3	MW-4	MW-5
FIELD BLANK		TRIP BLANK	

Analyses were performed in accordance with USEPA Methods 8260C (Volatile Organic Compounds), 8270D (Semivolatile Organic Compounds), 8082A (PCBs as Aroclors), 8081B (Organochlorine Pesticides), 6020B (metals), 7470A (Mercury), and 9010C (Cyanide). ddms' review was performed, to the extent possible, in accordance with the analytical methods and "DER-10/Technical Guidance for Site Investigation and Remediation". Professional judgment was applied as necessary and appropriate. Qualifiers consistent with those defined by EPA Region 2 were applied as necessary and appropriate.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See Following Sections
4.	Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5.	Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6.	Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7.	Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes

Based on the data review effort, results are usable, with the following qualifications:

- The result for acetone in MW-2 was qualified as not detected (U) at the reporting limit due to field blank contamination.

- Sample results were qualified as estimated (J, UJ) due to unacceptable percent differences (%D) in the second source initial calibration verification (ICV) standard, as detailed in Section A.2.

- The results for vinyl chloride, carbon tetrachloride, chlorodibromomethane and bromoform in MW-3, MW-5, FIELD BLANK and TRIP BLANK were qualified as estimated (J-, UJ) due to low response in the continuing calibration (CC) standard.

- The results for dichlorodifluoromethane, bromomethane and acrylonitrile in MW-2 and MW-4 were qualified as estimated (UJ) due to low response in the continuing calibration (CC) standard.

- The results for bromomethane in MW-2 and MW-4 were qualified as estimated (UJ) due to low laboratory control sample (LCS) and LCS duplicate (LCSD) recoveries and high LCS/LCSD relative percent difference (RPD).

- The results for bis(2-ethylhexyl)phthalate in MW-2, MW-4 and MW-5 were qualified as not detected (U) at the reporting limit due to blank contamination.

- The results for di-n-octyl phthalate in MW-2, MW-3, MW-4, MW-5 and FIELD BLANK were qualified as estimated (UJ) due to unacceptable %D in the ICV.

- The results for all base neutral and acid extractable compounds in all samples in the full scan analysis were qualified as estimated (J-, UJ) because two or more surrogates from each fraction (base neutral and acid extractable) exhibited low recoveries.

- Sample results were qualified as estimated (J-, UJ) due to unacceptable LCS/LCSD results, as detailed in Section B.4.

- The results for 1,4-dioxane in MW-2, benzo(b)fluoranthene, benzo(g,h,i)perylene and indeno(1,2,3-c,d)pyrene in MW-4 were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, due to field blank contamination.

- The results for pentachlorophenol in MW-2, MW-3, MW-4, MW-5 and FIELD BLANK were qualified as estimated (UJ) due to unacceptable %D in the ICV.

- The results for pentachlorophenol in all samples were qualified as estimated (UJ) because two acid surrogates exhibited low recoveries.

- The results for naphthalene, hexachloroethane, hexachlorobenzene and 2-methylnaphthalene in MW-2 and FIELD BLANK were qualified as estimated (J-, UJ) because nitrobenzene-d_5 surrogate exhibited low recovery.

- The results for hexachlorobutadiene, naphthalene, 2-methylnaphthalene, pentachlorophenol and hexachloroethane in MW-2, MW-3, MW-4, MW-5 and FIELD BLANK were qualified as estimated (J-, UJ) due to low LCS and/or LCSD recoveries and high LCS/LCSD RPD.

- The results benzo(k)fluoranthene in MW-2, MW-4 and MW-5 were qualified as estimated (J+) due to high LSCD recovery.

- Sample results were qualified as estimated (J) and presumptively present (N) because the ion ratios were outside laboratory acceptance limit, as detailed in Section C.5.

- The results for all pesticide compounds in MW-5 were qualified as estimated (UJ) because both surrogates on both analytical columns exhibited low recoveries.

- Sample results for pesticide compounds, as detailed in Section E.2 were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries.

- Sample results for metals analytes as detailed in Section F.1 were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, due to associated blank contamination.

All qualifiers applied as a result of the validation process are reflected on the table included as Attachment A to this report. Only the samples documenting qualification of data have been included in this table. Qualifier definitions are also provided in the attachment. Copies of the chain of custody records are provided in Attachment B. Pages from the data package illustrating the exceedances and issues described in this validation report are included as Attachment C.

The following components were reviewed, where applicable:

- Chain of Custody
- Receiving conditions
- Holding times
- Preservation
- Analyte lists
- Reporting limits
- Requested methods
- Units
- Sample related quality control data:
    - Method blanks
    - Field blanks
    - Trip Blanks
    - Surrogate recoveries
    - LCS/LCSD recoveries
    - MS/MSD recoveries
    - Internal standard areas
    - Duplicates
    - Total versus dissolved (metals)
- Instrument related quality control data:
    - Instrument tunes
    - Calibration summaries

- Interference Check Sample (metals)

In the remaining sections of this report, only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed.

When a sample result is qualified estimated 'J' in addition to estimated 'J+' or 'J-', the 'J' qualifier takes precedence and the bias is indeterminate. When a sample result is rejected (R), the 'R' qualifier takes precedence over any previous qualification.

Documentation: A completeness review of the data package was performed, and the data package was determined to be a complete Category B data package. Issues observed during the review are detailed below:

- 1,4-Dioxane, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachlorobutadiene, naphthalene, and 1,2,4-trichlorobenzene were reported by the laboratory in both the volatile organic (VO) and semi-volatile organic (SVO) fractions.

- Improper editing was observed on several benchlogs. When edits must be made, there should be a single line drawn through the incorrect information, the correct information added, and the date and initials of the editor included.

At the discretion of the data user, the laboratory may be contacted to address these discrepancies.

Holding Times, Preservation, Sample Integrity:

Copies of the applicable chain of custody (COC) records were included in the data package, documenting a collection date of October 16, 2019. The samples were received by the laboratory on October 17, 2019. All samples were properly preserved and prepared and/or analyzed within analytical method required holding times.

A. Volatile Organic Compounds

1. Blanks

A method blank was analyzed each day of sample analysis. No target compounds were detected in the method blanks that impacted sample results. One field and one trip blank were submitted with this sample. Acetone (1.7ug/L) was detected in the field blank. The result for acetone in MW-2 was qualified as not detected (U) at the reporting limit because the sample concentration was less than five times the concentration in the field blank.

2. Calibration:

Two initial calibration (ICs) were performed in support of sample analyses. All relative response factors (RRFs) and relative standard deviations (RSDs) or correlation coefficients (r^2) were acceptable. One second source ICV standard was analyzed following each IC and %Ds were acceptable (<20%D) with the following exceptions:

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
ELAINE	1,1-Dichloroethene	20.1	MW-3 MW-5 FIELD BLANK TRIP BLANK	J, UJ
	Vinyl acetate	25.1		
	cis-1,2-Dichloroethene	20.3		
	Bromodichloromethane	20.5		
	Bromoform	23.3		
GONZO	Chloromethane	26.8	MW-2 MW-4	J, UJ
	Bromomethane	68.3		
	Ethyl ether	34.1		
	Carbon disulfide	24.2		
	Methylene chloride	28.1		
	1,1-Dichloroethane	21.4		
	Acrylonitrile	44.7		
	Vinyl acetate	22.4		
	cis-1,2-Dichloroethene	27.1		
	Bromochloromethane	26.2		
	Benzene	22.9		
	1,2-Dichloroethane	20.3		
	1,2-Dichloropropane	26.4		
	Toluene	20.6		
	Chlorobenzene	26.0		
	1,1,1,2-Tetrachloroethane	25.5		
	o-Xylene	24.9		
	Styrene	32.0		
	Bromobenzene	28.8		
	1,2,4-Trimethylbenzene	21.8		
	1,3-Dichlorobenzene	24.6		
	1,4-Dichlorobenzene	26.1		
	1,2-Dichlorobenzene	23.4		
	1,2,4-Trichlorobenzene	30.2		
	1,2,3-Trichlorobenzene	28.0		

Sample results were qualified as indicated above due to unacceptable %Ds in the ICV.

Two CC standards were analyzed in support of sample analyses. All RRFs and %Ds were acceptable with the exceptions noted below:

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
ELAINE	Vinyl chloride	22.2	MW-3 MW-5 FIELD BLANK TRIP BLANK	J-, UJ
	Carbon tetrachloride	21.4		
	Chlorodibromomethane	22.3		
	Bromoform	31.3		
GONZO	Dichlorodifluoromethane	20.4	MW-2 MW-4	UJ
	Bromomethane	79.2		
	Acetone	43.0		J+
	Acrylonitrile	50.0		UJ

The percent difference for acetone represents an increase in instrument sensitivity. Acetone was detected in W-2 and was previously qualified as not detected (U) due to field blank contamination. No qualification or sample results was warranted based on the high CC recovery for acetone. In all other instances, the percent difference represents a decrease in instrument sensitivity. Sample results were qualified as indicated above due to unacceptable percent difference in the CC.

3. Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)

Two LCS/LCSD pairs were analyzed in support of sample analyses. All percent recoveries and RPDs were acceptable (70-130%R, RPD<20) with the exceptions noted below:

LCS/LCSD WG1299687-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Bromomethane	21	28	29	MW-2 MW-4	UJ
Acrylonitrile	150	140	a		NA
Acetone	140	a	a		
2-Butanone	150	140	a		

a-acceptable
NA-not applicable

The results for bromomethane in MW-2 and MW-4 were qualified as estimated (UJ) due to low LCS/LCSD recoveries and high LCS/LCSD RPD. No qualification of sample results was made based on the high recoveries because these compounds were not detected in the samples.

B. Semi-volatile Organic Compounds (Full Scan Analysis)

1. Blanks

One method blank was prepared and analyzed is support of sample analysis and no target compounds were detected. One field blank was submitted with this sample set. Bis(2-ethylhexyl)phthalate (1.7ug/L) was detected in the field blank. The results for bis(2-ethylhexyl)phthalate in MW-2, MW-4 and MW-5 were qualified as not detected (U) at the reporting limit because the sample concentration was less than five times the concentration detected in the field blank.

2. Calibration:

One IC was performed in support of sample analyses. All RRFs and RSDs or correlation coefficients were acceptable. One second source ICV standard was analyzed following the IC and all %Ds were acceptable with the following exceptions:

Instrument	Date	Compound	%D	Affected Samples	Qualifiers Applied
SV115	9/13/2019	Di-n-octyl phthalate	24.0	MW-2 MW-3 MW-4 MW-5 FIELD BLANK	UJ

Sample results were qualified as indicated above due to an unacceptable %D in the ICV. CC standards were analyzed at the appropriate frequencies and all percent differences were acceptable (<20%D) or had no impact to sample results.

3. Surrogates:

Six surrogates (fluorophenol-d_5 [2FP], phenol-d_5 [PHL], nitrobenzene-d_5 [NBZ], 2-fluorobiphenyl [FBP], 2,4,6-tribromophenol [TBP], and terphenyl-d_{14} [TPHL]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate					
	2-Fluoro-phenol	Phenol-d^5	Nitro-benzene-d_5	2-Fluorobiphenyl	2,4,6-TBP	Terphenyl-d_{14}
MW-2	36	41	50	59	57	a
MW-3	51	43	52	57	a	68
MW-4	56	47	57	65	a	a
MW-5	42	39	50	57	a	a
FIELD BLANK	61	51	60	62	a	a

a-acceptable

The results for all base neutral and acid extractable compounds in all samples were qualified as estimated (J-, UJ) because two or more surrogates from each fraction (base neutral and acid extractable) exhibited low recoveries.

4. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

Results for one LCS/LCSD pair associated with the sample analyses were reported in the data package. Percent recoveries and RPDs were acceptable (70-130%R, RPD<20) with the exceptions below:

LCS/LCSD WG1287102-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
1,2,4-Trichlorobenzene	52	60	a	MW-2 MW-3 MW-4 MW-5	J-, UJ
Bis(2-chloroethyl)ether	49	57	a		
1,2-Dichlorobenzene	45	54	a		
1,3-Dichlorobenzene	41	52	24		

LCS/LCSD WG1287102-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
1,4-Dichlorobenzene	42	52	21	FIELD BLANK	
3,3'-Dichlorobenzidine	64	a	a		
Bis(2-chloroisopropyl)ether	44	52	a		
Bis(2-chloroethoxy)methane	57	65	a		
Hexachlorobutadiene	51	61	a		
Hexachlorocyclopentadiene	54	62	a		
Isophorone	60	67	a		
Nitrobenzene	54	62	a		
n-Nitroso-di-n-propylamine	61	a	a		
Chrysene	67	a	a		
Biphenyl	62	69	a		
4-Chloroaniline	56	66	a		
2-Nitroaniline	75	81	a		
3-Nitroaniline	61	70	a		
4-Nitroaniline	63	71	a		
Dibenzofuran	63	67	a		
2-Methylnaphthalene	58	66	13		
1,2,4,5-Tetrachlorobenzene	59	66	a		
Acetophenone	54	63	a		
2-Chlorophenol	52	62	a		
2,4-Dichlorophenol	65	a	a		
2,4-Dimethylphenol	52	53	a		
2-Nitrophenol	56	67	a		
4-Nitrophenol	57	61	a		
2,4-Dinitrophenol	a	69	a		
Phenol	42	47	a		
2-Methylphenol	57	62	a		
3-Methylphenol/4-Methylphenol	59	66	a		
Benzoic Acid	51	52	a		
Benzyl Alcohol	52	62	a		

a-acceptable

Sample results were qualified as indicated above due to unacceptable LCS and/or LCSD recoveries and/or RPD.

C. Semi-volatile Organic Compounds (Selected Ion Monitoring [SIM])

1. Blanks

Two method blanks were prepared and analyzed in support of sample analysis. No targets were detected in the blanks that impacted sample results. One field blank was submitted with these samples and the following compounds were detected:

Blank	Compound	Conc (ug/L)	Affected Samples
FIELD BLANK	Benzo(b)fluoranthene	0.02	MW-4
	Benzo(g,h,i)perylene	0.02	
	Indeno(1,2,3-c,d)pyrene	0.02	
	1,4-Dioxane	0.0355	MW-2

Sample results were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, because the sample concentration was less than five times the concentration detected in the field blank.

2. Calibration:

One IC was performed in support of sample analyses. All RRFs and RSDs or correlation coefficients were acceptable. One second source ICV standard was analyzed following the IC and all %Ds were acceptable with the following exception:

Instrument	Date	Compound	%D	Affected Samples	Qualifiers Applied
SV125	8/7/2019	Pentachlorophenol	21.6	MW-2 MW-3 MW-4 MW-5 FIELD BLANK	UJ

Sample results were qualified as indicated above due to unacceptable %D in the ICV. One CC was analyzed in support of sample analyses. All percent differences were acceptable (<20%D) or had no impact to sample results.

3. Surrogates

Sample	Surrogate					
	2-Fluoro-phenol	Phenol-d_5	Nitro-benzene-d_5	2-Fluorobiphenyl	2,4,6-TBP	Terphenyl-d_{14}
MW-2	44	47	68	a	a	a
MW-3	57	50	a	a	a	a
MW-4	49	54	a	a	a	a
MW-5	62	48	a	a	a	a
FIELD BLANK	53	56	68	a	a	a

Sample results were qualified as indicated below due to low surrogate recoveries:

- The results for pentachlorophenol in all samples were qualified as estimated (UJ) because two acid surrogates exhibited low recoveries.

- The results for naphthalene, hexachloroethane, hexachlorobenzene and 2-methylnaphthalene in MW-2 and FIELD BLANK were qualified as estimated (J-, UJ) because nitrobenzene-d_5 surrogate exhibited low recovery.

4. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

Results for one LCS/LCSD pair associated with the sample analyses were reported in the data package. Percent recoveries and relative percent differences were acceptable (70-130%R, RPD<20) with the exceptions below:

LCS/LCSD WG129838-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Hexachlorobutadiene	59	a	33	MW-2 MW-3 MW-4 MW-5 FIELD BLANK	J-, UJ
Naphthalene	58	a	29		
2-Methylnaphthalene	64	a	22		
Pentachlorophenol	67	64	a		
Hexachloroethane	49	a	39		
Benzo(k)fluoranthene	a	136	a	MW-2 MW-4 MW-5	J+

a-acceptable

Sample results were qualified as indicated above due to unacceptable LCS and/or LCSD recoveries and/or RPD.

5. Compound Identification

For SIM analysis, ratios are determined during initial calibration using the integrated areas for the primary and secondary ions and confirmation from their respective mass chromatograms. Identification in samples is made by verifying the ratio of the secondary ion to the primary. Ion ratio information was not provided for the initial calibration but was provided for target compounds detected in the samples. The validation was performed under the assumption that proper ion ratios were established during initial calibration.

The following sample results were qualified as estimated (J) and presumptively present (N) because the ion ratios were outside laboratory acceptance limit:

Sample	Compound
MW-2	Naphthalene
	Phenanthrene
	Anthracene
	Fluoranthene

	Pyrene
	Benzo(a)anthracene
	Benzo(k)fluoranthene
	Dibenz(a,h)anthracene
MW-3	Naphthalene
MW-4	Naphthalene
	Phenanthrene
	Anthracene
	Fluoranthene
	Benzo(a)anthracene
	Benzo(k)fluoranthene
MW-5	2-Methylnapthalene
	Anthracene
	Benzo(a)anthracene
	Benzo(k)fluoranthene
	Chrysene
	Indeno(1,2,3-c,d)pyrene
	Dibenz(a,h)anthracene

D. Polychlorinated Biphenyls (PCBs)

The results for PCBs were determined to be valid as reported.

E. Pesticides

1. Surrogates

Two surrogates (2,4,5,6-Tetrachloro-m-xylene [TCX] and (Decachlorobiphenyl [DCB]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate / Column			
	TCX/1	TCX/2	DCB/1	DCB/2
MW-2	64		60	
MW-5	64	66	61	57

No qualification of sample results was made for MW-2 based on low surrogate recoveries in column 1 because the surrogate recoveries on column 2 were acceptable and no target compounds were detected in the sample. The results for all pesticide compounds in MW-5 were qualified as estimated (UJ) because both surrogates on both analytical columns exhibited low recoveries.

2. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

Results for one LCS/LCSD pair associated with the sample analyses were reported in the data package. Percent recoveries and RPDs were acceptable (70-130%R, RPD<30) with the exceptions below:

LCS/LCSD WG1298185-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Delta-BHC	a	67	a	MW-2 MW-3 MW-4 MW-5 FIELD BLANK	UJ
Lindane	a	62	a		
Alpha-BHC	a	69	a		
Beta-BHC	a	63	a		
Heptachlor	63	54	a		
Aldrin	a	65	a		
Heptachlor epoxide	a	69	a		
Endrin	a	68	a		
Endrin aldehyde	65	58	a		
Endrin ketone	a	63	a		
4,4'-DDE	a	a	a		
4,4'-DDD	a	63	a		
4,4'-DDT	65	57	a		
Endosulfan I	a	65	a		
Endosulfan II	a	65	a		
Endosulfan sulfate	a	66	a		
Methoxychlor	a	61	a		
cis-Chlordane	a	63	a		
trans-Chlordane	a	63	a		

a-acceptable

Sample results were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries.

F. Metals

1. Blanks

The table below summarized the maximum blank contamination that impacted sample results:

Blank	Analyte	Conc. (mg/L)	Samples Affected
Method	Thallium (total)	0.00021	MW-2 MW-3 MW-4 MW-5 FIELD BLANK
Method	Thallium (dissolved)	0.0003	MW-2 MW-3 MW-4 MW-5 FIELD BLANK
Method	Sodium (dissolved)	0.0516	FIELD BLANK

Blank	Analyte	Conc. (mg/L)	Samples Affected
CCB	Iron	0.0385	MW-2 (dissolved) MW-4 (dissolved)
FIELD BLANK	Copper (total)	0.00155	MW-2 MW-3 MW-4 MW-5
FIELD BLANK	Copper (dissolved)	0.00162	MW-2 MW-3 MW-4 MW-5
CCB	Mercury (total)	-0.145	MW-2 MW-3 MW-4 MW-5 FIELD BLANK
CCB	Mercury (dissolved)	-0.190	MW-2 MW-3 MW-4 MW-5 FIELD BLANK

CCB-continuing calibration blank

Sample results were qualified as not detected (U) at the reporting limit or reported value, whichever is greater because the sample concentration was less than five times the concentration in the associated blank. The results for mercury were qualified as estimated (UJ) due to negative blank values.

2. Total versus dissolved.

Total concentration was greater than dissolved concentration in most instances. Where the dissolved concertation was greater than the total by 10% or less, this is attributed to experimental error and no qualification of sample results was made.

H. Cyanide

The results for cyanide were determined to be valid as reported.

No other qualifications to sample results were made.

Please feel free to contact me at (908) 370-3431 or jrossi@ddmsinc.com if you have any questions regarding this data package review report or need further information.

Sincerely,

de maximis Data Management Solutions, Inc.

Jeri L Rossi, CEAC
Sr. Environmental Chemist

ATTACHMENT A

Qualification Summary Table
Laboratory Job No. L1948512

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Method	Fraction	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-2_20191016	SW6020	T	Copper		mg/l	U	0.00038	0.00482
MW-2_20191016	SW6020	T	Thallium		mg/l	U	0.00014	0.00100
MW-3_20191016	SW6020	T	Copper		mg/l	U	0.00038	0.00153
MW-3_20191016	SW6020	T	Thallium		mg/l	U	0.00014	0.00100
MW-4_20191016	SW6020	T	Copper		mg/l	U	0.00038	0.00607
MW-4_20191016	SW6020	T	Thallium		mg/l	U	0.00014	0.00100
MW-5_20191016	SW6020	T	Copper		mg/l	U	0.00038	0.00169
MW-5_20191016	SW6020	T	Thallium		mg/l	U	0.00014	0.00100
FIELD BLANK_20191016	SW6020	T	Thallium		mg/l	U	0.00014	0.00100
MW-2_20191016	SW7470A	T	Mercury			UJ	0.00009	0.00020
MW-3_20191016	SW7470A	T	Mercury			UJ	0.00009	0.00020
MW-4_20191016	SW7470A	T	Mercury			UJ	0.00009	0.00020
MW-5_20191016	SW7470A	T	Mercury			UJ	0.00009	0.00020
FIELD BLANK_20191016	SW7470A	T	Mercury			UJ	0.00009	0.00020
MW-2_20191016	SW8081B	NA	P,P'-DDD			UJ	0.003	0.029
MW-2_20191016	SW8081B	NA	P,P'-DDE			UJ	0.003	0.029
MW-2_20191016	SW8081B	NA	P,P'-DDT			UJ	0.003	0.029
MW-2_20191016	SW8081B	NA	Aldrin			UJ	0.002	0.014
MW-2_20191016	SW8081B	NA	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.003	0.014
MW-2_20191016	SW8081B	NA	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.004	0.014
MW-2_20191016	SW8081B	NA	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.003	0.014
MW-2_20191016	SW8081B	NA	Alpha Endosulfan			UJ	0.002	0.014
MW-2_20191016	SW8081B	NA	Beta Endosulfan			UJ	0.004	0.029
MW-2_20191016	SW8081B	NA	Endosulfan Sulfate			UJ	0.003	0.029
MW-2_20191016	SW8081B	NA	Endrin			UJ	0.003	0.029
MW-2_20191016	SW8081B	NA	Endrin Aldehyde			UJ	0.006	0.029
MW-2_20191016	SW8081B	NA	Endrin Ketone			UJ	0.003	0.029
MW-2_20191016	SW8081B	NA	Heptachlor			UJ	0.002	0.014
MW-2_20191016	SW8081B	NA	Heptachlor Epoxide			UJ	0.003	0.014
MW-2_20191016	SW8081B	NA	Gamma Bhc (Lindane)			UJ	0.003	0.014
MW-2_20191016	SW8081B	NA	Methoxychlor			UJ	0.005	0.143
MW-2_20191016	SW8081B	NA	cis-Chlordane			UJ	0.005	0.014
MW-2_20191016	SW8081B	NA	trans-Chlordane			UJ	0.004	0.014
MW-3_20191016	SW8081B	NA	P,P'-DDD			UJ	0.003	0.029
MW-3_20191016	SW8081B	NA	P,P'-DDE			UJ	0.003	0.029
MW-3_20191016	SW8081B	NA	P,P'-DDT			UJ	0.003	0.029
MW-3_20191016	SW8081B	NA	Aldrin			UJ	0.002	0.014
MW-3_20191016	SW8081B	NA	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.003	0.014
MW-3_20191016	SW8081B	NA	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.004	0.014
MW-3_20191016	SW8081B	NA	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.003	0.014
MW-3_20191016	SW8081B	NA	Alpha Endosulfan			UJ	0.002	0.014
MW-3_20191016	SW8081B	NA	Beta Endosulfan			UJ	0.004	0.029
MW-3_20191016	SW8081B	NA	Endosulfan Sulfate			UJ	0.003	0.029
MW-3_20191016	SW8081B	NA	Endrin			UJ	0.003	0.029
MW-3_20191016	SW8081B	NA	Endrin Aldehyde			UJ	0.006	0.029
MW-3_20191016	SW8081B	NA	Endrin Ketone			UJ	0.003	0.029
MW-3_20191016	SW8081B	NA	Heptachlor			UJ	0.002	0.014
MW-3_20191016	SW8081B	NA	Heptachlor Epoxide			UJ	0.003	0.014
MW-3_20191016	SW8081B	NA	Gamma Bhc (Lindane)			UJ	0.003	0.014
MW-3_20191016	SW8081B	NA	Methoxychlor			UJ	0.005	0.143
MW-3_20191016	SW8081B	NA	cis-Chlordane			UJ	0.005	0.014
MW-3_20191016	SW8081B	NA	trans-Chlordane			UJ	0.004	0.014
MW-4_20191016	SW8081B	NA	P,P'-DDD			UJ	0.003	0.029
MW-4_20191016	SW8081B	NA	P,P'-DDE			UJ	0.003	0.029
MW-4_20191016	SW8081B	NA	P,P'-DDT			UJ	0.003	0.029
MW-4_20191016	SW8081B	NA	Aldrin			UJ	0.002	0.014
MW-4_20191016	SW8081B	NA	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.003	0.014
MW-4_20191016	SW8081B	NA	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.004	0.014
MW-4_20191016	SW8081B	NA	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.003	0.014
MW-4_20191016	SW8081B	NA	Alpha Endosulfan			UJ	0.002	0.014
MW-4_20191016	SW8081B	NA	Beta Endosulfan			UJ	0.004	0.029
MW-4_20191016	SW8081B	NA	Endosulfan Sulfate			UJ	0.003	0.029
MW-4_20191016	SW8081B	NA	Endrin			UJ	0.003	0.029
MW-4_20191016	SW8081B	NA	Endrin Aldehyde			UJ	0.006	0.029
MW-4_20191016	SW8081B	NA	Endrin Ketone			UJ	0.003	0.029
MW-4_20191016	SW8081B	NA	Heptachlor			UJ	0.002	0.014
MW-4_20191016	SW8081B	NA	Heptachlor Epoxide			UJ	0.003	0.014

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Method	Fraction	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-4_20191016	SW8081B	NA	Gamma Bhc (Lindane)			UJ	0.003	0.014
MW-4_20191016	SW8081B	NA	Methoxychlor			UJ	0.005	0.143
MW-4_20191016	SW8081B	NA	cis-Chlordane			UJ	0.005	0.014
MW-4_20191016	SW8081B	NA	trans-Chlordane			UJ	0.004	0.014
MW-5_20191016	SW8081B	NA	P,P'-DDD			UJ	0.003	0.029
MW-5_20191016	SW8081B	NA	P,P'-DDE			UJ	0.003	0.029
MW-5_20191016	SW8081B	NA	P,P'-DDT			UJ	0.003	0.029
MW-5_20191016	SW8081B	NA	Aldrin			UJ	0.002	0.014
MW-5_20191016	SW8081B	NA	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.003	0.014
MW-5_20191016	SW8081B	NA	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.004	0.014
MW-5_20191016	SW8081B	NA	Chlordane			UJ	0.033	0.143
MW-5_20191016	SW8081B	NA	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.003	0.014
MW-5_20191016	SW8081B	NA	Dieldrin			UJ	0.003	0.029
MW-5_20191016	SW8081B	NA	Alpha Endosulfan			UJ	0.002	0.014
MW-5_20191016	SW8081B	NA	Beta Endosulfan			UJ	0.004	0.029
MW-5_20191016	SW8081B	NA	Endosulfan Sulfate			UJ	0.003	0.029
MW-5_20191016	SW8081B	NA	Endrin			UJ	0.003	0.029
MW-5_20191016	SW8081B	NA	Endrin Aldehyde			UJ	0.006	0.029
MW-5_20191016	SW8081B	NA	Endrin Ketone			UJ	0.003	0.029
MW-5_20191016	SW8081B	NA	Heptachlor			UJ	0.002	0.014
MW-5_20191016	SW8081B	NA	Heptachlor Epoxide			UJ	0.003	0.014
MW-5_20191016	SW8081B	NA	Gamma Bhc (Lindane)			UJ	0.003	0.014
MW-5_20191016	SW8081B	NA	Methoxychlor			UJ	0.005	0.143
MW-5_20191016	SW8081B	NA	Toxaphene			UJ	0.045	0.143
MW-5_20191016	SW8081B	NA	cis-Chlordane			UJ	0.005	0.014
MW-5_20191016	SW8081B	NA	trans-Chlordane			UJ	0.004	0.014
FIELD BLANK_20191016	SW8081B	NA	P,P'-DDD			UJ	0.003	0.029
FIELD BLANK_20191016	SW8081B	NA	P,P'-DDE			UJ	0.003	0.029
FIELD BLANK_20191016	SW8081B	NA	P,P'-DDT			UJ	0.003	0.029
FIELD BLANK_20191016	SW8081B	NA	Aldrin			UJ	0.002	0.014
FIELD BLANK_20191016	SW8081B	NA	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.003	0.014
FIELD BLANK_20191016	SW8081B	NA	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.004	0.014
FIELD BLANK_20191016	SW8081B	NA	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.003	0.014
FIELD BLANK_20191016	SW8081B	NA	Alpha Endosulfan			UJ	0.002	0.014
FIELD BLANK_20191016	SW8081B	NA	Beta Endosulfan			UJ	0.004	0.029
FIELD BLANK_20191016	SW8081B	NA	Endosulfan Sulfate			UJ	0.003	0.029
FIELD BLANK_20191016	SW8081B	NA	Endrin			UJ	0.003	0.029
FIELD BLANK_20191016	SW8081B	NA	Endrin Aldehyde			UJ	0.006	0.029
FIELD BLANK_20191016	SW8081B	NA	Endrin Ketone			UJ	0.003	0.029
FIELD BLANK_20191016	SW8081B	NA	Heptachlor			UJ	0.002	0.014
FIELD BLANK_20191016	SW8081B	NA	Heptachlor Epoxide			UJ	0.003	0.014
FIELD BLANK_20191016	SW8081B	NA	Gamma Bhc (Lindane)			UJ	0.003	0.014
FIELD BLANK_20191016	SW8081B	NA	Methoxychlor			UJ	0.005	0.143
FIELD BLANK_20191016	SW8081B	NA	cis-Chlordane			UJ	0.005	0.014
FIELD BLANK_20191016	SW8081B	NA	trans-Chlordane			UJ	0.004	0.014
MW-2_20191016	SW8260C	NA	1,1,1,2-Tetrachloroethane			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	1,1-Dichloroethane			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	1,2,3-Trichlorobenzene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	1,2,4-Trichlorobenzene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	1,2,4-Trimethylbenzene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	1,2-Dichlorobenzene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	1,2-Dichloroethane			UJ	0.13	0.50
MW-2_20191016	SW8260C	NA	1,2-Dichloropropane			UJ	0.14	1.0
MW-2_20191016	SW8260C	NA	1,3-Dichlorobenzene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	1,4-Dichlorobenzene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Acetone		ug/l	U	1.5	5.0
MW-2_20191016	SW8260C	NA	Acrylonitrile			UJ	1.5	5.0
MW-2_20191016	SW8260C	NA	Benzene			UJ	0.16	0.50
MW-2_20191016	SW8260C	NA	Bromobenzene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Bromochloromethane			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Bromomethane			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Carbon Disulfide			UJ	1.0	5.0
MW-2_20191016	SW8260C	NA	Chlorobenzene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Chloromethane			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Dichlorodifluoromethane			UJ	1.0	5.0
MW-2_20191016	SW8260C	NA	Diethyl Ether (Ethyl Ether)			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Methylene Chloride			UJ	0.70	2.5

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Sample ID	Method	Fraction	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-2_20191016	SW8260C	NA	Styrene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Toluene			UJ	0.70	2.5
MW-2_20191016	SW8260C	NA	Vinyl Acetate			UJ	1.0	5.0
MW-2_20191016	SW8260C	NA	Cis-1,2-Dichloroethylene	2.4	ug/l	J	0.70	2.5
MW-2_20191016	SW8260C	NA	O-Xylene (1,2-Dimethylbenzene)			UJ	0.70	2.5
MW-3_20191016	SW8260C	NA	1,1-Dichloroethene	0.84	ug/l	J	0.84	2.5
MW-5_20191016	SW8260C	NA	1,1-Dichloroethene	0.98	ug/l	J	0.84	2.5
MW-3_20191016	SW8260C	NA	Bromodichloromethane			UJ	0.96	2.5
MW-3_20191016	SW8260C	NA	Carbon Tetrachloride			UJ	0.67	2.5
MW-3_20191016	SW8260C	NA	Dibromochloromethane			UJ	0.74	2.5
MW-3_20191016	SW8260C	NA	Bromoform			UJ	3.2	10
MW-5_20191016	SW8260C	NA	Bromoform			UJ	3.2	10
MW-3_20191016	SW8260C	NA	Vinyl Acetate			UJ	5.0	25
MW-4_20191016	SW8260C	NA	1,1,1,2-Tetrachloroethane			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	1,1-Dichloroethane			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	1,1-Dichloroethene			UJ	0.17	0.50
MW-4_20191016	SW8260C	NA	1,2,3-Trichlorobenzene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	1,2,4-Trichlorobenzene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	1,2,4-Trimethylbenzene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	1,2-Dichlorobenzene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	1,2-Dichloroethane			UJ	0.13	0.50
MW-4_20191016	SW8260C	NA	1,2-Dichloropropane			UJ	0.14	1.0
MW-4_20191016	SW8260C	NA	1,3-Dichlorobenzene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	1,4-Dichlorobenzene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Acrylonitrile			UJ	1.5	5.0
MW-4_20191016	SW8260C	NA	Benzene			UJ	0.16	0.50
MW-4_20191016	SW8260C	NA	Bromobenzene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Bromochloromethane			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Bromomethane			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Carbon Disulfide			UJ	1.0	5.0
MW-4_20191016	SW8260C	NA	Chlorobenzene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Chloromethane			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Dichlorodifluoromethane			UJ	1.0	5.0
MW-4_20191016	SW8260C	NA	Diethyl Ether (Ethyl Ether)			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Methylene Chloride			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Styrene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Toluene			UJ	0.70	2.5
MW-4_20191016	SW8260C	NA	Vinyl Acetate			UJ	1.0	5.0
MW-4_20191016	SW8260C	NA	Cis-1,2-Dichloroethylene	0.75	ug/l	J	0.70	2.5
MW-4_20191016	SW8260C	NA	O-Xylene (1,2-Dimethylbenzene)			UJ	0.70	2.5
MW-5_20191016	SW8260C	NA	Bromodichloromethane			UJ	0.96	2.5
MW-5_20191016	SW8260C	NA	Carbon Tetrachloride			UJ	0.67	2.5
MW-5_20191016	SW8260C	NA	Vinyl Acetate			UJ	5.0	25
MW-5_20191016	SW8260C	NA	Dibromochloromethane			UJ	0.74	2.5
FIELD BLANK_20191016	SW8260C	NA	Bromoform			UJ	0.65	2.0
FIELD BLANK_20191016	SW8260C	NA	1,1-Dichloroethene			UJ	0.17	0.50
FIELD BLANK_20191016	SW8260C	NA	Carbon Tetrachloride			UJ	0.13	0.50
FIELD BLANK_20191016	SW8260C	NA	Bromodichloromethane			UJ	0.19	0.50
FIELD BLANK_20191016	SW8260C	NA	Dibromochloromethane			UJ	0.15	0.50
FIELD BLANK_20191016	SW8260C	NA	Vinyl Acetate			UJ	1.0	5.0
FIELD BLANK_20191016	SW8260C	NA	Cis-1,2-Dichloroethylene			UJ	0.70	2.5
FIELD BLANK_20191016	SW8260C	NA	Vinyl Chloride			UJ	0.07	1.0
TRIP BLANK_20191016	SW8260C	NA	Bromoform			UJ	0.65	2.0
TRIP BLANK_20191016	SW8260C	NA	1,1-Dichloroethene			UJ	0.17	0.50
TRIP BLANK_20191016	SW8260C	NA	Carbon Tetrachloride			UJ	0.13	0.50
TRIP BLANK_20191016	SW8260C	NA	Bromodichloromethane			UJ	0.19	0.50
TRIP BLANK_20191016	SW8260C	NA	Dibromochloromethane			UJ	0.15	0.50
TRIP BLANK_20191016	SW8260C	NA	Vinyl Acetate			UJ	1.0	5.0
TRIP BLANK_20191016	SW8260C	NA	Cis-1,2-Dichloroethylene			UJ	0.70	2.5
TRIP BLANK_20191016	SW8260C	NA	Vinyl Chloride			UJ	0.07	1.0
MW-3_20191016	SW8260C	NA	Vinyl Chloride	14	ug/l	J-	0.36	5.0
MW-3_20191016	SW8260C	NA	Cis-1,2-Dichloroethylene	210	ug/l	J	3.5	12
MW-5_20191016	SW8260C	NA	Vinyl Chloride	16	ug/l	J-	0.36	5.0
MW-5_20191016	SW8260C	NA	Cis-1,2-Dichloroethylene	120	ug/l	J	3.5	12
MW-2_20191016	SW8270D	NA	Bis(2-Ethylhexyl) Phthalate		ug/l	UJ	1.5	3.0
MW-4_20191016	SW8270D	NA	Bis(2-Ethylhexyl) Phthalate		ug/l	UJ	1.5	3.0
MW-5_20191016	SW8270D	NA	Bis(2-Ethylhexyl) Phthalate		ug/l	UJ	1.5	3.0

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Sample ID	Method	Fraction	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-2_20191016	SW8270D	NA	Di-N-Octylphthalate			UJ	1.3	5.0
MW-3_20191016	SW8270D	NA	Di-N-Octylphthalate			UJ	1.3	5.0
MW-4_20191016	SW8270D	NA	Di-N-Octylphthalate			UJ	1.3	5.0
MW-5_20191016	SW8270D	NA	Di-N-Octylphthalate			UJ	1.3	5.0
FIELD BLANK_20191016	SW8270D	NA	Di-N-Octylphthalate			UJ	1.3	5.0
MW-4_20191016	SW8270D	NA	Diethyl Phthalate	0.97	ug/l	J-	0.38	5.0
FIELD BLANK_20191016	SW8270D	NA	Bis(2-Ethylhexyl) Phthalate	1.7	ug/l	J-	1.5	3.0
MW-2_20191016	SW8270D	NA	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
MW-2_20191016	SW8270D	NA	1,2,4-Trichlorobenzene			UJ	0.50	5.0
MW-2_20191016	SW8270D	NA	1,2-Dichlorobenzene			UJ	0.45	2.0
MW-2_20191016	SW8270D	NA	1,3-Dichlorobenzene			UJ	0.40	2.0
MW-2_20191016	SW8270D	NA	1,4-Dichlorobenzene			UJ	0.43	2.0
MW-2_20191016	SW8270D	NA	2,4,5-Trichlorophenol			UJ	0.77	5.0
MW-2_20191016	SW8270D	NA	2,4,6-Trichlorophenol			UJ	0.61	5.0
MW-2_20191016	SW8270D	NA	2,4-Dichlorophenol			UJ	0.41	5.0
MW-2_20191016	SW8270D	NA	2,4-Dimethylphenol			UJ	1.8	5.0
MW-2_20191016	SW8270D	NA	2,4-Dinitrophenol			UJ	6.6	20
MW-2_20191016	SW8270D	NA	2,4-Dinitrotoluene			UJ	1.2	5.0
MW-2_20191016	SW8270D	NA	2,6-Dinitrotoluene			UJ	0.93	5.0
MW-2_20191016	SW8270D	NA	2-Chlorophenol			UJ	0.48	2.0
MW-2_20191016	SW8270D	NA	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
MW-2_20191016	SW8270D	NA	2-Nitroaniline			UJ	0.50	5.0
MW-2_20191016	SW8270D	NA	2-Nitrophenol			UJ	0.85	10
MW-2_20191016	SW8270D	NA	3,3'-Dichlorobenzidine			UJ	1.6	5.0
MW-2_20191016	SW8270D	NA	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
MW-2_20191016	SW8270D	NA	3-Nitroaniline			UJ	0.81	5.0
MW-2_20191016	SW8270D	NA	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
MW-2_20191016	SW8270D	NA	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
MW-2_20191016	SW8270D	NA	4-Chloroaniline			UJ	1.1	5.0
MW-2_20191016	SW8270D	NA	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
MW-2_20191016	SW8270D	NA	4-Nitroaniline			UJ	0.80	5.0
MW-2_20191016	SW8270D	NA	4-Nitrophenol			UJ	0.67	10
MW-2_20191016	SW8270D	NA	Acetophenone			UJ	0.53	5.0
MW-2_20191016	SW8270D	NA	Benzoic Acid			UJ	2.6	50
MW-2_20191016	SW8270D	NA	Benzyl Alcohol			UJ	0.59	2.0
MW-2_20191016	SW8270D	NA	Biphenyl (Diphenyl)			UJ	0.46	2.0
MW-2_20191016	SW8270D	NA	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
MW-2_20191016	SW8270D	NA	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
MW-2_20191016	SW8270D	NA	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
MW-2_20191016	SW8270D	NA	Benzyl Butyl Phthalate			UJ	1.2	5.0
MW-2_20191016	SW8270D	NA	Carbazole			UJ	0.49	2.0
MW-2_20191016	SW8270D	NA	Di-N-Butyl Phthalate			UJ	0.39	5.0
MW-2_20191016	SW8270D	NA	Dibenzofuran			UJ	0.50	2.0
MW-2_20191016	SW8270D	NA	Diethyl Phthalate			UJ	0.38	5.0
MW-2_20191016	SW8270D	NA	Dimethyl Phthalate			UJ	1.8	5.0
MW-2_20191016	SW8270D	NA	Hexachlorocyclopentadiene			UJ	0.69	20
MW-2_20191016	SW8270D	NA	Isophorone			UJ	1.2	5.0
MW-2_20191016	SW8270D	NA	N-Nitrosodiphenylamine			UJ	0.42	2.0
MW-2_20191016	SW8270D	NA	Nitrobenzene			UJ	0.77	2.0
MW-2_20191016	SW8270D	NA	Phenol			UJ	0.57	5.0
MW-2_20191016	SW8270D	NA	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
MW-2_20191016	SW8270D	NA	4-Chloro-3-Methylphenol			UJ	0.35	2.0
MW-3_20191016	SW8270D	NA	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
MW-3_20191016	SW8270D	NA	1,2,4-Trichlorobenzene			UJ	0.50	5.0
MW-3_20191016	SW8270D	NA	1,2-Dichlorobenzene			UJ	0.45	2.0
MW-3_20191016	SW8270D	NA	1,3-Dichlorobenzene			UJ	0.40	2.0
MW-3_20191016	SW8270D	NA	1,4-Dichlorobenzene			UJ	0.43	2.0
MW-3_20191016	SW8270D	NA	2,4,5-Trichlorophenol			UJ	0.77	5.0
MW-3_20191016	SW8270D	NA	2,4,6-Trichlorophenol			UJ	0.61	5.0
MW-3_20191016	SW8270D	NA	2,4-Dichlorophenol			UJ	0.41	5.0
MW-3_20191016	SW8270D	NA	2,4-Dimethylphenol			UJ	1.8	5.0
MW-3_20191016	SW8270D	NA	2,4-Dinitrophenol			UJ	6.6	20
MW-3_20191016	SW8270D	NA	2,4-Dinitrotoluene			UJ	1.2	5.0
MW-3_20191016	SW8270D	NA	2,6-Dinitrotoluene			UJ	0.93	5.0
MW-3_20191016	SW8270D	NA	2-Chlorophenol			UJ	0.48	2.0
MW-3_20191016	SW8270D	NA	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
MW-3_20191016	SW8270D	NA	2-Nitroaniline			UJ	0.50	5.0

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Sample ID	Method	Fraction	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-3_20191016	SW8270D	NA	2-Nitrophenol			UJ	0.85	10
MW-3_20191016	SW8270D	NA	3,3'-Dichlorobenzidine			UJ	1.6	5.0
MW-3_20191016	SW8270D	NA	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
MW-3_20191016	SW8270D	NA	3-Nitroaniline			UJ	0.81	5.0
MW-3_20191016	SW8270D	NA	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
MW-3_20191016	SW8270D	NA	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
MW-3_20191016	SW8270D	NA	4-Chloroaniline			UJ	1.1	5.0
MW-3_20191016	SW8270D	NA	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
MW-3_20191016	SW8270D	NA	4-Nitroaniline			UJ	0.80	5.0
MW-3_20191016	SW8270D	NA	4-Nitrophenol			UJ	0.67	10
MW-3_20191016	SW8270D	NA	Acetophenone			UJ	0.53	5.0
MW-3_20191016	SW8270D	NA	Benzoic Acid			UJ	2.6	50
MW-3_20191016	SW8270D	NA	Benzyl Alcohol			UJ	0.59	2.0
MW-3_20191016	SW8270D	NA	Biphenyl (Diphenyl)			UJ	0.46	2.0
MW-3_20191016	SW8270D	NA	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
MW-3_20191016	SW8270D	NA	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
MW-3_20191016	SW8270D	NA	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
MW-3_20191016	SW8270D	NA	Bis(2-Ethylhexyl) Phthalate			UJ	1.5	3.0
MW-3_20191016	SW8270D	NA	Benzyl Butyl Phthalate			UJ	1.2	5.0
MW-3_20191016	SW8270D	NA	Carbazole			UJ	0.49	2.0
MW-3_20191016	SW8270D	NA	Di-N-Butyl Phthalate			UJ	0.39	5.0
MW-3_20191016	SW8270D	NA	Dibenzofuran			UJ	0.50	2.0
MW-3_20191016	SW8270D	NA	Diethyl Phthalate			UJ	0.38	5.0
MW-3_20191016	SW8270D	NA	Dimethyl Phthalate			UJ	1.8	5.0
MW-3_20191016	SW8270D	NA	Hexachlorocyclopentadiene			UJ	0.69	20
MW-3_20191016	SW8270D	NA	Isophorone			UJ	1.2	5.0
MW-3_20191016	SW8270D	NA	N-Nitrosodiphenylamine			UJ	0.42	2.0
MW-3_20191016	SW8270D	NA	Nitrobenzene			UJ	0.77	2.0
MW-3_20191016	SW8270D	NA	Phenol			UJ	0.57	5.0
MW-3_20191016	SW8270D	NA	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
MW-3_20191016	SW8270D	NA	4-Chloro-3-Methylphenol			UJ	0.35	2.0
MW-4_20191016	SW8270D	NA	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
MW-4_20191016	SW8270D	NA	1,2,4-Trichlorobenzene			UJ	0.50	5.0
MW-4_20191016	SW8270D	NA	1,2-Dichlorobenzene			UJ	0.45	2.0
MW-4_20191016	SW8270D	NA	1,3-Dichlorobenzene			UJ	0.40	2.0
MW-4_20191016	SW8270D	NA	1,4-Dichlorobenzene			UJ	0.43	2.0
MW-4_20191016	SW8270D	NA	2,4,5-Trichlorophenol			UJ	0.77	5.0
MW-4_20191016	SW8270D	NA	2,4,6-Trichlorophenol			UJ	0.61	5.0
MW-4_20191016	SW8270D	NA	2,4-Dichlorophenol			UJ	0.41	5.0
MW-4_20191016	SW8270D	NA	2,4-Dimethylphenol			UJ	1.8	5.0
MW-4_20191016	SW8270D	NA	2,4-Dinitrophenol			UJ	6.6	20
MW-4_20191016	SW8270D	NA	2,4-Dinitrotoluene			UJ	1.2	5.0
MW-4_20191016	SW8270D	NA	2,6-Dinitrotoluene			UJ	0.93	5.0
MW-4_20191016	SW8270D	NA	2-Chlorophenol			UJ	0.48	2.0
MW-4_20191016	SW8270D	NA	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
MW-4_20191016	SW8270D	NA	2-Nitroaniline			UJ	0.50	5.0
MW-4_20191016	SW8270D	NA	2-Nitrophenol			UJ	0.85	10
MW-4_20191016	SW8270D	NA	3,3'-Dichlorobenzidine			UJ	1.6	5.0
MW-4_20191016	SW8270D	NA	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
MW-4_20191016	SW8270D	NA	3-Nitroaniline			UJ	0.81	5.0
MW-4_20191016	SW8270D	NA	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
MW-4_20191016	SW8270D	NA	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
MW-4_20191016	SW8270D	NA	4-Chloroaniline			UJ	1.1	5.0
MW-4_20191016	SW8270D	NA	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
MW-4_20191016	SW8270D	NA	4-Nitroaniline			UJ	0.80	5.0
MW-4_20191016	SW8270D	NA	4-Nitrophenol			UJ	0.67	10
MW-4_20191016	SW8270D	NA	Acetophenone			UJ	0.53	5.0
MW-4_20191016	SW8270D	NA	Benzoic Acid			UJ	2.6	50
MW-4_20191016	SW8270D	NA	Benzyl Alcohol			UJ	0.59	2.0
MW-4_20191016	SW8270D	NA	Biphenyl (Diphenyl)			UJ	0.46	2.0
MW-4_20191016	SW8270D	NA	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
MW-4_20191016	SW8270D	NA	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
MW-4_20191016	SW8270D	NA	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
MW-4_20191016	SW8270D	NA	Benzyl Butyl Phthalate			UJ	1.2	5.0
MW-4_20191016	SW8270D	NA	Carbazole			UJ	0.49	2.0
MW-4_20191016	SW8270D	NA	Di-N-Butyl Phthalate			UJ	0.39	5.0
MW-4_20191016	SW8270D	NA	Dibenzofuran			UJ	0.50	2.0

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Method	Fraction	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-4_20191016	SW8270D	NA	Dimethyl Phthalate			UJ	1.8	5.0
MW-4_20191016	SW8270D	NA	Hexachlorocyclopentadiene			UJ	0.69	20
MW-4_20191016	SW8270D	NA	Isophorone			UJ	1.2	5.0
MW-4_20191016	SW8270D	NA	N-Nitrosodiphenylamine			UJ	0.42	2.0
MW-4_20191016	SW8270D	NA	Nitrobenzene			UJ	0.77	2.0
MW-4_20191016	SW8270D	NA	Phenol			UJ	0.57	5.0
MW-4_20191016	SW8270D	NA	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
MW-4_20191016	SW8270D	NA	4-Chloro-3-Methylphenol			UJ	0.35	2.0
MW-5_20191016	SW8270D	NA	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
MW-5_20191016	SW8270D	NA	1,2,4-Trichlorobenzene			UJ	0.50	5.0
MW-5_20191016	SW8270D	NA	1,2-Dichlorobenzene			UJ	0.45	2.0
MW-5_20191016	SW8270D	NA	1,3-Dichlorobenzene			UJ	0.40	2.0
MW-5_20191016	SW8270D	NA	1,4-Dichlorobenzene			UJ	0.43	2.0
MW-5_20191016	SW8270D	NA	2,4,5-Trichlorophenol			UJ	0.77	5.0
MW-5_20191016	SW8270D	NA	2,4,6-Trichlorophenol			UJ	0.61	5.0
MW-5_20191016	SW8270D	NA	2,4-Dichlorophenol			UJ	0.41	5.0
MW-5_20191016	SW8270D	NA	2,4-Dimethylphenol			UJ	1.8	5.0
MW-5_20191016	SW8270D	NA	2,4-Dinitrophenol			UJ	6.6	20
MW-5_20191016	SW8270D	NA	2,4-Dinitrotoluene			UJ	1.2	5.0
MW-5_20191016	SW8270D	NA	2,6-Dinitrotoluene			UJ	0.93	5.0
MW-5_20191016	SW8270D	NA	2-Chlorophenol			UJ	0.48	2.0
MW-5_20191016	SW8270D	NA	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
MW-5_20191016	SW8270D	NA	2-Nitroaniline			UJ	0.50	5.0
MW-5_20191016	SW8270D	NA	2-Nitrophenol			UJ	0.85	10
MW-5_20191016	SW8270D	NA	3,3'-Dichlorobenzidine			UJ	1.6	5.0
MW-5_20191016	SW8270D	NA	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
MW-5_20191016	SW8270D	NA	3-Nitroaniline			UJ	0.81	5.0
MW-5_20191016	SW8270D	NA	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
MW-5_20191016	SW8270D	NA	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
MW-5_20191016	SW8270D	NA	4-Chloroaniline			UJ	1.1	5.0
MW-5_20191016	SW8270D	NA	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
MW-5_20191016	SW8270D	NA	4-Nitroaniline			UJ	0.80	5.0
MW-5_20191016	SW8270D	NA	4-Nitrophenol			UJ	0.67	10
MW-5_20191016	SW8270D	NA	Acetophenone			UJ	0.53	5.0
MW-5_20191016	SW8270D	NA	Benzoic Acid			UJ	2.6	50
MW-5_20191016	SW8270D	NA	Benzyl Alcohol			UJ	0.59	2.0
MW-5_20191016	SW8270D	NA	Biphenyl (Diphenyl)			UJ	0.46	2.0
MW-5_20191016	SW8270D	NA	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
MW-5_20191016	SW8270D	NA	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
MW-5_20191016	SW8270D	NA	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
MW-5_20191016	SW8270D	NA	Benzyl Butyl Phthalate			UJ	1.2	5.0
MW-5_20191016	SW8270D	NA	Carbazole			UJ	0.49	2.0
MW-5_20191016	SW8270D	NA	Di-N-Butyl Phthalate			UJ	0.39	5.0
MW-5_20191016	SW8270D	NA	Dibenzofuran			UJ	0.50	2.0
MW-5_20191016	SW8270D	NA	Diethyl Phthalate			UJ	0.38	5.0
MW-5_20191016	SW8270D	NA	Dimethyl Phthalate			UJ	1.8	5.0
MW-5_20191016	SW8270D	NA	Hexachlorocyclopentadiene			UJ	0.69	20
MW-5_20191016	SW8270D	NA	Isophorone			UJ	1.2	5.0
MW-5_20191016	SW8270D	NA	N-Nitrosodiphenylamine			UJ	0.42	2.0
MW-5_20191016	SW8270D	NA	Nitrobenzene			UJ	0.77	2.0
MW-5_20191016	SW8270D	NA	Phenol			UJ	0.57	5.0
MW-5_20191016	SW8270D	NA	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
MW-5_20191016	SW8270D	NA	4-Chloro-3-Methylphenol			UJ	0.35	2.0
FIELD BLANK_20191016	SW8270D	NA	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
FIELD BLANK_20191016	SW8270D	NA	1,2,4-Trichlorobenzene			UJ	0.50	5.0
FIELD BLANK_20191016	SW8270D	NA	1,2-Dichlorobenzene			UJ	0.45	2.0
FIELD BLANK_20191016	SW8270D	NA	1,3-Dichlorobenzene			UJ	0.40	2.0
FIELD BLANK_20191016	SW8270D	NA	1,4-Dichlorobenzene			UJ	0.43	2.0
FIELD BLANK_20191016	SW8270D	NA	2,4,5-Trichlorophenol			UJ	0.77	5.0
FIELD BLANK_20191016	SW8270D	NA	2,4,6-Trichlorophenol			UJ	0.61	5.0
FIELD BLANK_20191016	SW8270D	NA	2,4-Dichlorophenol			UJ	0.41	5.0
FIELD BLANK_20191016	SW8270D	NA	2,4-Dimethylphenol			UJ	1.8	5.0
FIELD BLANK_20191016	SW8270D	NA	2,4-Dinitrophenol			UJ	6.6	20
FIELD BLANK_20191016	SW8270D	NA	2,4-Dinitrotoluene			UJ	1.2	5.0
FIELD BLANK_20191016	SW8270D	NA	2,6-Dinitrotoluene			UJ	0.93	5.0
FIELD BLANK_20191016	SW8270D	NA	2-Chlorophenol			UJ	0.48	2.0
FIELD BLANK_20191016	SW8270D	NA	2-Methylphenol (O-Cresol)			UJ	0.49	5.0

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Method	Fraction	Parameter	Result	Units	Validation Qualifier	MDL	RL
FIELD BLANK_20191016	SW8270D	NA	2-Nitroaniline			UJ	0.50	5.0
FIELD BLANK_20191016	SW8270D	NA	2-Nitrophenol			UJ	0.85	10
FIELD BLANK_20191016	SW8270D	NA	3,3'-Dichlorobenzidine			UJ	1.6	5.0
FIELD BLANK_20191016	SW8270D	NA	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
FIELD BLANK_20191016	SW8270D	NA	3-Nitroaniline			UJ	0.81	5.0
FIELD BLANK_20191016	SW8270D	NA	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
FIELD BLANK_20191016	SW8270D	NA	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
FIELD BLANK_20191016	SW8270D	NA	4-Chloroaniline			UJ	1.1	5.0
FIELD BLANK_20191016	SW8270D	NA	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
FIELD BLANK_20191016	SW8270D	NA	4-Nitroaniline			UJ	0.80	5.0
FIELD BLANK_20191016	SW8270D	NA	4-Nitrophenol			UJ	0.67	10
FIELD BLANK_20191016	SW8270D	NA	Acetophenone			UJ	0.53	5.0
FIELD BLANK_20191016	SW8270D	NA	Benzoic Acid			UJ	2.6	50
FIELD BLANK_20191016	SW8270D	NA	Benzyl Alcohol			UJ	0.59	2.0
FIELD BLANK_20191016	SW8270D	NA	Biphenyl (Diphenyl)			UJ	0.46	2.0
FIELD BLANK_20191016	SW8270D	NA	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
FIELD BLANK_20191016	SW8270D	NA	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
FIELD BLANK_20191016	SW8270D	NA	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
FIELD BLANK_20191016	SW8270D	NA	Benzyl Butyl Phthalate			UJ	1.2	5.0
FIELD BLANK_20191016	SW8270D	NA	Carbazole			UJ	0.49	2.0
FIELD BLANK_20191016	SW8270D	NA	Di-N-Butyl Phthalate			UJ	0.39	5.0
FIELD BLANK_20191016	SW8270D	NA	Dibenzofuran			UJ	0.50	2.0
FIELD BLANK_20191016	SW8270D	NA	Diethyl Phthalate			UJ	0.38	5.0
FIELD BLANK_20191016	SW8270D	NA	Dimethyl Phthalate			UJ	1.8	5.0
FIELD BLANK_20191016	SW8270D	NA	Hexachlorocyclopentadiene			UJ	0.69	20
FIELD BLANK_20191016	SW8270D	NA	Isophorone			UJ	1.2	5.0
FIELD BLANK_20191016	SW8270D	NA	N-Nitrosodiphenylamine			UJ	0.42	2.0
FIELD BLANK_20191016	SW8270D	NA	Nitrobenzene			UJ	0.77	2.0
FIELD BLANK_20191016	SW8270D	NA	Phenol			UJ	0.57	5.0
FIELD BLANK_20191016	SW8270D	NA	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
FIELD BLANK_20191016	SW8270D	NA	4-Chloro-3-Methylphenol			UJ	0.35	2.0
MW-2_20191016	SW8270DSIM	NA	1,4-Dioxane (P-Dioxane)		ug/l	U	0.0339	0.150
MW-2_20191016	SW8270DSIM	NA	2-Methylnaphthalene	0.04	ug/l	J-	0.02	0.10
MW-2_20191016	SW8270DSIM	NA	Anthracene	0.01	ug/l	J,N	0.01	0.10
MW-2_20191016	SW8270DSIM	NA	Benzo(A)Anthracene	0.11	ug/l	J,N	0.02	0.10
MW-2_20191016	SW8270DSIM	NA	Benzo(B)Fluoranthene		ug/l	U	0.01	0.21
MW-2_20191016	SW8270DSIM	NA	Benzo(G,H,I)Perylene		ug/l	U	0.01	0.18
MW-2_20191016	SW8270DSIM	NA	Benzo(K)Fluoranthene	0.09	ug/l	J,N	0.01	0.10
MW-2_20191016	SW8270DSIM	NA	Dibenz(A,H)Anthracene	0.04	ug/l	J,N	0.01	0.10
MW-2_20191016	SW8270DSIM	NA	Fluoranthene	0.04	ug/l	J,N	0.02	0.10
MW-2_20191016	SW8270DSIM	NA	Hexachlorobenzene			UJ	0.01	0.80
MW-2_20191016	SW8270DSIM	NA	Hexachlorobutadiene			UJ	0.05	0.50
MW-2_20191016	SW8270DSIM	NA	Hexachloroethane			UJ	0.06	0.80
MW-2_20191016	SW8270DSIM	NA	Indeno(1,2,3-C,D)Pyrene		ug/l	U	0.01	0.20
MW-3_20191016	SW8270DSIM	NA	Hexachlorobutadiene			UJ	0.05	0.50
MW-3_20191016	SW8270DSIM	NA	Hexachloroethane			UJ	0.06	0.80
MW-2_20191016	SW8270DSIM	NA	Naphthalene	0.11	ug/l	J,N	0.05	0.10
MW-2_20191016	SW8270DSIM	NA	Pentachlorophenol			UJ	0.01	0.80
MW-3_20191016	SW8270DSIM	NA	Pentachlorophenol			UJ	0.01	0.80
MW-4_20191016	SW8270DSIM	NA	Benzo(K)Fluoranthene	0.03	ug/l	J,N	0.01	0.10
MW-4_20191016	SW8270DSIM	NA	2-Methylnaphthalene			UJ	0.02	0.10
MW-4_20191016	SW8270DSIM	NA	Hexachlorobutadiene			UJ	0.05	0.50
MW-4_20191016	SW8270DSIM	NA	Hexachloroethane			UJ	0.06	0.80
MW-4_20191016	SW8270DSIM	NA	Pentachlorophenol			UJ	0.01	0.80
MW-5_20191016	SW8270DSIM	NA	Hexachlorobutadiene			UJ	0.05	0.50
MW-4_20191016	SW8270DSIM	NA	Anthracene	0.02	ug/l	J,N	0.01	0.10
MW-4_20191016	SW8270DSIM	NA	Benzo(A)Anthracene	0.06	ug/l	J,N	0.02	0.10
MW-4_20191016	SW8270DSIM	NA	Benzo(B)Fluoranthene	0.06	ug/l	J	0.01	0.10
MW-4_20191016	SW8270DSIM	NA	Benzo(G,H,I)Perylene	0.03	ug/l	J	0.01	0.10
MW-5_20191016	SW8270DSIM	NA	Benzo(K)Fluoranthene	0.05	ug/l	J,N	0.01	0.10
MW-4_20191016	SW8270DSIM	NA	Fluoranthene	0.09	ug/l	J,N	0.02	0.10
MW-5_20191016	SW8270DSIM	NA	Hexachloroethane			UJ	0.06	0.80
MW-5_20191016	SW8270DSIM	NA	Naphthalene			UJ	0.05	0.10
MW-4_20191016	SW8270DSIM	NA	Indeno(1,2,3-C,D)Pyrene	0.04	ug/l	J	0.01	0.10
MW-5_20191016	SW8270DSIM	NA	Pentachlorophenol			UJ	0.01	0.80
FIELD BLANK_20191016	SW8270DSIM	NA	2-Methylnaphthalene			UJ	0.02	0.10
MW-4_20191016	SW8270DSIM	NA	Phenanthrene	0.06	ug/l	J,N	0.02	0.10

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Method	Fraction	Parameter	Result	Units	Validation Qualifier	MDL	RL
FIELD BLANK_20191016	SW8270DSIM	NA	Hexachlorobutadiene			UJ	0.05	0.50
MW-5_20191016	SW8270DSIM	NA	Anthracene	0.02	ug/l	J,N	0.01	0.10
MW-5_20191016	SW8270DSIM	NA	Benzo(A)Anthracene	0.09	ug/l	J,N	0.02	0.10
MW-5_20191016	SW8270DSIM	NA	Chrysene	0.02	ug/l	J,N	0.01	0.10
MW-5_20191016	SW8270DSIM	NA	Dibenz(A,H)Anthracene	0.02	ug/l	J,N	0.01	0.10
FIELD BLANK_20191016	SW8270DSIM	NA	Hexachloroethane			UJ	0.06	0.80
FIELD BLANK_20191016	SW8270DSIM	NA	Naphthalene			UJ	0.05	0.10
MW-5_20191016	SW8270DSIM	NA	Indeno(1,2,3-C,D)Pyrene	0.13	ug/l	J,N	0.01	0.10
FIELD BLANK_20191016	SW8270DSIM	NA	Pentachlorophenol			UJ	0.01	0.80
MW-2_20191016	SW8270DSIM	NA	Phenanthrene	0.03	ug/l	J,N	0.02	0.10
MW-2_20191016	SW8270DSIM	NA	Pyrene	0.04	ug/l	J,N	0.02	0.10
FIELD BLANK_20191016	SW8270DSIM	NA	Benzo(B)Fluoranthene	0.02	ug/l	J,N	0.01	0.10
FIELD BLANK_20191016	SW8270DSIM	NA	Benzo(G,H,I)Perylene	0.02	ug/l	J,N	0.01	0.10
FIELD BLANK_20191016	SW8270DSIM	NA	Hexachlorobenzene			UJ	0.01	0.80
MW-3_20191016	SW8270DSIM	NA	2-Methylnaphthalene	0.04	ug/l	J-	0.02	0.10
MW-3_20191016	SW8270DSIM	NA	Naphthalene	0.15	ug/l	J,N	0.05	0.10
FIELD BLANK_20191016	SW8270DSIM	NA	Indeno(1,2,3-C,D)Pyrene	0.02	ug/l	J,N	0.01	0.10
MW-4_20191016	SW8270DSIM	NA	Naphthalene	0.09	ug/l	J,N	0.05	0.10
MW-5_20191016	SW8270DSIM	NA	2-Methylnaphthalene	0.03	ug/l	J,N	0.02	0.10
MW-2_20191016	SW6020	D	Copper		mg/l	U	0.00038	0.00100
MW-2_20191016	SW6020	D	Iron		mg/l	U	0.0191	0.0557
MW-2_20191016	SW6020	D	Thallium		mg/l	U	0.00014	0.00100
MW-3_20191016	SW6020	D	Copper		mg/l	U	0.00038	0.00100
MW-3_20191016	SW6020	D	Thallium		mg/l	U	0.00014	0.00100
MW-4_20191016	SW6020	D	Copper		mg/l	U	0.00038	0.00262
MW-4_20191016	SW6020	D	Iron		mg/l	U	0.0191	0.0500
MW-4_20191016	SW6020	D	Thallium		mg/l	U	0.00014	0.00100
MW-5_20191016	SW6020	D	Copper		mg/l	U	0.00038	0.00100
MW-5_20191016	SW6020	D	Thallium		mg/l	U	0.00014	0.00100
FIELD BLANK_20191016	SW6020	D	Sodium		mg/l	U	0.0293	0.235
FIELD BLANK_20191016	SW6020	D	Thallium		mg/l	U	0.00014	0.00050
MW-2_20191016	SW7470A	D	Mercury			UJ	0.00009	0.00020
MW-3_20191016	SW7470A	D	Mercury			UJ	0.00009	0.00020
MW-4_20191016	SW7470A	D	Mercury			UJ	0.00009	0.00020
MW-5_20191016	SW7470A	D	Mercury			UJ	0.00009	0.00020
FIELD BLANK_20191016	SW7470A	D	Mercury			UJ	0.00009	0.00020

EPA Qualifier Definitions

U	**The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.**
J	**The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.**
J+	**The result is an estimated quantity, but the result may be biased high.**
J-	**The result is an estimated quantity, but the result may be biased low.**
NJ	**The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.**
UJ	**The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.**
R	**The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.**

ATTACHMENT B

CHAIN OF CUSTODY RECORD
Laboratory Job No. L1948512

ALPHA

NEW JERSEY CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page ___ of ___

Date Rec'd in Lab: 10/17/19

ALPHA Job #: L1948512

Project Information
Project Name: GG-2420
Project Location: NY
Project #: GG-2420
(Use Project name as Project #) ☒
Project Manager: C. Hirschmann
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ NJ Full / Reduced
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☒ Other NY AWQ

Billing Information
☒ Same as Client Info
PO # GG-2420

Site Information
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

Client Information
Client: Hillmann Consulting
Address: 1600 Rt 22 E
Union NJ 07083
Phone: 908 688 7800
Fax:
Email: chirschmann@hillmanngroup.com

These samples have been previously analyzed by Alpha ☐

For EPH, selection is REQUIRED:
☐ Category 1
☐ Category 2

For VOC, selection is REQUIRED:
☐ 1,4-Dioxane
☐ 8011

Other project specific requirements/comments:
(*) PFAA via EPA 537(M) NYS 21 compounds
Please specify Metals or TAL.
Location: NY/EQuIS & ASP-B

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL/TCL+30	Lab filtered metals	+Total Cyanide	PFAA (*)					Sample Specific Comments	Total Bottle
48512-01	MW-2	10/16/19	0945	GW	DF	X	X	X							
-02	MW-3	10/16/19	0910	GW	DF	X	X	X							
-03	MW-4	10/16/19	1105	GW	DF	X	X	X							
-04	MW 5	10/16/19	0835	GW	DF	X	X	X							
-05	Field Blank	10/16/19	1140	Blank	DF	X	X	X							
-06	Trip Blank														

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
R K [signature]	10-16-19 1555	[signature] AA4	10-16-19 1555
[signature] AA4	10-16-19 1730	[signature]	10/17/19 01:05

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-14 HC (rev. 30-Sept-2013)

ATTACHMENT C

SELECTED PAGES FROM DATA PACKAGE -
QC EXCEEDANCES AND VALIDATION ISSUES
Laboratory Job No. L1948512

Laboratory Control Sample Summary
Form 3
Volatiles

Client : Hillmann Consulting, LLC **Lab Number** : L1948512
Project Name : G6-2420 **Project Number** : G6-2420
Matrix : WATER
LCS Sample ID : WG1299669-3 **Analysis Date** : 10/23/19 07:09 **File ID** : VE191023A01
LCSD Sample ID : WG1299669-4 **Analysis Date** : 10/23/19 07:44 **File ID** : VE191023A02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	9.5	95	10	10	100	5	70-130	20
1,1-Dichloroethane	10	8.3	83	10	8.8	88	6	70-130	20
Chloroform	10	8.7	87	10	9.2	92	6	70-130	20
Carbon tetrachloride	10	7.9	79	10	8.3	83	5	63-132	20
1,2-Dichloropropane	10	8.9	89	10	8.7	87	2	70-130	20
Dibromochloromethane	10	7.7	77	10	7.8	78	1	63-130	20
1,1,2-Trichloroethane	10	9.0	90	10	8.6	86	5	70-130	20
Tetrachloroethene	10	9.9	99	10	9.9	99	0	70-130	20
Chlorobenzene	10	10	100	10	10	100	0	75-130	20
Trichlorofluoromethane	10	8.1	81	10	8.6	86	6	62-150	20
1,2-Dichloroethane	10	8.8	88	10	9.1	91	3	70-130	20
1,1,1-Trichloroethane	10	8.5	85	10	8.8	88	3	67-130	20
Bromodichloromethane	10	8.3	83	10	8.4	84	1	67-130	20
trans-1,3-Dichloropropene	10	9.0	90	10	8.4	84	7	70-130	20
cis-1,3-Dichloropropene	10	8.8	88	10	8.8	88	0	70-130	20
1,1-Dichloropropene	10	9.2	92	10	9.6	96	4	70-130	20
Bromoform	10	6.8	68	10	6.8	68	0	54-136	20
1,1,2,2-Tetrachloroethane	10	9.0	90	10	8.6	86	5	67-130	20
Benzene	10	8.9	89	10	9.0	90	1	70-130	20
Toluene	10	9.8	98	10	9.5	95	3	70-130	20
Ethylbenzene	10	9.4	94	10	9.5	95	1	70-130	20
Chloromethane	10	10	100	10	9.8	98	2	64-130	20
Bromomethane	10	10	100	10	9.8	98	2	39-139	20
Vinyl chloride	10	7.8	78	10	8.7	87	11	55-140	20
Chloroethane	10	9.1	91	10	9.7	97	6	55-138	20
1,1-Dichloroethene	10	8.4	84	10	8.8	88	5	61-145	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1299687-3	**Analysis Date** : 10/23/19 09:30	**File ID** : VG191023A01
LCSD Sample ID	: WG1299687-4	**Analysis Date** : 10/23/19 10:23	**File ID** : VG191023A03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	9.1	91	10	9.5	95	4	70-130	20
1,1-Dichloroethane	10	10	100	10	10	100	0	70-130	20
Chloroform	10	9.4	94	10	9.5	95	1	70-130	20
Carbon tetrachloride	10	9.3	93	10	9.4	94	1	63-132	20
1,2-Dichloropropane	10	10	100	10	10	100	0	70-130	20
Dibromochloromethane	10	8.8	88	10	8.9	89	1	63-130	20
1,1,2-Trichloroethane	10	9.4	94	10	9.5	95	1	70-130	20
Tetrachloroethene	10	8.5	85	10	8.2	82	4	70-130	20
Chlorobenzene	10	9.1	91	10	9.3	93	2	75-130	20
Trichlorofluoromethane	10	8.9	89	10	8.9	89	0	62-150	20
1,2-Dichloroethane	10	11	110	10	11	110	0	70-130	20
1,1,1-Trichloroethane	10	9.3	93	10	9.7	97	4	67-130	20
Bromodichloromethane	10	8.9	89	10	9.3	93	4	67-130	20
trans-1,3-Dichloropropene	10	9.1	91	10	8.9	89	2	70-130	20
cis-1,3-Dichloropropene	10	9.0	90	10	9.0	90	0	70-130	20
1,1-Dichloropropene	10	9.4	94	10	9.6	96	2	70-130	20
Bromoform	10	9.0	90	10	8.9	89	1	54-136	20
1,1,2,2-Tetrachloroethane	10	11	110	10	11	110	0	67-130	20
Benzene	10	9.3	93	10	9.4	94	1	70-130	20
Toluene	10	9.0	90	10	9.0	90	0	70-130	20
Ethylbenzene	10	9.0	90	10	9.2	92	2	70-130	20
Chloromethane	10	9.6	96	10	10	100	4	64-130	20
Bromomethane	10	2.1	21 Q	10	2.8	28 Q	29 Q	39-139	20
Vinyl chloride	10	10	100	10	10	100	0	55-140	20
Chloroethane	10	11	110	10	11	110	0	55-138	20
1,1-Dichloroethene	10	8.7	87	10	8.9	89	2	61-145	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1299687-3	**Analysis Date** : 10/23/19 09:30	**File ID** : VG191023A01
LCSD Sample ID	: WG1299687-4	**Analysis Date** : 10/23/19 10:23	**File ID** : VG191023A03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
trans-1,2-Dichloroethene	10	8.2	82	10	8.4	84	2	70-130	20
Trichloroethene	10	9.0	90	10	9.2	92	2	70-130	20
1,2-Dichlorobenzene	10	9.4	94	10	9.4	94	0	70-130	20
1,3-Dichlorobenzene	10	9.2	92	10	9.3	93	1	70-130	20
1,4-Dichlorobenzene	10	9.6	96	10	9.3	93	3	70-130	20
Methyl tert butyl ether	10	10	100	10	10	100	0	63-130	20
p/m-Xylene	20	18	90	20	19	95	5	70-130	20
o-Xylene	20	18	90	20	18	90	0	70-130	20
cis-1,2-Dichloroethene	10	9.6	96	10	9.6	96	0	70-130	20
Dibromomethane	10	9.5	95	10	9.7	97	2	70-130	20
1,2,3-Trichloropropane	10	11	110	10	11	110	0	64-130	20
Acrylonitrile	10	15	150 Q	10	14	140 Q	7	70-130	20
Styrene	20	18	90	20	18	90	0	70-130	20
Dichlorodifluoromethane	10	8.0	80	10	8.1	81	1	36-147	20
Acetone	10	14	140	10	13	130	7	58-148	20
Carbon disulfide	10	8.9	89	10	9.1	91	2	51-130	20
2-Butanone	10	15	150 Q	10	14	140 Q	7	63-138	20
Vinyl acetate	10	12	120	10	12	120	0	70-130	20
4-Methyl-2-pentanone	10	13	130	10	12	120	8	59-130	20
2-Hexanone	10	13	130	10	13	130	0	57-130	20
Bromochloromethane	10	9.8	98	10	9.5	95	3	70-130	20
2,2-Dichloropropane	10	9.0	90	10	8.7	87	3	63-133	20
1,2-Dibromoethane	10	9.3	93	10	9.5	95	2	70-130	20
1,3-Dichloropropane	10	9.6	96	10	9.5	95	1	70-130	20
1,1,1,2-Tetrachloroethane	10	8.6	86	10	8.9	89	3	64-130	20
Bromobenzene	10	9.2	92	10	9.0	90	2	70-130	20

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: L1948512-05	**Date Collected**	: 10/16/19 11:40
Client ID	: FIELD BLANK	**Date Received**	: 10/16/19
Sample Location	: NY	**Date Analyzed**	: 10/23/19 10:46
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260C	**Analyst**	: PD
Lab File ID	: VE191023A07	**Instrument ID**	: ELAINE
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
75-00-3	Chloroethane	ND	2.5	0.70	U
75-35-4	1,1-Dichloroethene	ND	0.50	0.17	U
156-60-5	trans-1,2-Dichloroethene	ND	2.5	0.70	U
79-01-6	Trichloroethene	ND	0.50	0.18	U
95-50-1	1,2-Dichlorobenzene	ND	2.5	0.70	U
541-73-1	1,3-Dichlorobenzene	ND	2.5	0.70	U
106-46-7	1,4-Dichlorobenzene	ND	2.5	0.70	U
1634-04-4	Methyl tert butyl ether	ND	2.5	0.70	U
179601-23-1	p/m-Xylene	ND	2.5	0.70	U
95-47-6	o-Xylene	ND	2.5	0.70	U
1330-20-7	Xylenes, Total	ND	2.5	0.70	U
156-59-2	cis-1,2-Dichloroethene	ND	2.5	0.70	U
540-59-0	1,2-Dichloroethene, Total	ND	2.5	0.70	U
74-95-3	Dibromomethane	ND	5.0	1.0	U
96-18-4	1,2,3-Trichloropropane	ND	2.5	0.70	U
107-13-1	Acrylonitrile	ND	5.0	1.5	U
100-42-5	Styrene	ND	2.5	0.70	U
75-71-8	Dichlorodifluoromethane	ND	5.0	1.0	U
67-64-1	Acetone	1.7	5.0	1.5	J
75-15-0	Carbon disulfide	ND	5.0	1.0	U
78-93-3	2-Butanone	ND	5.0	1.9	U
108-05-4	Vinyl acetate	ND	5.0	1.0	U
108-10-1	4-Methyl-2-pentanone	ND	5.0	1.0	U
591-78-6	2-Hexanone	ND	5.0	1.0	U
74-97-5	Bromochloromethane	ND	2.5	0.70	U

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2019\190913\
Data File : VG190913A19.D
Acq On : 13 Sep 2019 8:42 am
Operator : GONZO:PD
Sample : C8260STD10PPB
Misc : WG1283852,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 13 12:16:46 2019
Quant Method : I:\VOLATILES\Gonzo\2019\190913\G_190913_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Sep 13 12:14:34 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	95	0.00
2	TP	Dichlorodifluoromethane	0.211	0.247	-17.1	109	0.00
3	TP	Chloromethane	0.246	0.312	-26.8	121	0.00
4	TC	Vinyl chloride	0.205	0.240	-17.1	108	0.00
5	TP	Bromomethane	0.101	0.170	-68.3#	199	0.00
6	TP	Chloroethane	0.122	0.140	-14.8	110	0.00
7	TP	Trichlorofluoromethane	0.334	0.330	1.2	94	0.00
8	TP	Ethyl ether	0.085	0.114	-34.1#	125	0.00
10	TC	1,1-Dichloroethene	0.184	0.190	-3.3	101	0.00
11	TP	Carbon disulfide	0.530	0.658	-24.2	120	0.00
12	TP	Freon-113	0.193	0.194	-0.5	93	0.00
13	TP	Iodomethane	0.278	0.335	-20.5	111	0.00
14	TP	Acrolein	0.019	0.021	-10.5	116	0.00
15	TP	Methylene chloride	0.196	0.251	-28.1	128	0.00
17	TP	Acetone	* 10.000	10.525	-5.3	103	0.00
18	TP	trans-1,2-Dichloroethene	0.202	0.236	-16.8	115	0.00
19	TP	Methyl acetate	0.090	0.103	-14.4	105	0.00
20	TP	Methyl tert-butyl ether	0.427	0.539	-26.2	123	0.00
21	TP	tert-Butyl alcohol	0.010	0.011	-10.0	96	0.00
22	TP	Diisopropyl ether	0.652	0.840	-28.8	123	0.00
23	TP	1,1-Dichloroethane	0.364	0.442	-21.4	117	0.00
24	TP	Halothane	0.168	0.189	-12.5	107	0.00
25	TP	Acrylonitrile	0.038	0.055	-44.7#	142	0.00
26	TP	Ethyl tert-butyl ether	0.549	0.707	-28.8	124	0.00
27	TP	Vinyl acetate	0.429	0.525	-22.4	117	0.00
28	TP	cis-1,2-Dichloroethene	0.221	0.281	-27.1	124	0.00
29	TP	2,2-Dichloropropane	0.298	0.279	6.4	92	0.00
30	TP	Bromochloromethane	0.103	0.130	-26.2	119	0.00
31	TP	Cyclohexane	0.341	0.335	1.8	92	0.00
32	TC	Chloroform	0.365	0.438	-20.0#	121	0.00
33	TP	Ethyl acetate	0.136	0.140	-2.9	101	0.00
34	TP	Carbon tetrachloride	0.302	0.303	-0.3	97	0.00
35	TP	Tetrahydrofuran	0.040	0.041	-2.5	99	0.00
36	S	Dibromofluoromethane	0.240	0.237	1.3	95	0.00
37	TP	1,1,1-Trichloroethane	0.342	0.362	-5.8	102	0.00
39	TP	2-Butanone	0.056	0.060	-7.1	104	0.00
40	TP	1,1-Dichloropropene	0.277	0.293	-5.8	100	0.00
41	TP	Benzene	0.838	1.030	-22.9	116	0.00
42	TP	tert-Amyl methyl ether	0.486	0.618	-27.2	120	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2019\190913\
Data File : VG190913A19.D
Acq On : 13 Sep 2019 8:42 am
Operator : GONZO:PD
Sample : C8260STD10PPB
Misc : WG1283852,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 13 12:16:46 2019
Quant Method : I:\VOLATILES\Gonzo\2019\190913\G_190913_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Sep 13 12:14:34 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
43	S	1,2-Dichloroethane-d4	0.224	0.228	-1.8	101	0.00
44	TP	1,2-Dichloroethane	0.231	0.278	-20.3	119	0.00
47	TP	Methyl cyclohexane	0.371	0.348	6.2	87	0.00
48	TP	Trichloroethene	0.225	0.256	-13.8	110	0.00
50	TP	Dibromomethane	0.109	0.130	-19.3	117	0.00
51	TC	1,2-Dichloropropane	0.201	0.254	-26.4#	124	0.00
53	TP	2-Chloroethyl vinyl ether	0.097	0.120	-23.7	113	0.00
54	TP	Bromodichloromethane	0.276	0.330	-19.6	118	0.00
57	TP	1,4-Dioxane	0.00118	0.00136	-15.3	105	0.00
58	TP	cis-1,3-Dichloropropene	0.324	0.383	-18.2	116	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	96	0.00
60	S	Toluene-d8	1.271	1.266	0.4	95	0.00
61	TC	Toluene	0.732	0.883	-20.6#	116	0.00
62	TP	4-Methyl-2-pentanone	0.060	0.071	-18.3	108	0.00
63	TP	Tetrachloroethene	0.411	0.445	-8.3	106	0.00
65	TP	trans-1,3-Dichloropropene	0.363	0.425	-17.1	114	0.00
67	TP	Ethyl methacrylate	0.256	0.315	-23.0	118	0.00
68	TP	1,1,2-Trichloroethane	0.171	0.203	-18.7	113	0.00
69	TP	Chlorodibromomethane	0.266	0.310	-16.5	117	0.00
70	TP	1,3-Dichloropropane	0.345	0.407	-18.0	115	0.00
71	TP	1,2-Dibromoethane	0.207	0.240	-15.9	114	0.00
72	TP	2-Hexanone	0.117	0.132	-12.8	108	0.00
73	TP	Chlorobenzene	0.800	1.008	-26.0	122	0.00
74	TC	Ethylbenzene	1.424	1.671	-17.3	113	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.298	0.374	-25.5	126	0.00
76	TP	p/m Xylene	0.553	0.663	-19.9	115	0.00
77	TP	o Xylene	0.519	0.648	-24.9	120	0.00
78	TP	Styrene	0.849	1.121	-32.0#	127	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	98	0.00
80	TP	Bromoform	0.339	0.369	-8.8	112	0.00
82	TP	Isopropylbenzene	2.490	2.748	-10.4	105	0.00
83	S	4-Bromofluorobenzene	0.798	0.787	1.4	96	0.00
84	TP	Bromobenzene	0.697	0.898	-28.8	128	0.00
85	TP	n-Propylbenzene	2.921	3.279	-12.3	106	0.00
86	TP	1,4-Dichlorobutane	0.528	0.681	-29.0	124	0.00
87	TP	1,1,2,2-Tetrachloroethane	0.375	0.431	-14.9	107	0.00
88	TP	4-Ethyltoluene	2.337	2.895	-23.9	118	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2019\190913\
Data File : VG190913A19.D
Acq On : 13 Sep 2019 8:42 am
Operator : GONZO:PD
Sample : C8260STD10PPB
Misc : WG1283852,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 13 12:16:46 2019
Quant Method : I:\VOLATILES\Gonzo\2019\190913\G_190913_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Sep 13 12:14:34 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
89 TP	2-Chlorotoluene	1.637	1.997	-22.0	116	0.00
90 TP	1,3,5-Trimethylbenzene	2.052	2.353	-14.7	109	0.00
91 TP	1,2,3-Trichloropropane	0.308	0.339	-10.1	105	0.00
92 TP	trans-1,4-Dichloro-2-butene	0.091	0.097	-6.6	105	0.00
93 TP	4-Chlorotoluene	1.724	2.079	-20.6	118	0.00
94 TP	tert-Butylbenzene	1.836	2.001	-9.0	105	0.00
97 TP	1,2,4-Trimethylbenzene	2.023	2.464	-21.8	118	0.00
98 TP	sec-Butylbenzene	2.459	2.757	-12.1	106	0.00
99 TP	p-Isopropyltoluene	2.316	2.565	-10.8	106	0.00
100 TP	1,3-Dichlorobenzene	1.267	1.579	-24.6	124	0.00
101 TP	1,4-Dichlorobenzene	1.274	1.606	-26.1	124	0.00
102 TP	p-Diethylbenzene	1.299	1.505	-15.9	110	0.00
103 TP	n-Butylbenzene	1.946	2.134	-9.7	102	0.00
104 TP	1,2-Dichlorobenzene	1.135	1.401	-23.4	123	0.00
105 TP	1,2,4,5-Tetramethylbenzene	1.891	2.426	-28.3	122	0.00
106 TP	1,2-Dibromo-3-chloropropane	0.063	0.068	-7.9	100	0.00
107 TP	1,3,5-Trichlorobenzene	0.972	1.282	-31.9#	127	0.00
108 TP	Hexachlorobutadiene	0.435	0.462	-6.2	105	0.00
109 TP	1,2,4-Trichlorobenzene	0.811	1.056	-30.2#	127	0.00
110 TP	Naphthalene	1.128	1.296	-14.9	112	0.00
111 TP	1,2,3-Trichlorobenzene	0.639	0.818	-28.0	125	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 3

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Elaine\2019\191019\
Data File : VE191021A02.D
Acq On : 21 Oct 2019 11:00 am
Operator : ELAINE:PD
Sample : C8260STDL10PPB
Misc : WG1299073,ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 09:52:02 2019
Quant Method : I:\VOLATILES\Elaine\2019\191019\Elaine_191019A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat Oct 19 11:00:55 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene		1.000	1.000	0.0	114	0.00
2	TP	Dichlorodifluoromethane		0.383	0.321	16.2	97	0.00
3	TP	Chloromethane		0.392	0.371	5.4	103	0.08
4	TC	Vinyl chloride		0.306	0.257	16.0	100	0.00
5	TP	Bromomethane	*	10.000	9.669	3.3	122	0.01
6	TP	Chloroethane		0.199	0.184	7.5	105	0.00
7	TP	Trichlorofluoromethane	*	10.000	8.019	19.8	103	0.00
8	TP	Ethyl ether		0.117	0.118	-0.9	117	0.00
10	TC	1,1-Dichloroethene		0.239	0.191	20.1#	102	0.00
11	TP	Carbon disulfide		0.751	0.716	4.7	116	0.00
12	TP	Freon-113		0.230	0.188	18.3	92	0.00
13	TP	Iodomethane		0.344	0.354	-2.9	114	0.00
14	TP	Acrolein		0.031	0.025#	19.4	98	0.01
15	TP	Methylene chloride		0.267	0.253	5.2	105	0.00
17	TP	Acetone		0.058	0.051#	12.1	99	0.00
18	TP	trans-1,2-Dichloroethene		0.235	0.210	10.6	108	0.00
19	TP	Methyl acetate		0.111	0.110	0.9	116	0.00
20	TP	Methyl tert-butyl ether		0.684	0.633	7.5	115	0.00
21	TP	tert-Butyl alcohol		0.017	0.020#	-17.6	148	0.00
22	TP	Diisopropyl ether	*	10.000	10.049	-0.5	117	0.00
23	TP	1,1-Dichloroethane		0.538	0.449	16.5	105	0.00
24	TP	Halothane		0.183	0.158	13.7	99	0.00
25	TP	Acrylonitrile		0.069	0.066	4.3	113	0.00
26	TP	Ethyl tert-butyl ether		0.872	0.770	11.7	110	0.00
27	TP	Vinyl acetate		0.303	0.379	-25.1#	128	0.00
28	TP	cis-1,2-Dichloroethene		0.305	0.243	20.3#	94	0.00
29	TP	2,2-Dichloropropane	*	10.000	10.245	-2.4	115	0.00
30	TP	Bromochloromethane		0.121	0.103	14.9	102	0.00
31	TP	Cyclohexane		0.474	0.372	21.5#	93	0.00
32	TC	Chloroform		0.530	0.444	16.2	100	0.00
33	TP	Ethyl acetate		0.160	0.145	9.4	102	0.00
34	TP	Carbon tetrachloride		0.416	0.337	19.0	97	0.00
35	TP	Tetrahydrofuran		0.048	0.048#	0.0	125	0.00
36	S	Dibromofluoromethane		0.251	0.245	2.4	112	0.00
37	TP	1,1,1-Trichloroethane		0.527	0.440	16.5	99	0.00
39	TP	2-Butanone		0.069	0.070#	-1.4	117	0.00
40	TP	1,1-Dichloropropene		0.387	0.340	12.1	105	0.00
41	TP	Benzene		1.080	0.923	14.5	106	0.00
42	TP	tert-Amyl methyl ether	*	10.000	9.444	5.6	108	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Elaine\2019\191019\
Data File : VE191021A02.D
Acq On : 21 Oct 2019 11:00 am
Operator : ELAINE:PD
Sample : C8260STDL10PPB
Misc : WG1299073,ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 09:52:02 2019
Quant Method : I:\VOLATILES\Elaine\2019\191019\Elaine_191019A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat Oct 19 11:00:55 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
43	S	1,2-Dichloroethane-d4	0.339	0.320	5.6	109	0.00
44	TP	1,2-Dichloroethane	* 10.000	8.979	10.2	103	0.00
47	TP	Methyl cyclohexane	0.410	0.325	20.7#	97	0.00
48	TP	Trichloroethene	0.290	0.258	11.0	111	0.00
50	TP	Dibromomethane	0.140	0.121	13.6	101	0.00
51	TC	1,2-Dichloropropane	0.263	0.233	11.4	106	0.00
53	TP	2-Chloroethyl vinyl ether	0.130	0.115	11.5	104	0.00
54	TP	Bromodichloromethane	0.386	0.307	20.5#	98	0.00
57	TP	1,4-Dioxane	0.00191	0.00181#	5.2	125	0.00
58	TP	cis-1,3-Dichloropropene	0.443	0.386	12.9	105	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	113	0.00
60	S	Toluene-d8	1.224	1.230	-0.5	112	0.00
61	TC	Toluene	0.817	0.748	8.4	105	0.00
62	TP	4-Methyl-2-pentanone	0.075	0.070#	6.7	104	0.00
63	TP	Tetrachloroethene	0.359	0.323	10.0	106	0.00
65	TP	trans-1,3-Dichloropropene	0.471	0.413	12.3	103	0.00
67	TP	Ethyl methacrylate	0.303	0.302	0.3	115	0.00
68	TP	1,1,2-Trichloroethane	0.190	0.170	10.5	108	0.00
69	TP	Chlorodibromomethane	0.265	0.223	15.8	109	0.00
70	TP	1,3-Dichloropropane	0.439	0.391	10.9	105	0.00
71	TP	1,2-Dibromoethane	0.245	0.215	12.2	107	0.00
72	TP	2-Hexanone	0.126	0.126	0.0	110	0.00
73	TP	Chlorobenzene	* 10.000	9.683	3.2	107	0.00
74	TC	Ethylbenzene	1.762	1.629	7.5	109	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.309	0.273	11.7	108	0.00
76	TP	p/m Xylene	* 20.000	20.841	-4.2	110	0.00
77	TP	o Xylene	* 20.000	21.448	-7.2	114	0.00
78	TP	Styrene	1.106	1.063	3.9	115	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00
80	TP	Bromoform	0.262	0.201	23.3#	108	0.00
82	TP	Isopropylbenzene	3.081	2.695	12.5	106	0.00
83	S	4-Bromofluorobenzene	1.008	0.981	2.7	112	0.00
84	TP	Bromobenzene	0.649	0.578	10.9	107	0.00
85	TP	n-Propylbenzene	3.524	3.196	9.3	110	0.00
86	TP	1,4-Dichlorobutane	0.822	0.801	2.6	123	0.00
87	TP	1,1,2,2-Tetrachloroethane	* 10.000	8.971	10.3	108	0.00
88	TP	4-Ethyltoluene	2.971	3.019	-1.6	122	0.00

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: ELAINE	**Calibration Date**	: 10/23/19 07:09		
Lab File ID	: VE191023A01	**Init. Calib. Date(s)**	: 10/19/19	10/19/19	
Sample No	: WG1299669-2	**Init. Calib. Times**	: 03:09	08:37	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	128	0
Dichlorodifluoromethane	0.383	0.315	-	17.8	20	107	0
Chloromethane	0.392	0.395	-	-0.8	20	123	.03
Vinyl chloride	0.306	0.238	-	22.2*	20	104	0
Bromomethane	10	10.283	-	-2.8	20	145	.01
Chloroethane	0.199	0.181	-	9	20	117	0
Trichlorofluoromethane	10	8.118	-	18.8	20	117	0
Ethyl ether	0.117	0.105	-	10.3	20	118	0
1,1-Dichloroethene	0.239	0.201	-	15.9	20	120	0
Carbon disulfide	0.751	0.606	-	19.3	20	110	0
Freon-113	0.23	0.223	-	3	20	123	0
Iodomethane	0.344	0.163	-	52.6*	20	59	0
Acrolein	0.031	0.027*	-	12.9	20	117	0
Methylene chloride	0.267	0.254	-	4.9	20	118	0
Acetone	0.058	0.05*	-	13.8	20	110	0
trans-1,2-Dichloroethene	0.235	0.22	-	6.4	20	126	0
Methyl acetate	0.111	0.105	-	5.4	20	125	0
Methyl tert-butyl ether	0.684	0.573	-	16.2	20	117	0
tert-Butyl alcohol	0.017	0.015*	-	11.8	20	121	0
Diisopropyl ether	10	9.738	-	2.6	20	128	0
1,1-Dichloroethane	0.538	0.449	-	16.5	20	118	0
Halothane	0.183	0.176	-	3.8	20	124	0
Acrylonitrile	0.069	0.056	-	18.8	20	107	0
Ethyl tert-butyl ether	0.872	0.709	-	18.7	20	114	0
Vinyl acetate	0.303	0.307	-	-1.3	20	116	0
cis-1,2-Dichloroethene	0.305	0.273	-	10.5	20	119	0
2,2-Dichloropropane	10	10.506	-	-5.1	20	133	0
Bromochloromethane	0.121	0.103	-	14.9	20	115	0
Cyclohexane	0.474	0.442	-	6.8	20	125	0
Chloroform	0.53	0.459	-	13.4	20	117	0
Ethyl acetate	0.16	0.136	-	15	20	108	0
Carbon tetrachloride	0.416	0.327	-	21.4*	20	106	0
Tetrahydrofuran	0.048	0.04*	-	16.7	20	115	0
Dibromofluoromethane	0.251	0.234	-	6.8	20	120	0
1,1,1-Trichloroethane	0.527	0.447	-	15.2	20	113	0
2-Butanone	0.069	0.068*	-	1.4	20	127	0
1,1-Dichloropropene	0.387	0.358	-	7.5	20	124	0
Benzene	1.08	0.964	-	10.7	20	124	0
tert-Amyl methyl ether	10	8.684	-	13.2	20	112	0
1,2-Dichloroethane-d4	0.339	0.3	-	11.5	20	115	0
1,2-Dichloroethane	10	8.813	-	11.9	20	113	0
Methyl cyclohexane	0.41	0.399	-	2.7	20	133	0
Trichloroethene	0.29	0.303	-	-4.5	20	147	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: ELAINE	**Calibration Date**	: 10/23/19 07:09		
Lab File ID	: VE191023A01	**Init. Calib. Date(s)**	: 10/19/19	10/19/19	
Sample No	: WG1299669-2	**Init. Calib. Times**	: 03:09	08:37	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.14	0.127	-	9.3	20	119	0
1,2-Dichloropropane	0.263	0.235	-	10.6	20	120	0
2-Chloroethyl vinyl ether	0.13	0.109	-	16.2	20	110	0
Bromodichloromethane	0.386	0.319	-	17.4	20	114	0
1,4-Dioxane	0.00191	0.00177*	-	7.3	20	138	0
cis-1,3-Dichloropropene	0.443	0.392	-	11.5	20	120	0
Chlorobenzene-d5	1	1	-	0	20	122	0
Toluene-d8	1.224	1.247	-	-1.9	20	122	0
Toluene	0.817	0.799	-	2.2	20	121	0
4-Methyl-2-pentanone	0.075	0.066*	-	12	20	106	0
Tetrachloroethene	0.359	0.354	-	1.4	20	125	0
trans-1,3-Dichloropropene	0.471	0.423	-	10.2	20	113	0
Ethyl methacrylate	0.303	0.245	-	19.1	20	100	0
1,1,2-Trichloroethane	0.19	0.171	-	10	20	116	0
Chlorodibromomethane	0.265	0.206	-	22.3*	20	108	0
1,3-Dichloropropane	0.439	0.413	-	5.9	20	120	0
1,2-Dibromoethane	0.245	0.217	-	11.4	20	116	0
2-Hexanone	0.126	0.111	-	11.9	20	105	0
Chlorobenzene	10	10.183	-	-1.8	20	120	0
Ethylbenzene	1.762	1.653	-	6.2	20	119	0
1,1,1,2-Tetrachloroethane	0.309	0.261	-	15.5	20	111	0
p/m Xylene	20	20.986	-	-4.9	20	119	0
o Xylene	20	20.344	-	-1.7	20	116	0
Styrene	1.106	0.995	-	10	20	116	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	120	0
Bromoform	0.262	0.18	-	31.3*	20	102	0
Isopropylbenzene	3.081	2.856	-	7.3	20	118	0
4-Bromofluorobenzene	1.008	0.971	-	3.7	20	117	0
Bromobenzene	0.649	0.606	-	6.6	20	118	0
n-Propylbenzene	3.524	3.312	-	6	20	120	0
1,4-Dichlorobutane	0.822	0.679	-	17.4	20	110	0
1,1,2,2-Tetrachloroethane	10	8.961	-	10.4	20	114	0
4-Ethyltoluene	2.971	2.765	-	6.9	20	117	0
2-Chlorotoluene	10	9.601	-	4	20	115	0
1,3,5-Trimethylbenzene	2.626	2.483	-	5.4	20	120	0
1,2,3-Trichloropropane	10	8.704	-	13	20	112	0
trans-1,4-Dichloro-2-buten	0.162	0.131	-	19.1	20	103	0
4-Chlorotoluene	10	9.772	-	2.3	20	115	0
tert-Butylbenzene	2.186	1.989	-	9	20	119	0
1,2,4-Trimethylbenzene	2.591	2.443	-	5.7	20	118	0
sec-Butylbenzene	2.782	2.658	-	4.5	20	123	0
p-Isopropyltoluene	2.538	2.432	-	4.2	20	123	0
1,3-Dichlorobenzene	10	10.187	-	-1.9	20	121	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: GONZO	**Calibration Date**	: 10/23/19 09:30		
Lab File ID	: VG191023A01	**Init. Calib. Date(s)**	: 09/13/19	09/13/19	
Sample No	: WG1299687-2	**Init. Calib. Times**	: 02:21	06:10	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	94	0
Dichlorodifluoromethane	0.211	0.168	-	20.4*	20	73	0
Chloromethane	0.246	0.235	-	4.5	20	90	0
Vinyl chloride	0.205	0.213	-	-3.9	20	95	0
Bromomethane	0.101	0.021	-	79.2*	20	24	0
Chloroethane	0.122	0.132	-	-8.2	20	103	0
Trichlorofluoromethane	0.334	0.298	-	10.8	20	84	0
Ethyl ether	0.085	0.086	-	-1.2	20	94	0
1,1-Dichloroethene	0.184	0.16	-	13	20	84	0
Carbon disulfide	0.53	0.471	-	11.1	20	85	0
Freon-113	0.193	0.178	-	7.8	20	85	0
Acrolein	0.019	0.025	-	-31.6*	20	138	0
Methylene chloride	0.196	0.178	-	9.2	20	90	0
Acetone	10	14.295	-	-43*	20	132	0
trans-1,2-Dichloroethene	0.202	0.166	-	17.8	20	80	0
Methyl acetate	0.09	0.135	-	-50*	20	136	0
Methyl tert-butyl ether	0.427	0.435	-	-1.9	20	98	0
tert-Butyl alcohol	0.01	0.014	-	-40*	20	127	0
Diisopropyl ether	0.652	0.841	-	-29*	20	122	0
1,1-Dichloroethane	0.364	0.385	-	-5.8	20	101	0
Halothane	0.168	0.153	-	8.9	20	86	0
Acrylonitrile	0.038	0.057	-	-50*	20	146	0
Ethyl tert-butyl ether	0.549	0.634	-	-15.5	20	110	0
Vinyl acetate	0.429	0.496	-	-15.6	20	110	0
cis-1,2-Dichloroethene	0.221	0.212	-	4.1	20	93	0
2,2-Dichloropropane	0.298	0.27	-	9.4	20	88	0
Bromochloromethane	0.103	0.1	-	2.9	20	91	0
Cyclohexane	0.341	0.407	-	-19.4	20	111	0
Chloroform	0.365	0.343	-	6	20	94	0
Ethyl acetate	0.136	0.19	-	-39.7*	20	135	0
Carbon tetrachloride	0.302	0.28	-	7.3	20	89	0
Tetrahydrofuran	0.04	0.061	-	-52.5*	20	145	0
Dibromofluoromethane	0.24	0.244	-	-1.7	20	97	0
1,1,1-Trichloroethane	0.342	0.318	-	7	20	89	0
2-Butanone	0.056	0.084	-	-50*	20	145	0
1,1-Dichloropropene	0.277	0.261	-	5.8	20	89	0
Benzene	0.838	0.78	-	6.9	20	87	0
tert-Amyl methyl ether	0.486	0.477	-	1.9	20	92	0
1,2-Dichloroethane-d4	0.224	0.273	-	-21.9*	20	119	0
1,2-Dichloroethane	0.231	0.254	-	-10	20	107	0
Methyl cyclohexane	0.371	0.345	-	7	20	86	0
Trichloroethene	0.225	0.202	-	10.2	20	86	0
Dibromomethane	0.109	0.104	-	4.6	20	93	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC		**Lab Number**	: L1948512	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: GONZO		**Calibration Date**	: 10/23/19 09:30	
Lab File ID	: VG191023A01		**Init. Calib. Date(s)**	: 09/13/19	09/13/19
Sample No	: WG1299687-2		**Init. Calib. Times**	: 02:21	06:10
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.201	0.201	-	0	20	97	0
Bromodichloromethane	0.276	0.246	-	10.9	20	87	0
1,4-Dioxane	0.00118	0.00134	-	-13.6	20	102	0
cis-1,3-Dichloropropene	0.324	0.291	-	10.2	20	87	0
Chlorobenzene-d5	1	1	-	0	20	98	0
Toluene-d8	1.271	1.245	-	2	20	96	0
Toluene	0.732	0.659	-	10	20	89	0
4-Methyl-2-pentanone	0.06	0.076	-	-26.7*	20	118	0
Tetrachloroethene	0.411	0.35	-	14.8	20	86	0
trans-1,3-Dichloropropene	0.363	0.331	-	8.8	20	91	0
Ethyl methacrylate	0.256	0.236	-	7.8	20	91	0
1,1,2-Trichloroethane	0.171	0.161	-	5.8	20	92	0
Chlorodibromomethane	0.266	0.233	-	12.4	20	90	0
1,3-Dichloropropane	0.345	0.333	-	3.5	20	97	0
1,2-Dibromoethane	0.207	0.192	-	7.2	20	94	0
2-Hexanone	0.117	0.15	-	-28.2*	20	126	0
Chlorobenzene	0.8	0.731	-	8.6	20	91	0
Ethylbenzene	1.424	1.278	-	10.3	20	89	0
1,1,1,2-Tetrachloroethane	0.298	0.256	-	14.1	20	88	0
p/m Xylene	0.553	0.495	-	10.5	20	89	0
o Xylene	0.519	0.461	-	11.2	20	88	0
Styrene	0.849	0.748	-	11.9	20	87	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	93	0
Bromoform	0.339	0.304	-	10.3	20	87	0
Isopropylbenzene	2.49	2.458	-	1.3	20	89	0
4-Bromofluorobenzene	0.798	0.832	-	-4.3	20	97	0
Bromobenzene	0.697	0.639	-	8.3	20	87	0
n-Propylbenzene	2.921	2.839	-	2.8	20	87	0
1,4-Dichlorobutane	0.528	0.704	-	-33.3*	20	122	0
1,1,2,2-Tetrachloroethane	0.375	0.402	-	-7.2	20	95	0
4-Ethyltoluene	2.337	2.262	-	3.2	20	87	0
2-Chlorotoluene	1.637	1.646	-	-0.5	20	91	0
1,3,5-Trimethylbenzene	2.052	2.014	-	1.9	20	89	0
1,2,3-Trichloropropane	0.308	0.343	-	-11.4	20	101	0
trans-1,4-Dichloro-2-buten	0.091	0.107	-	-17.6	20	110	0
4-Chlorotoluene	1.724	1.658	-	3.8	20	89	0
tert-Butylbenzene	1.836	1.759	-	4.2	20	88	0
1,2,4-Trimethylbenzene	2.023	1.953	-	3.5	20	89	0
sec-Butylbenzene	2.459	2.36	-	4	20	86	0
p-Isopropyltoluene	2.316	2.211	-	4.5	20	87	0
1,3-Dichlorobenzene	1.267	1.172	-	7.5	20	88	0
1,4-Dichlorobenzene	1.274	1.22	-	4.2	20	90	0
p-Diethylbenzene	1.299	1.189	-	8.5	20	83	0

*** Value outside of QC limits.**

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1948512
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-2 (L1948512-01)	36	41	50	59	57	77	0
MW-3 (L1948512-02)	51	43	52	57	87	68	0
MW-4 (L1948512-03)	56	47	57	65	96	76	0
MW-5 (L1948512-04)	42	39	50	57	71	76	0
FIELD BLANK (L1948512-05)	61	51	60	62	86	76	0
WG1298383-1BLANK	47	39	45	51	72	62	0
WG1298383-2LCS	45	43	47	52	85	63	0
WG1298383-3LCSD	54	49	53	59	90	66	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

FORM II NYTCL-8270-LVI

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1298383-2	**Analysis Date** : 10/21/19 11:27	**File ID** : 298383-2
LCSD Sample ID	: WG1298383-3	**Analysis Date** : 10/21/19 11:53	**File ID** : 298383-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	18	11.	61	18	12.	65	6	37-111	30
1,2,4-Trichlorobenzene	18	9.4	52	18	11.	60	14	39-98	30
Hexachlorobenzene	18	13.	71	18	13.	74	4	40-140	30
Bis(2-chloroethyl)ether	18	8.9	49	18	10.	57	15	40-140	30
2-Chloronaphthalene	18	11.	61	18	12.	68	11	40-140	30
1,2-Dichlorobenzene	18	8.1	45	18	9.8	54	18	40-140	30
1,3-Dichlorobenzene	18	7.5	41	18	9.5	52	24	40-140	30
1,4-Dichlorobenzene	18	7.6	42	18	9.6	52	21	36-97	30
3,3'-Dichlorobenzidine	18	12.	64	18	14.	75	16	40-140	30
2,4-Dinitrotoluene	18	14.	75	18	14.	78	4	48-143	30
2,6-Dinitrotoluene	18	14.	76	18	15.	82	8	40-140	30
Fluoranthene	18	14.	75	18	14.	79	5	40-140	30
4-Chlorophenyl phenyl ether	18	13.	70	18	13.	74	6	40-140	30
4-Bromophenyl phenyl ether	18	14.	75	18	14.	80	6	40-140	30
Bis(2-chloroisopropyl)ether	18	8.0	44	18	9.4	52	17	40-140	30
Bis(2-chloroethoxy)methane	18	10.	57	18	12.	65	13	40-140	30
Hexachlorobutadiene	18	9.3	51	18	11.	61	18	40-140	30
Hexachlorocyclopentadiene	18	9.8	54	18	11.	62	14	40-140	30
Hexachloroethane	18	7.8	43	18	9.7	53	21	40-140	30
Isophorone	18	11.	60	18	12.	67	11	40-140	30
Naphthalene	18	9.3	51	18	11.	60	16	40-140	30
Nitrobenzene	18	9.8	54	18	11.	62	14	40-140	30
NDPA/DPA	18	13.	73	18	14.	76	4	40-140	30
n-Nitrosodi-n-propylamine	18	11.	61	18	13.	70	14	29-132	30
Bis(2-ethylhexyl)phthalate	18	14.	79	18	15.	85	7	40-140	30
Butyl benzyl phthalate	18	15.	85	18	17.	93	9	40-140	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1298383-2	**Analysis Date** : 10/21/19 11:27	**File ID** : 298383-2
LCSD Sample ID	: WG1298383-3	**Analysis Date** : 10/21/19 11:53	**File ID** : 298383-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Di-n-butylphthalate	18	14.	78	18	16.	86	10	40-140	30
Di-n-octylphthalate	18	16.	89	18	16.	91	2	40-140	30
Diethyl phthalate	18	14.	77	18	15.	81	5	40-140	30
Dimethyl phthalate	18	14.	76	18	15.	83	9	40-140	30
Benzo(a)anthracene	18	14.	78	18	15.	81	4	40-140	30
Benzo(a)pyrene	18	12.	67	18	12.	69	3	40-140	30
Benzo(b)fluoranthene	18	14.	78	18	15.	80	3	40-140	30
Benzo(k)fluoranthene	18	14.	76	18	14.	80	5	40-140	30
Chrysene	18	12.	67	18	13.	70	4	40-140	30
Acenaphthylene	18	12.	67	18	13.	74	10	45-123	30
Anthracene	18	13.	70	18	13.	73	4	40-140	30
Benzo(ghi)perylene	18	14.	75	18	14.	78	4	40-140	30
Fluorene	18	12.	68	18	13.	71	4	40-140	30
Phenanthrene	18	12.	66	18	12.	68	3	40-140	30
Dibenzo(a,h)anthracene	18	13.	74	18	14.	75	1	40-140	30
Indeno(1,2,3-cd)pyrene	18	13.	73	18	13.	74	1	40-140	30
Pyrene	18	13.	72	18	14.	76	5	26-127	30
Biphenyl	18	11.	62	18	13.	69	11	40-140	30
4-Chloroaniline	18	10.	56	18	12.	66	16	40-140	30
2-Nitroaniline	18	14.	75	18	15.	81	8	52-143	30
3-Nitroaniline	18	11.	61	18	13.	70	14	25-145	30
4-Nitroaniline	18	11.	63	18	13.	71	12	51-143	30
Dibenzofuran	18	12.	63	18	12.	67	6	40-140	30
2-Methylnaphthalene	18	11.	58	18	12.	66	13	40-140	30
1,2,4,5-Tetrachlorobenzene	18	11.	59	18	12.	66	11	2-134	30
Acetophenone	18	9.9	54	18	11.	63	15	39-129	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1298383-2	**Analysis Date** : 10/21/19 11:27	**File ID** : 298383-2
LCSD Sample ID	: WG1298383-3	**Analysis Date** : 10/21/19 11:53	**File ID** : 298383-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
2,4,6-Trichlorophenol	18	13.	71	18	14.	77	8	30-130	30
p-Chloro-m-cresol	18	14.	75	18	15.	81	8	23-97	30
2-Chlorophenol	18	9.5	52	18	11.	62	18	27-123	30
2,4-Dichlorophenol	18	12.	65	18	13.	74	13	30-130	30
2,4-Dimethylphenol	18	9.4	52	18	9.6	53	2	30-130	30
2-Nitrophenol	18	10.	56	18	12.	67	18	30-130	30
4-Nitrophenol	18	10.	57	18	11.	61	7	10-80	30
2,4-Dinitrophenol	18	13.	73	18	13.	69	6	20-130	30
4,6-Dinitro-o-cresol	18	16.	87	18	16.	86	1	20-164	30
Pentachlorophenol	18	12.	68	18	11.	62	9	9-103	30
Phenol	18	7.6	42	18	8.6	47	11	12-110	30
2-Methylphenol	18	10.	57	18	11.	62	8	30-130	30
3-Methylphenol/4-Methylphenol	18	11.	59	18	12.	66	11	30-130	30
2,4,5-Trichlorophenol	18	13.	73	18	14.	80	9	30-130	30
Benzoic Acid	18	9.2	51	18	9.4	52	2	10-164	30
Benzyl Alcohol	18	9.5	52	18	11.	62	18	26-116	30
Carbazole	18	13.	70	18	13.	74	6	55-144	30

Evaluate Continuing Calibration Report

Data Path : I:\8270\SV115\190912lviical\
Data File : ABNICV.D
Acq On : 13 Sep 2019 12:37 am
Operator : SV115:als
Sample : CQICV2,32,,ABNICV Lot # 8386
Misc : wg1288955,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Sep 24 09:48:44 2019
Quant Method : I:\8270\SV115\190912lviical\FS190912LVISV115.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Tue Sep 24 09:20:04 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
46	T	2-Chloronaphthalene		0.659	0.701	-6.4	86	0.00
47	T	2-Nitroaniline	*	5.000	4.485	10.3	75	0.00
48	T	1,4-Dinitrobenzene		0.091	0.077	15.4	75	0.00
49	T	1,3-Dinitrobenzene		0.102	0.101	1.0	80	0.00
50	T	Dimethyl phthalate		0.757	0.810	-7.0	85	0.00
51	T	Acenaphthylene		0.996	1.097	-10.1	85	0.00
52	T	2,6-Dinitrotoluene		0.159	0.164	-3.1	80	0.00
53	T	1,2-Dinitrobenzene		0.069	0.073	-5.8	82	0.00
62	I	IS1_Acenaphthene-d10		1.000	1.000	0.0	84	0.00
63	T	3-Nitroaniline		0.349	0.344	1.4	79	0.00
64	T	Acenaphthene		1.204	1.223	-1.6	86	0.00
65	T	2,4-Dinitrophenol	*	5.000	4.178	16.4	67	0.00
66	T	Dibenzofuran		1.834	1.837	-0.2	86	0.00
67	T	2,4-Dinitrotoluene		0.395	0.378	4.3	79	0.00
68	T	4-Nitrophenol		0.331	0.287	13.3	76	0.00
69	T	2,3,5,6-Tetrachlorophenol		0.303	0.285	5.9	79	0.00
70	T	2,3,4,6-Tetrachlorophenol		0.313	0.304	2.9	83	0.00
71	T	Diethyl phthalate		1.427	1.463	-2.5	84	0.00
72	T	Fluorene		1.388	1.431	-3.1	85	0.00
73	T	4-Chlorophenyl phenyl ether		0.648	0.645	0.5	85	0.00
74	T	4-Nitroaniline		0.364	0.314	13.7	71	0.00
75	T	4,6-Dinitro-o-cresol	*	5.000	4.200	16.0	73	0.00
76	T	NDPA/DPA		1.167	1.225	-5.0	85	0.00
77	T	Azobenzene		1.569	1.700	-8.3	86	0.00
78	S	2,4,6-Tribromophenol		0.155	0.152	1.9	78	0.00
79	T	4-Bromophenyl phenyl ether		0.334	0.342	-2.4	86	0.00
80	T	Hexachlorobenzene		0.388	0.383	1.3	89	0.00
81	T	Pentachlorophenol		0.225	0.179	20.4	74	0.00
87	I	IS1_Phenanthrene-d10		1.000	1.000	0.0	87	0.00
88	T	Phenanthrene		1.229	1.209	1.6	87	0.00
89	T	Anthracene		1.157	1.178	-1.8	84	0.00
90	T	Carbazole		1.083	1.124	-3.8	84	0.00
91	T	Di-n-butylphthalate		1.295	1.233	4.8	82	0.00
92	T	Fluoranthene		1.167	1.241	-6.3	87	0.00
93	T	Benzidine	*	5.000	4.027	19.5	69	0.00
94	T	Pyrene		1.269	1.325	-4.4	86	0.00
95	S	4-Terphenyl-d14		0.977	0.794	18.7	68	0.00

Evaluate Continuing Calibration Report

Data Path : I:\8270\SV115\190912lviical\
Data File : ABNICV.D
Acq On : 13 Sep 2019 12:37 am
Operator : SV115:als
Sample : CQICV2,32,,ABNICV Lot # 8386
Misc : wg1288955,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Sep 24 09:48:44 2019
Quant Method : I:\8270\SV115\190912lviical\FS190912LVISV115.m
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Tue Sep 24 09:20:04 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
96	T	Butyl benzyl phthalate	*	5.000	4.053	18.9	75	0.00
102	T	IS1_Chrysene-d12		1.000	1.000	0.0	92	0.00
103	T	Benzo(a)anthracene		1.247	1.263	-1.3	87	0.00
104	T	3,3'-Dichlorobenzidine	*	5.000	4.053	18.9	76	0.00
105	T	Chrysene		1.388	1.323	4.7	89	0.00
106	T	Bis(2-ethylhexyl)phthalate	*	5.000	4.177	16.5	80	0.00
107	T	Di-n-octylphthalate	*	5.000	3.802	24.0	73	0.00
108	T	Benzo(b)fluoranthene		1.190	1.193	-0.3	87	0.00
109	T	Benzo(k)fluoranthene		1.219	1.283	-5.3	89	0.00
110	T	Benzo(a)pyrene	*	5.000	4.206	15.9	80	0.00
111	I	IS1_Perylene-d12		1.000	1.000	0.0	90	0.00
112	T	Indeno(1,2,3-cd)pyrene	*	5.000	4.237	15.3	79	0.00
113	T	Dibenzo(a,h)anthracene		1.081	1.063	1.7	85	0.00
114	T	Benzo(ghi)perylene		1.046	1.127	-7.7	88	0.00

* Evaluation of CC level amount vs concentration.
(#) = Out of Range SPCC's out = 0 CCC's out = 0

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1948512
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-2 (L1948512-01)	44	47	68	80	73	93	0
MW-3 (L1948512-02)	57	50	76	82	95	87	0
MW-4 (L1948512-03)	59	54	76	86	101	89	0
MW-5 (L1948512-04)	49	48	73	82	91	101	0
FIELD BLANK (L1948512-05)	62	56	83	86	84	91	0
WG1298384-1BLANK	53	46	68	71	86	84	0
WG1298384-2LCS	44	42	57	67	91	83	0
WG1298384-3LCSD	62	57	76	80	96	86	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

FORM II NYTCL-8270-SIM-LVI

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1298384-2	**Analysis Date** : 10/21/19 14:11	**File ID** : 298384-2
LCSD Sample ID	: WG1298384-3	**Analysis Date** : 10/21/19 14:26	**File ID** : 298384-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	3.6	2.8	78	3.6	3.4	93	18	40-140	40
2-Chloronaphthalene	3.6	2.6	71	3.6	3.1	86	19	40-140	40
Fluoranthene	3.6	3.9	106	3.6	4.0	110	4	40-140	40
Hexachlorobutadiene	3.6	2.1	59	3.6	3.0	82	33	40-140	40
Naphthalene	3.6	2.1	58	3.6	2.8	78	29	40-140	40
Benzo(a)anthracene	3.6	4.0	109	3.6	4.1	114	4	40-140	40
Benzo(a)pyrene	3.6	4.0	109	3.6	4.2	117	7	40-140	40
Benzo(b)fluoranthene	3.6	4.0	110	3.6	4.4	122	10	40-140	40
Benzo(k)fluoranthene	3.6	4.2	114	3.6	4.9	136	18	40-140	40
Chrysene	3.6	3.8	103	3.6	4.2	114	10	40-140	40
Acenaphthylene	3.6	2.8	77	3.6	3.2	89	14	40-140	40
Anthracene	3.6	3.6	98	3.6	3.9	107	9	40-140	40
Benzo(ghi)perylene	3.6	3.8	106	3.6	4.3	117	10	40-140	40
Fluorene	3.6	3.2	88	3.6	3.6	98	11	40-140	40
Phenanthrene	3.6	3.4	94	3.6	3.8	103	9	40-140	40
Dibenzo(a,h)anthracene	3.6	4.0	109	3.6	4.3	119	9	40-140	40
Indeno(1,2,3-cd)pyrene	3.6	4.1	112	3.6	4.5	124	10	40-140	40
Pyrene	3.6	3.9	106	3.6	4.0	111	5	40-140	40
2-Methylnaphthalene	3.6	2.3	64	3.6	2.9	80	22	40-140	40
Pentachlorophenol	3.6	2.4	67	3.6	2.3	64	5	40-140	40
Hexachlorobenzene	3.6	3.7	101	3.6	4.1	113	11	40-140	40
Hexachloroethane	3.6	1.8	49	3.6	2.7	73	39	40-140	40

Evaluate Continuing Calibration Report

Data Path : I:\8270SIM\SV125\190807LVIical\
Data File : ICV.D
Acq On : 07 Aug 2019 11:54 pm
Operator : SV125:cb
Sample : CQICV,32,,
Misc : WG1270090,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 20 09:14:12 2019
Quant Method : I:\8270SIM\SV125\190807LVIical\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Thu Aug 08 10:44:20 2019
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	0.00
2	s	2-Fluorophenol	1.072	1.070	0.2	89	0.00
3	s	Phenol-d6	1.236	1.251	-1.2	89	0.00
4	T	Bis(2-chloroethyl)ether	1.035	1.081	-4.4	92	0.00
5	T	n-nitrosodi-n-propylamine	0.667	0.661	0.9	88	0.00
6	t	Hexachloroethane	0.448	0.462	-3.1	91	0.00
7	s	Nitrobenzene-d5	1.029	1.030	-0.1	88	0.00
8	i	Naphthalene-d8	1.000	1.000	0.0	90	0.00
9	t	Naphthalene	0.972	0.998	-2.7	91	0.00
10	T	Isophorone	0.479	0.483	-0.8	87	0.00
11	t	Hexachlorobutadiene	0.155	0.164	-5.8	93	0.00
12	t	2-Methylnaphthalene	0.660	0.677	-2.6	91	0.00
13	t	1-Methylnaphthalene	0.621	0.631	-1.6	91	0.00
14	s	2-Fluorobiphenyl	0.780	0.802	-2.8	91	0.00
15	t	2-Chloronaphthalene	0.652	0.679	-4.1	92	0.00
16	t	Acenaphthylene	1.030	1.081	-5.0	92	0.00
17	i	Acenaphthene-d10	1.000	1.000	0.0	90	0.00
18	t	Acenaphthene	1.238	1.273	-2.8	92	0.00
19	t	Fluorene	1.338	1.402	-4.8	93	0.00
20	s	2,4,6-Tribromophenol	*1000.000	904.491	9.6	91	0.00
21	i	Phenanthrene-d10	1.000	1.000	0.0	90	0.00
22	T	4,6-Dinitro-o-cresol	*1000.000	763.840	23.6#	82	0.00
23	t	Hexachlorobenzene	0.198	0.206	-4.0	94	0.00
24	t	Pentachlorophenol	*1000.000	784.321	21.6#	87	0.00
25	t	Phenanthrene	1.062	1.093	-2.9	92	0.00
26	t	Anthracene	1.024	1.080	-5.5	93	0.00
27	t	Fluoranthene	1.182	1.239	-4.8	92	0.00
28	t	Pyrene	1.227	1.305	-6.4	93	0.00
29	s	4-Terphenyl-d14	0.757	0.804	-6.2	93	0.00
30	i	Chrysene-d12	1.000	1.000	0.0	92	0.00
31	t	Benzo[a]anthracene	0.336	0.332	1.2	94	0.00
32	t	Chrysene	1.218	1.274	-4.6	94	0.00
33	T	Bis(2-ethylhexyl)phthalate	0.643	0.594	7.6	87	0.00
34	i	Perylene-d12	1.000	1.000	0.0	93	0.00

Results Summary
Form 1
Semivolatile Organics by GC/MS-SIM

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: L1948512-05	**Date Collected**	: 10/16/19 11:40
Client ID	: FIELD BLANK	**Date Received**	: 10/16/19
Sample Location	: NY	**Date Analyzed**	: 10/21/19 15:46
Sample Matrix	: WATER	**Date Extracted**	: 10/19/19
Analytical Method	: 1,8270D-SIM	**Dilution Factor**	: 1
Lab File ID	: 48512-05	**Analyst**	: CB
Sample Amount	: 275 ml	**Instrument ID**	: SV125
Extraction Method	: EPA 3510C	**GC Column**	: RXI-5SilM
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
83-32-9	Acenaphthene	ND	0.10	0.01	U
91-58-7	2-Chloronaphthalene	ND	0.20	0.02	U
206-44-0	Fluoranthene	ND	0.10	0.02	U
87-68-3	Hexachlorobutadiene	ND	0.50	0.05	U
91-20-3	Naphthalene	ND	0.10	0.05	U
56-55-3	Benzo(a)anthracene	ND	0.10	0.02	U
50-32-8	Benzo(a)pyrene	ND	0.10	0.02	U
205-99-2	Benzo(b)fluoranthene	0.02	0.10	0.01	J
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.01	U
218-01-9	Chrysene	ND	0.10	0.01	U
208-96-8	Acenaphthylene	ND	0.10	0.01	U
120-12-7	Anthracene	ND	0.10	0.01	U
191-24-2	Benzo(ghi)perylene	0.02	0.10	0.01	J
86-73-7	Fluorene	ND	0.10	0.01	U
85-01-8	Phenanthrene	ND	0.10	0.02	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.01	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.02	0.10	0.01	J
129-00-0	Pyrene	ND	0.10	0.02	U
91-57-6	2-Methylnaphthalene	ND	0.10	0.02	U
87-86-5	Pentachlorophenol	ND	0.80	0.01	U
118-74-1	Hexachlorobenzene	ND	0.80	0.01	U
67-72-1	Hexachloroethane	ND	0.80	0.06	U

Quantitation Report (QT Reviewed)

Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-01.D
Acq On : 21 Oct 2019 02:42 pm
Operator : SV125:cb
Sample : l1948512-01,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 22 12:53:46 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	2.196	152	25914	4000.000	ng/ml	0.00
Standard Area 1 = 26099			Recovery = 99.29%			
8) Naphthalene-d8	2.876	136	93245	4000.000	ng/ml	0.00
Standard Area 1 = 93727			Recovery = 99.49%			
17) Acenaphthene-d10	3.868	164	51279	4000.000	ng/ml	0.00
Standard Area 1 = 52732			Recovery = 97.24%			
21) Phenanthrene-d10	4.716	188	109348	4000.000	ng/ml	0.00
Standard Area 1 = 111411			Recovery = 98.15%			
30) Chrysene-d12	6.259	240	107381	4000.000	ng/ml	0.00
Standard Area 1 = 102905			Recovery = 104.35%			
34) Perylene-d12	7.443	264	119707	4000.000	ng/ml	0.00
Standard Area 1 = 120235			Recovery = 99.56%			
System Monitoring Compounds						
2) 2-Fluorophenol	1.586	112	15358	2212.204	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 4424.41%#			
3) Phenol-d6	2.011	99	19012	2373.590	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 4747.18%#			
7) Nitrobenzene-d5	2.487	82	11408	1711.553	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 6846.21%#			
14) 2-Fluorobiphenyl	3.486	172	36447	2004.264	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 8017.06%#			
20) 2,4,6-Tribromophenol	4.321	330	9860	3640.836	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 7281.67%#			
29) 4-Terphenyl-d14	5.632	244	47923	2316.852	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 9267.41%#			
Target Compounds						Qvalue
6) Hexachloroethane	0.000		0	N.D.	d	
9) Naphthalene	2.887	128	713	31.454	ng/ml#	63
11) Hexachlorobutadiene	0.000		0	N.D.		
12) 2-Methylnaphthalene	3.275	142	152	9.879	ng/ml	95
15) 2-Chloronaphthalene	0.000		0	N.D.		
16) Acenaphthylene	0.000		0	N.D.	d	
18) Acenaphthene	0.000		0	N.D.		
19) Fluorene	0.000		0	N.D.		
23) Hexachlorobenzene	0.000		0	N.D.		
24) Pentachlorophenol	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

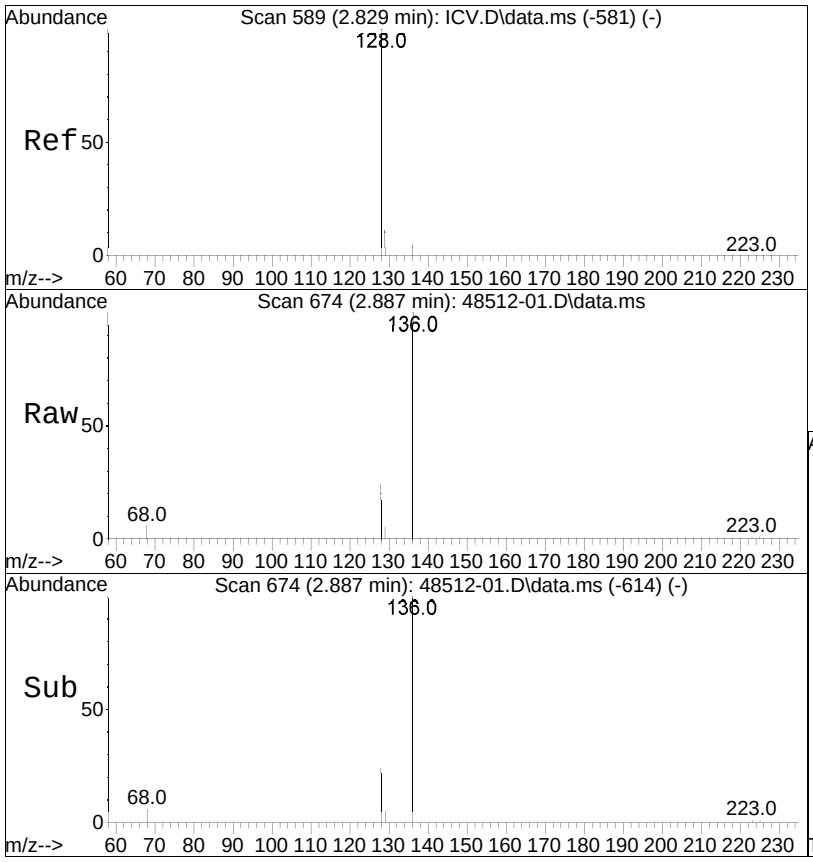
Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-01.D
Acq On : 21 Oct 2019 02:42 pm
Operator : SV125:cb
Sample : l1948512-01,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 22 12:53:46 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) Phenanthrene	4.730	178	218M6	7.507	ng/ml	
26) Anthracene	4.759	178	110	3.931	ng/ml#	63
27) Fluoranthene	5.411	202	394	12.189	ng/ml#	74
28) Pyrene	5.542	202	391	11.661	ng/ml#	56
31) Benzo[a]anthracene	6.250	226	265M1	29.375	ng/ml	
32) Chrysene	6.274	228	713	21.806	ug/ml	95
35) Benzo[b]fluoranthene	7.084	252	1797M6	58.581	ng/ml	
36) Benzo[k]fluoranthene	7.103	252	723M3	23.414	ng/ml	
37) Benzo[a]pyrene	7.383	252	1150	40.405	ng/ml	99
38) Indeno[1,2,3-cd]pyrene	8.653	276	1593	55.455	ng/ml#	89
39) Dibenzo[a,h]anthracene	8.685	278	334	11.416	ng/ml#	60
40) Benzo[g,h,i]perylene	8.990	276	1582	51.116	ng/ml	95

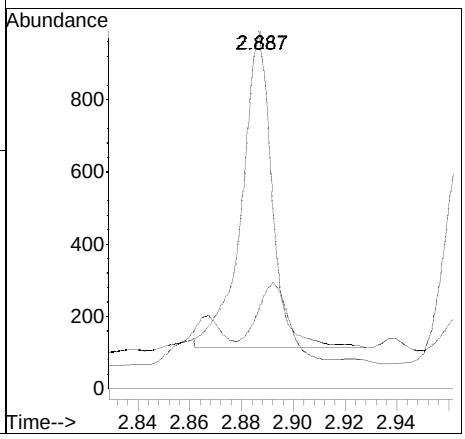
(#) = qualifier out of range (m) = manual integration (+) = signals summed

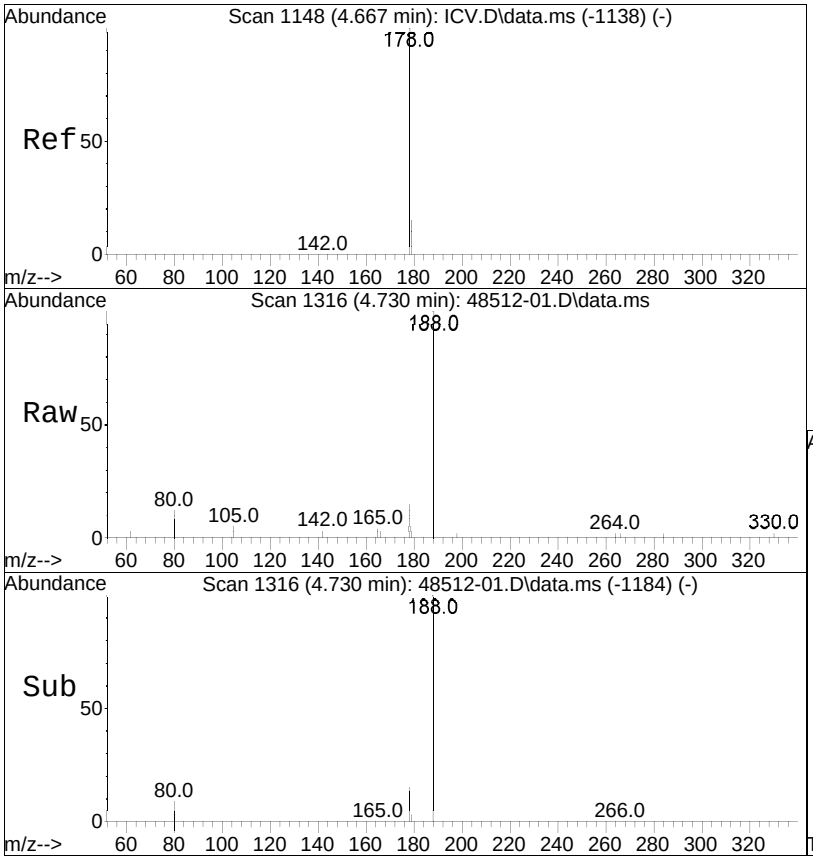


#9
Naphthalene
Concen: 31.45 ng/ml
RT: 2.887 min Scan# 674
Delta R.T. 0.000 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:128 Resp: 713

Ion	Ratio	Lower	Upper
128	100		
129	27.1	8.8	13.2#
127	0.0	10.5	15.7#

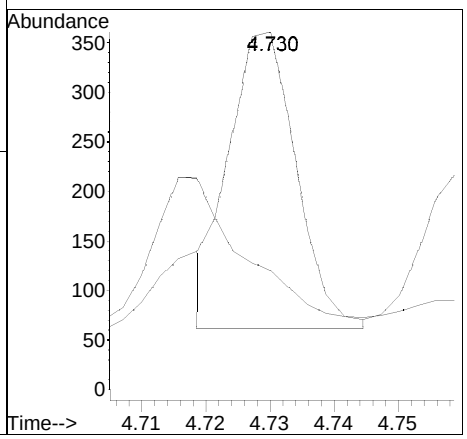


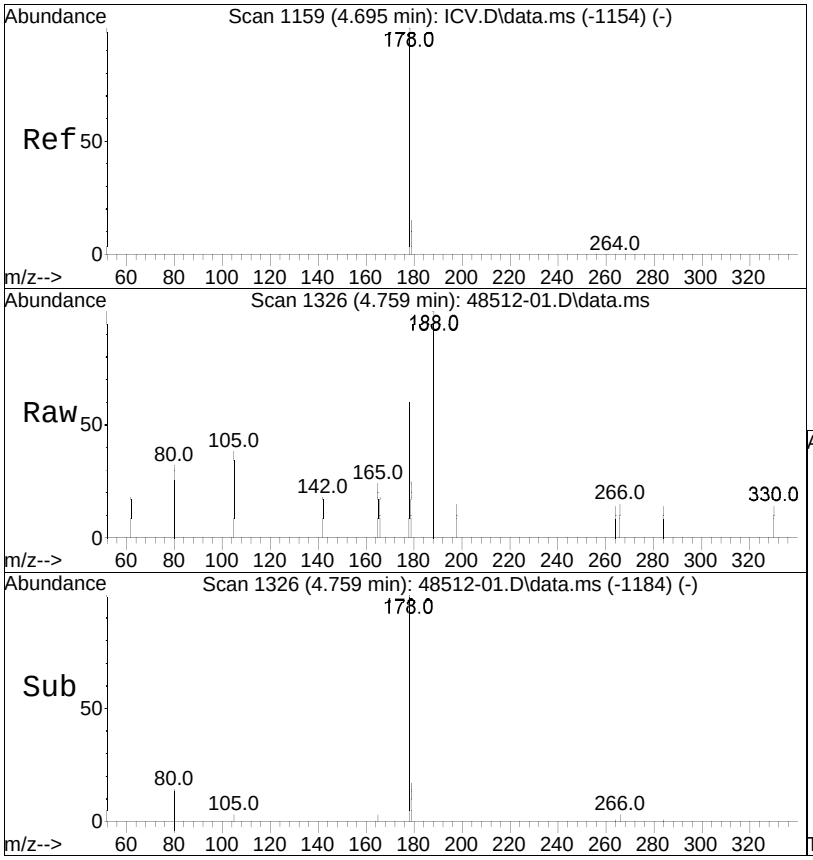


#25
Phenanthrene
Concen: 7.51 ng/ml M6
RT: 4.730 min Scan# 1316
Delta R.T. 0.003 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:178 Resp: 218

Ion	Ratio	Lower	Upper
178	100		
179	61.0	12.3	18.5#

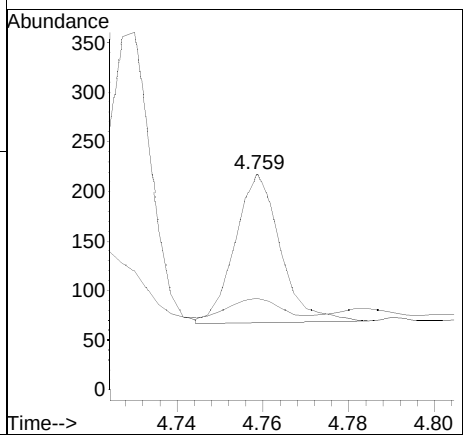


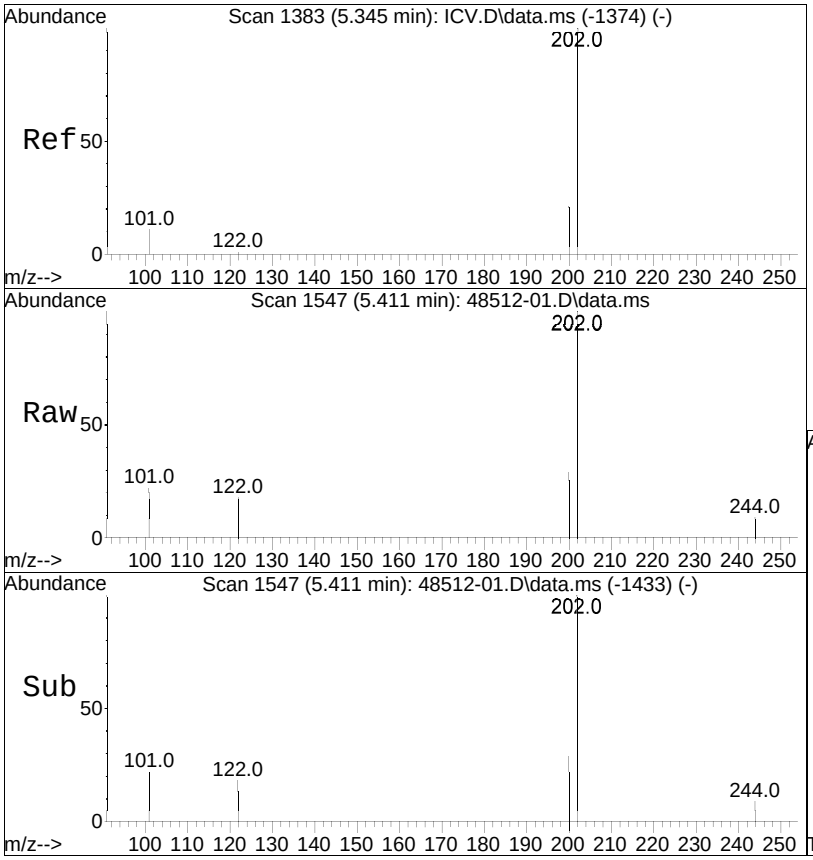


#26
Anthracene
Concen: 3.93 ng/ml
RT: 4.759 min Scan# 1326
Delta R.T. 0.003 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:178 Resp: 110

Ion	Ratio	Lower	Upper
178	100		
179	0.0	12.2	18.4#

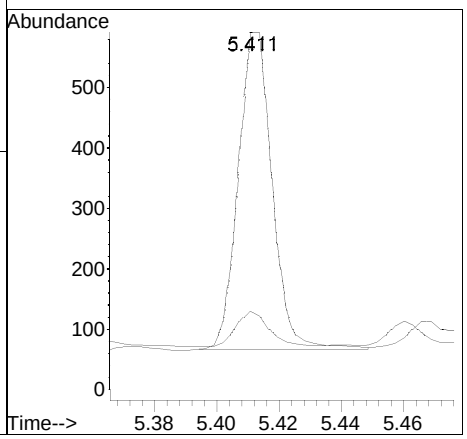


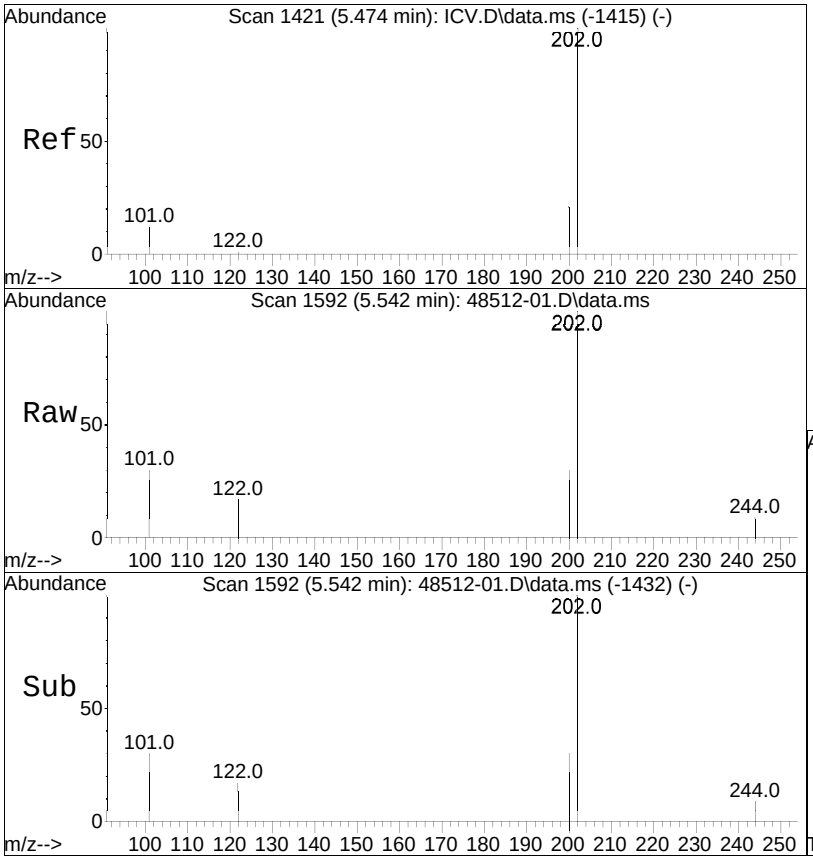


#27
Fluoranthene
Concen: 12.19 ng/ml
RT: 5.411 min Scan# 1547
Delta R.T. 0.003 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:202 Resp: 394

Ion	Ratio	Lower	Upper
202	100		
101	0.0	7.7	11.5#

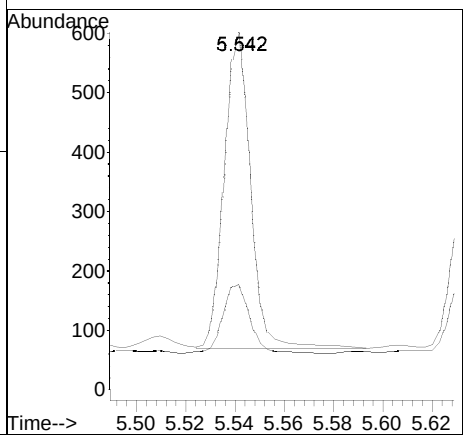


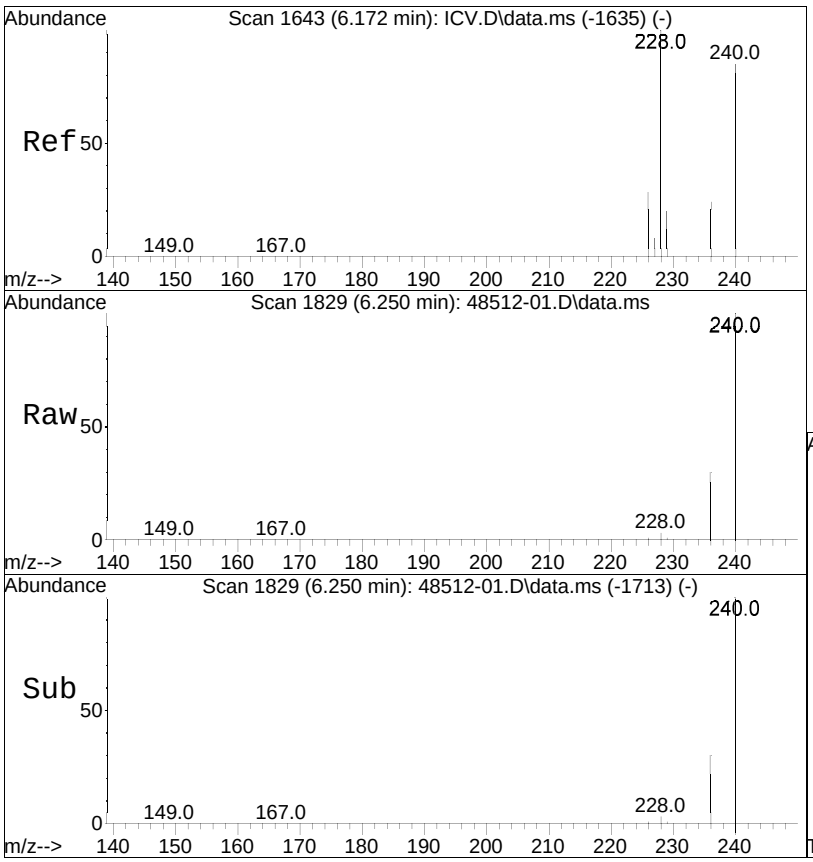


#28
Pyrene
Concen: 11.66 ng/ml
RT: 5.542 min Scan# 1592
Delta R.T. 0.006 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:202 Resp: 391

Ion	Ratio	Lower	Upper
202	100		
200	0.0	16.2	24.4#

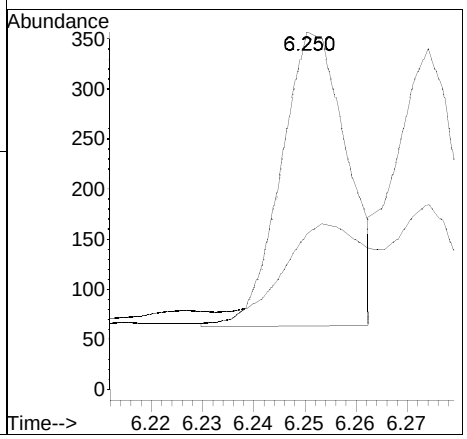


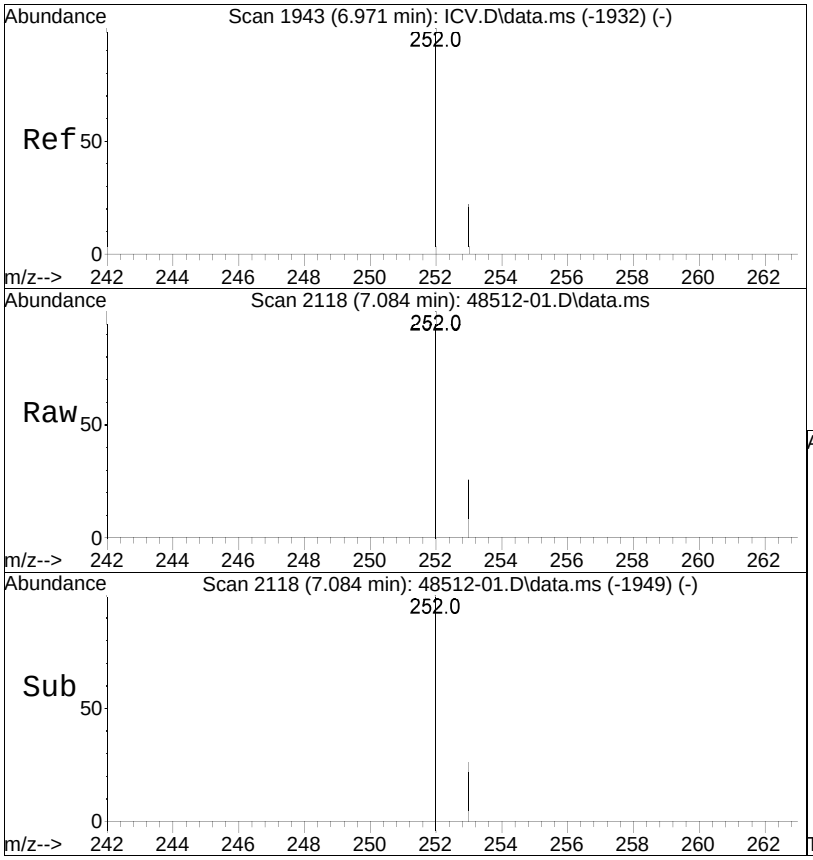


#31
Benzo[a]anthracene
Concen: 29.38 ng/ml M1
RT: 6.250 min Scan# 1829
Delta R.T. 0.003 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:226 Resp: 265

Ion	Ratio	Lower	Upper
226	100		
227	0.0	23.4	35.2#

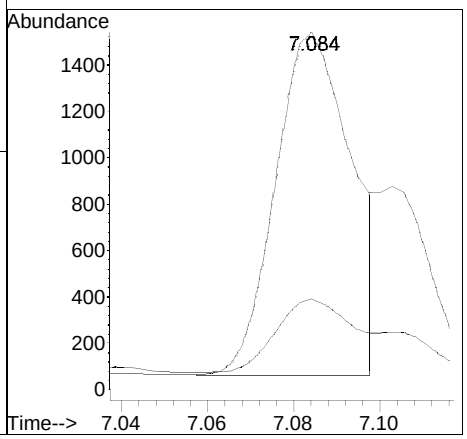


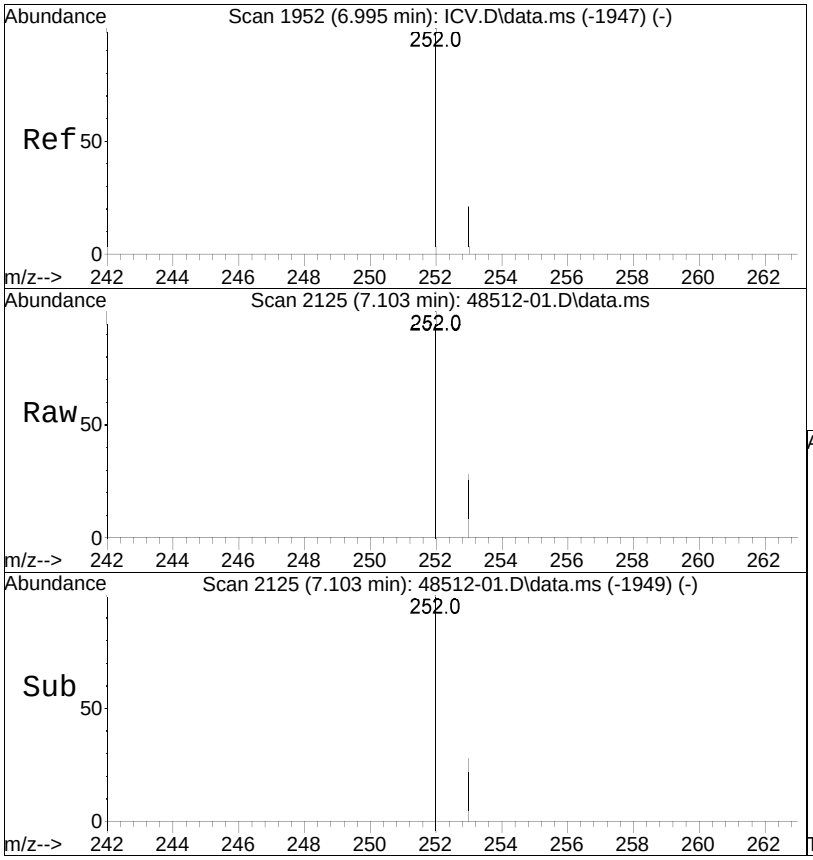


#35
Benzo[b]fluoranthene
Concen: 58.58 ng/ml M6
RT: 7.084 min Scan# 2118
Delta R.T. 0.005 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:252 Resp: 1797

Ion	Ratio	Lower	Upper
252	100		
253	29.6	17.2	25.8#

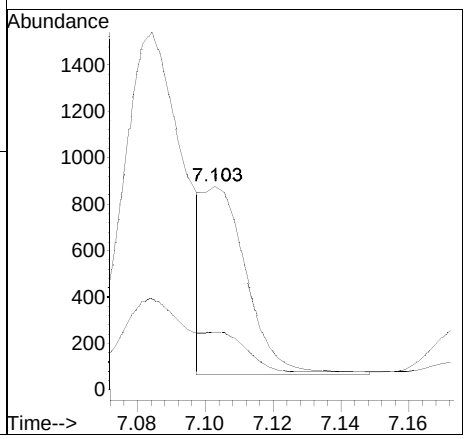


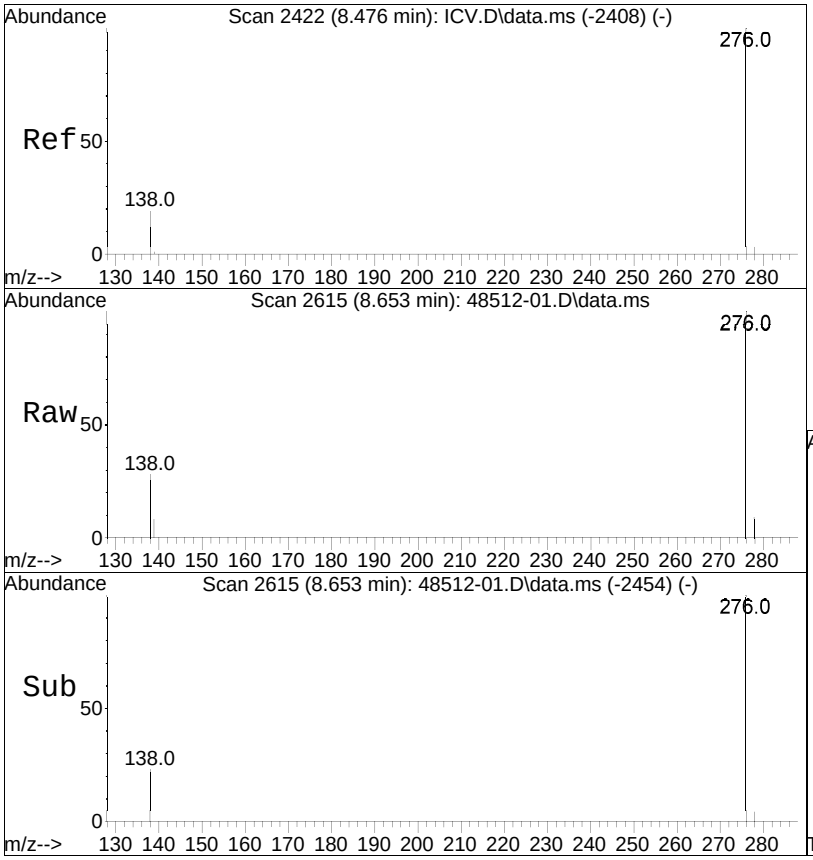


#36
Benzo[k]fluoranthene
Concen: 23.41 ng/ml M3
RT: 7.103 min Scan# 2125
Delta R.T. -0.000 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:252 Resp: 723

Ion	Ratio	Lower	Upper
252	100		
253	73.6	17.3	25.9#

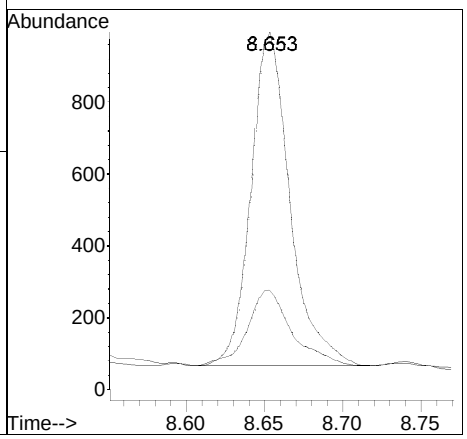


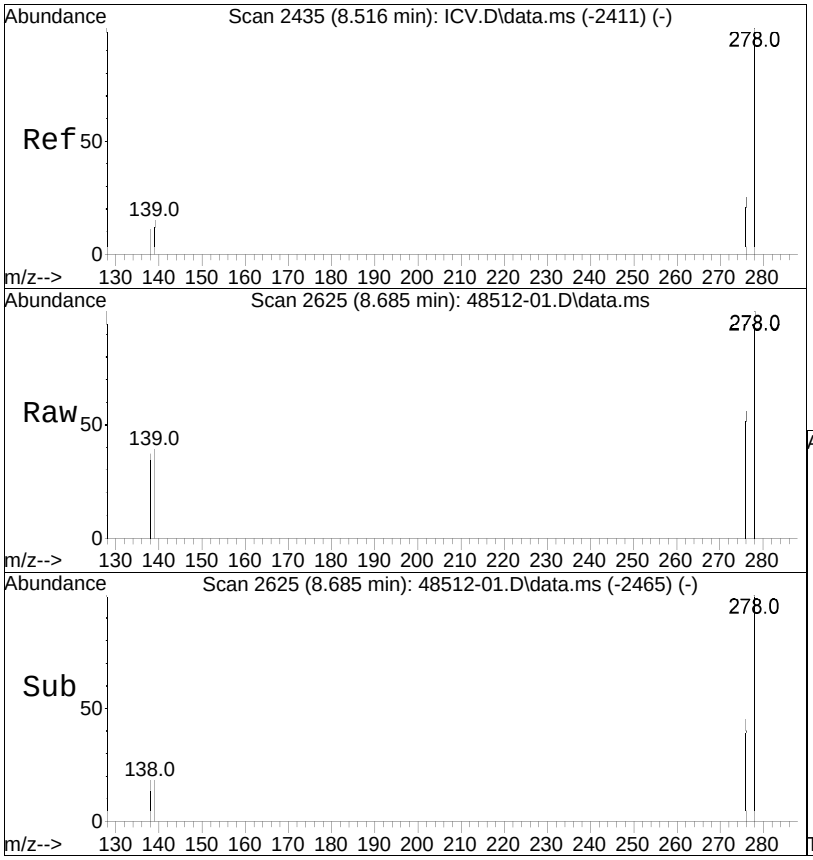


#38
Indeno[1,2,3-cd]pyrene
Concen: 55.45 ng/ml
RT: 8.653 min Scan# 2615
Delta R.T. 0.006 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:276 Resp: 1593

Ion	Ratio	Lower	Upper
276	100		
138	25.5	16.5	24.7#

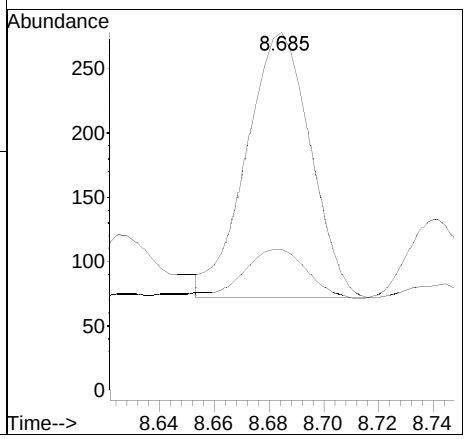




#39
Dibenzo[a,h]anthracene
Concen: 11.42 ng/ml
RT: 8.685 min Scan# 2625
Delta R.T. 0.003 min
Lab File: 48512-01.D
Acq: 21 Oct 2019 02:42 pm

Tgt Ion:278 Resp: 334

Ion	Ratio	Lower	Upper
278	100		
139	0.0	13.8	20.8#



Quantitation Report (QT Reviewed)

Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-02.D
Acq On : 21 Oct 2019 02:58 pm
Operator : SV125:cb
Sample : l1948512-02,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 22 12:54:25 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	2.196	152	24809	4000.000	ng/ml	0.00
Standard Area 1 = 26099			Recovery = 95.06%			
8) Naphthalene-d8	2.875	136	89207	4000.000	ng/ml	0.00
Standard Area 1 = 93727			Recovery = 95.18%			
17) Acenaphthene-d10	3.868	164	48311	4000.000	ng/ml	0.00
Standard Area 1 = 52732			Recovery = 91.62%			
21) Phenanthrene-d10	4.715	188	102216	4000.000	ng/ml	0.00
Standard Area 1 = 111411			Recovery = 91.75%			
30) Chrysene-d12	6.259	240	101071	4000.000	ng/ml	0.00
Standard Area 1 = 102905			Recovery = 98.22%			
34) Perylene-d12	7.443	264	117630	4000.000	ng/ml	0.00
Standard Area 1 = 120235			Recovery = 97.83%			
System Monitoring Compounds						
2) 2-Fluorophenol	1.586	112	19042	2865.024	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 5730.05%#			
3) Phenol-d6	2.013	99	19324	2519.998	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 5040.00%#			
7) Nitrobenzene-d5	2.487	82	12130	1900.933	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 7603.73%#			
14) 2-Fluorobiphenyl	3.485	172	35528	2042.164	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 8168.66%#			
20) 2,4,6-Tribromophenol	4.320	330	12279	4727.006	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 9454.01%#			
29) 4-Terphenyl-d14	5.634	244	41968	2170.523	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 8682.09%#			
Target Compounds						Qvalue
6) Hexachloroethane	0.000		0	N.D.	d	
9) Naphthalene	2.886	128	899	41.455	ng/ml#	76
11) Hexachlorobutadiene	0.000		0	N.D.		
12) 2-Methylnaphthalene	3.277	142	143	9.714	ng/ml	88
15) 2-Chloronaphthalene	0.000		0	N.D.		
16) Acenaphthylene	0.000		0	N.D.		
18) Acenaphthene	0.000		0	N.D.		
19) Fluorene	0.000		0	N.D.		
23) Hexachlorobenzene	0.000		0	N.D.		
24) Pentachlorophenol	0.000		0	N.D.		

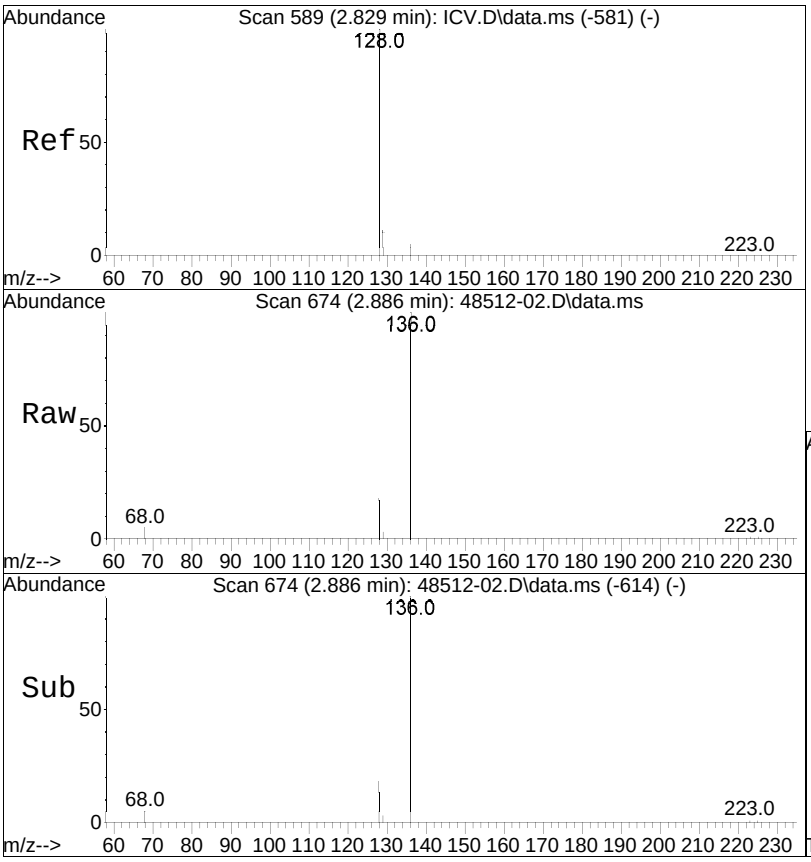
Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-02.D
Acq On : 21 Oct 2019 02:58 pm
Operator : SV125:cb
Sample : l1948512-02,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 22 12:54:25 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) Phenanthrene	4.730	178	258M6	9.505	ng/ml	
26) Anthracene	4.758	178	53M3	2.026	ng/ml	
27) Fluoranthene	5.413	202	146	4.832	ng/ml#	74
28) Pyrene	5.541	202	129	4.116	ng/ml#	56
31) Benzo[a]anthracene	0.000		0	N.D.		
32) Chrysene	0.000		0	N.D.	d	
35) Benzo[b]fluoranthene	0.000		0	N.D.		
36) Benzo[k]fluoranthene	0.000		0	N.D.		
37) Benzo[a]pyrene	0.000		0	N.D.	d	
38) Indeno[1,2,3-cd]pyrene	0.000		0	N.D.		
39) Dibenzo[a,h]anthracene	0.000		0	N.D.		
40) Benzo[g,h,i]perylene	0.000		0	N.D.		

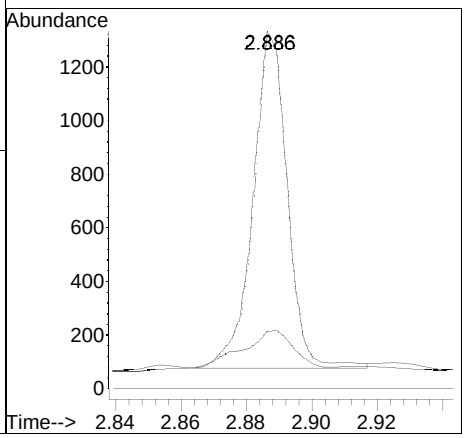
(#) = qualifier out of range (m) = manual integration (+) = signals summed



#9
Naphthalene
Concen: 41.45 ng/ml
RT: 2.886 min Scan# 674
Delta R.T. -0.001 min
Lab File: 48512-02.D
Acq: 21 Oct 2019 02:58 pm

Tgt Ion:128 Resp: 899

Ion	Ratio	Lower	Upper
128	100		
129	15.7	8.8	13.2#
127	0.0	10.5	15.7#



Quantitation Report (QT Reviewed)

Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-03.D
Acq On : 21 Oct 2019 03:14 pm
Operator : SV125:cb
Sample : l1948512-03,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 22 12:55:55 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	2.196	152	25036	4000.000	ng/ml	0.00
Standard Area 1 = 26099			Recovery = 95.93%			
8) Naphthalene-d8	2.876	136	91293	4000.000	ng/ml	0.00
Standard Area 1 = 93727			Recovery = 97.40%			
17) Acenaphthene-d10	3.868	164	50368	4000.000	ng/ml	0.00
Standard Area 1 = 52732			Recovery = 95.52%			
21) Phenanthrene-d10	4.716	188	109311	4000.000	ng/ml	0.00
Standard Area 1 = 111411			Recovery = 98.12%			
30) Chrysene-d12	6.259	240	106047	4000.000	ng/ml	0.00
Standard Area 1 = 102905			Recovery = 103.05%			
34) Perylene-d12	7.449	264	116484	4000.000	ng/ml	0.00
Standard Area 1 = 120235			Recovery = 96.88%			
System Monitoring Compounds						
2) 2-Fluorophenol	1.586	112	19663	2931.634	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 5863.27%#			
3) Phenol-d6	2.011	99	20766	2683.492	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 5366.98%#			
7) Nitrobenzene-d5	2.487	82	12273	1905.904	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 7623.62%#			
14) 2-Fluorobiphenyl	3.486	172	38218	2146.590	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 8586.36%#			
20) 2,4,6-Tribromophenol	4.321	330	13803	5068.521	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 10137.04%#			
29) 4-Terphenyl-d14	5.635	244	45938	2221.638	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 8886.55%#			
Target Compounds						Qvalue
6) Hexachloroethane	0.000		0	N.D.		
9) Naphthalene	2.887	128	543	24.467	ng/ml#	69
11) Hexachlorobutadiene	0.000		0	N.D.		
12) 2-Methylnaphthalene	0.000		0	N.D.	d	
15) 2-Chloronaphthalene	0.000		0	N.D.		
16) Acenaphthylene	0.000		0	N.D.	d	
18) Acenaphthene	0.000		0	N.D.		
19) Fluorene	0.000		0	N.D.		
23) Hexachlorobenzene	0.000		0	N.D.		
24) Pentachlorophenol	0.000		0	N.D.		

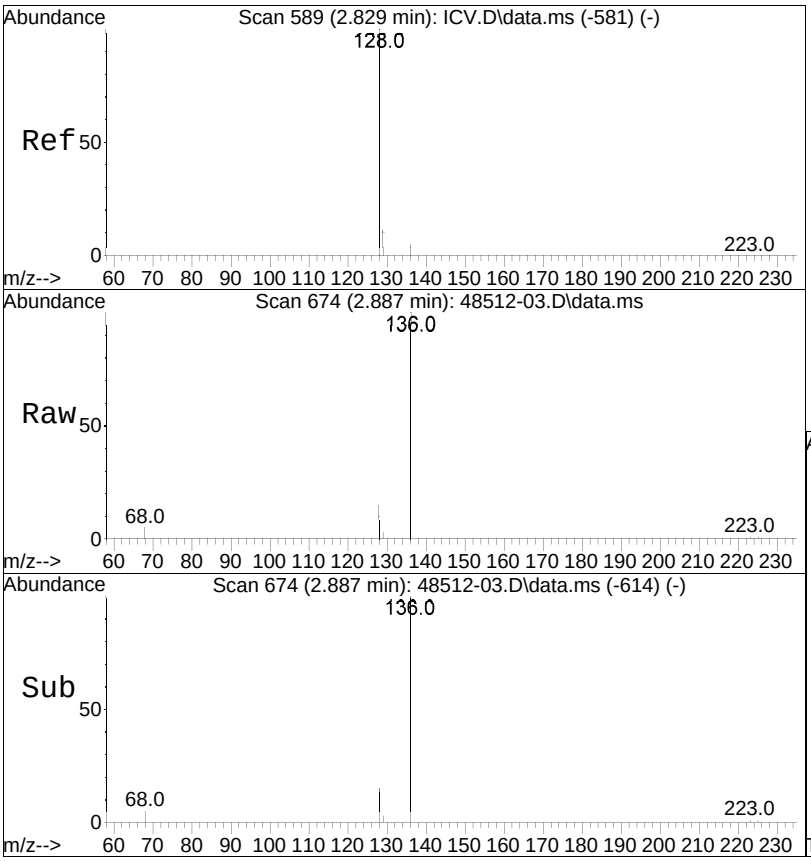
Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-03.D
Acq On : 21 Oct 2019 03:14 pm
Operator : SV125:cb
Sample : l1948512-03,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 22 12:55:55 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) Phenanthrene	4.730	178	436M6	15.019	ng/ml	
26) Anthracene	4.759	178	175	6.256	ng/ml#	63
27) Fluoranthene	5.414	202	818	25.314	ng/ml#	74
28) Pyrene	5.542	202	950	28.343	ng/ml	99
31) Benzo[a]anthracene	6.253	226	154M4	17.286	ng/ml	
32) Chrysene	6.277	228	381M1	11.799	ug/ml	
35) Benzo[b]fluoranthene	7.087	252	488M1	16.349	ng/ml	
36) Benzo[k]fluoranthene	7.108	252	210M3	6.989	ng/ml	
37) Benzo[a]pyrene	7.389	252	312	11.265	ng/ml#	54
38) Indeno[1,2,3-cd]pyrene	8.656	276	267	9.552	ng/ml#	56
39) Dibenzo[a,h]anthracene	0.000		0	N.D.		
40) Benzo[g,h,i]perylene	8.993	276	259	8.600	ng/ml#	53

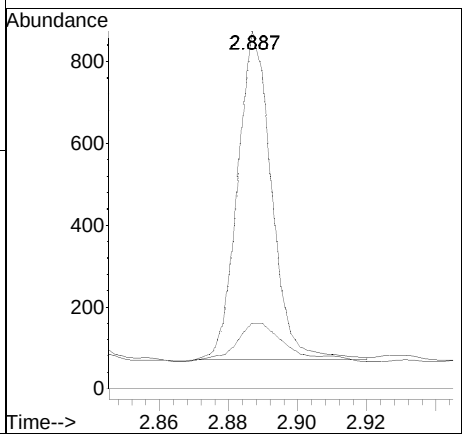
(#) = qualifier out of range (m) = manual integration (+) = signals summed

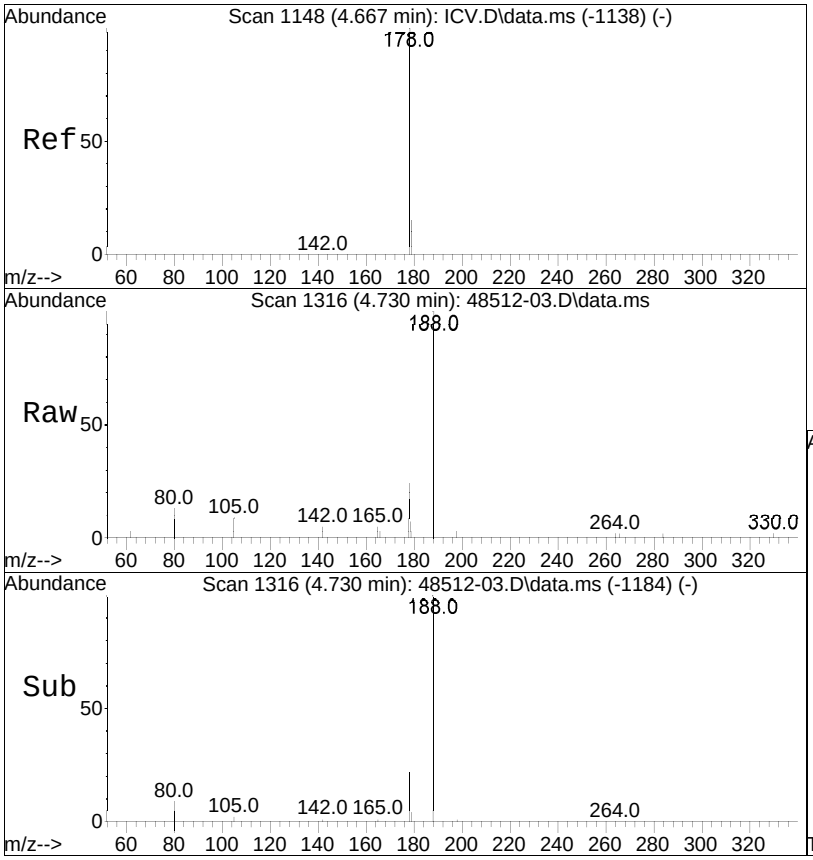


#9
Naphthalene
Concen: 24.47 ng/ml
RT: 2.887 min Scan# 674
Delta R.T. -0.000 min
Lab File: 48512-03.D
Acq: 21 Oct 2019 03:14 pm

Tgt Ion:128 Resp: 543

Ion	Ratio	Lower	Upper
128	100		
129	0.0	8.8	13.2#
127	0.0	10.5	15.7#

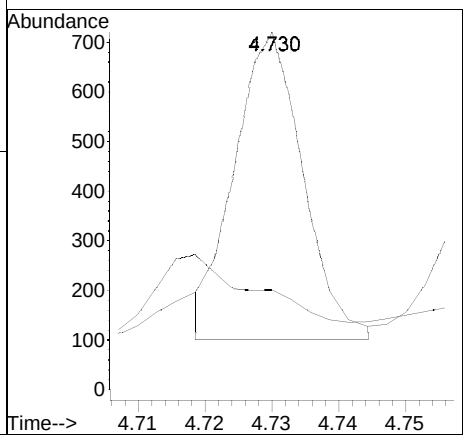


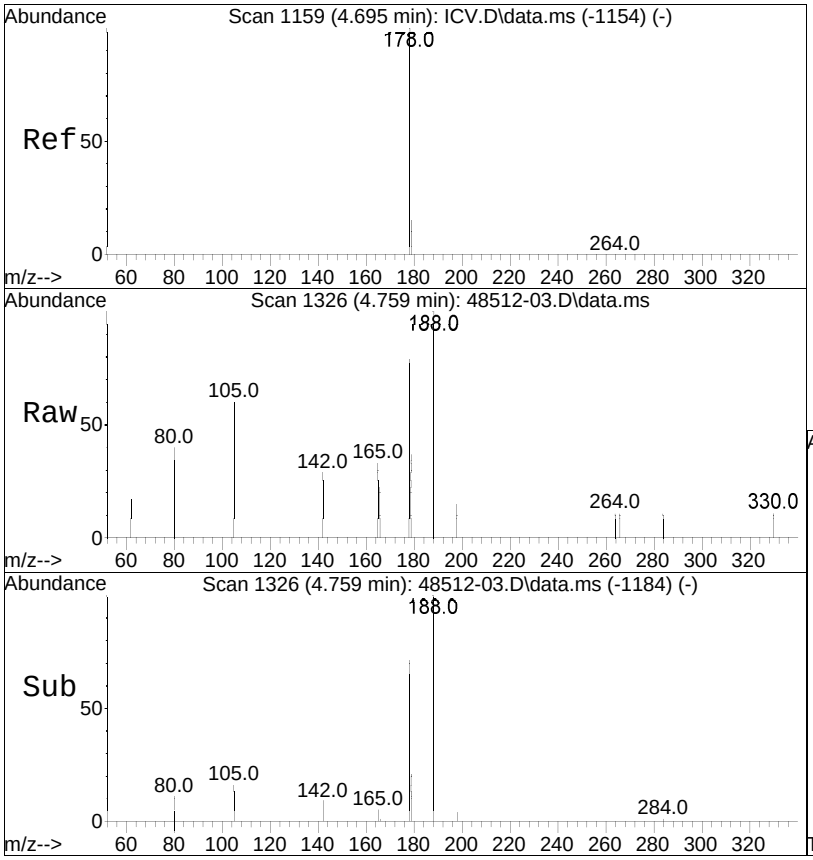


#25
Phenanthrene
Concen: 15.02 ng/ml M6
RT: 4.730 min Scan# 1316
Delta R.T. 0.003 min
Lab File: 48512-03.D
Acq: 21 Oct 2019 03:14 pm

Tgt Ion:178 Resp: 436

Ion	Ratio	Lower	Upper
178	100		
179	40.8	12.3	18.5#

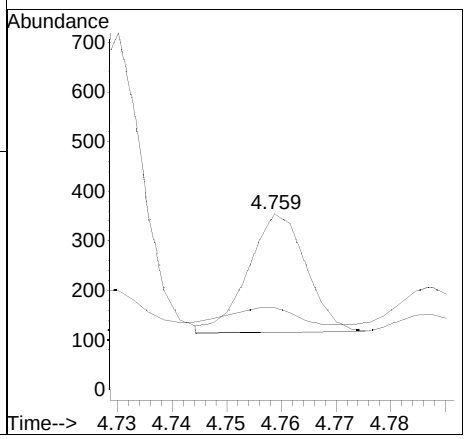


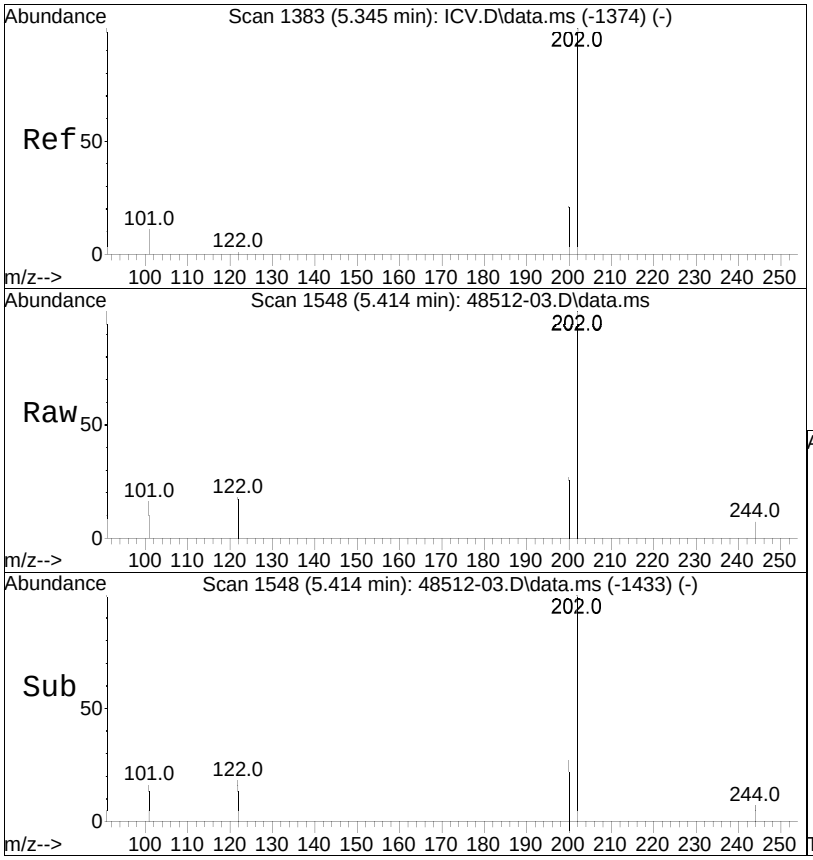


#26
Anthracene
Concen: 6.26 ng/ml
RT: 4.759 min Scan# 1326
Delta R.T. 0.003 min
Lab File: 48512-03.D
Acq: 21 Oct 2019 03:14 pm

Tgt Ion:178 Resp: 175

Ion	Ratio	Lower	Upper
178	100		
179	0.0	12.2	18.4#

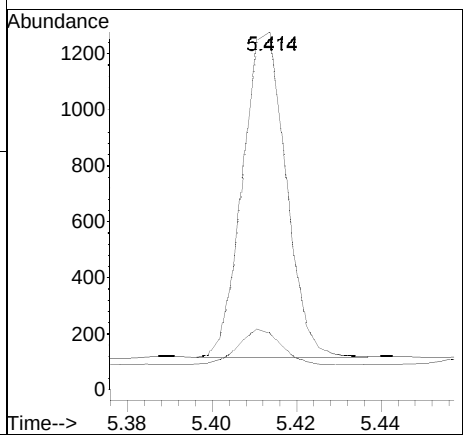


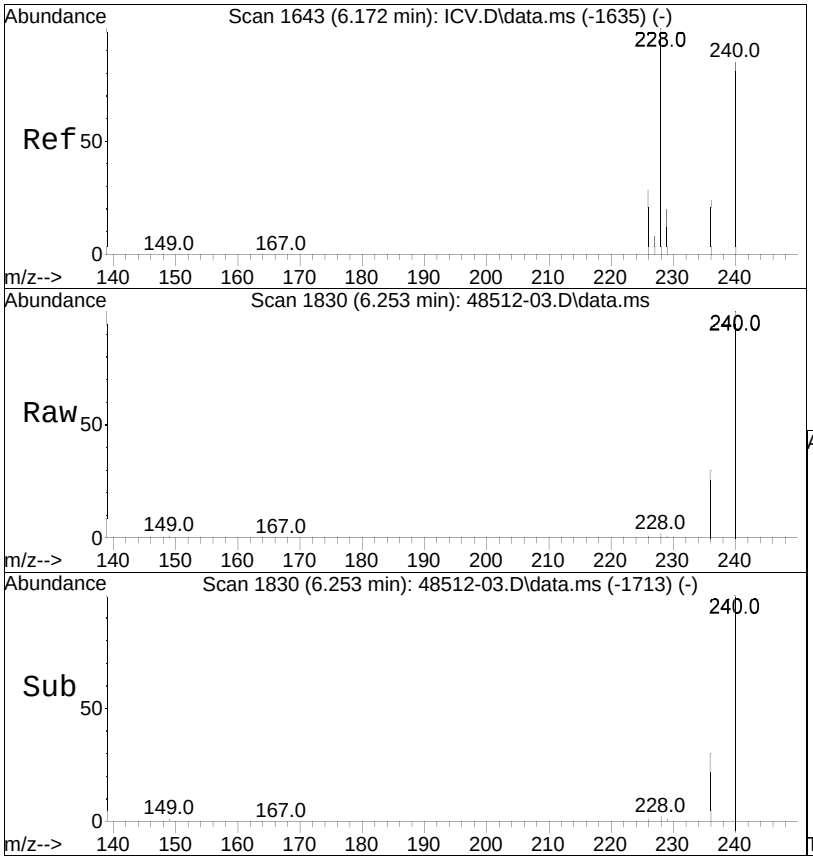


#27
Fluoranthene
Concen: 25.31 ng/ml
RT: 5.414 min Scan# 1548
Delta R.T. 0.006 min
Lab File: 48512-03.D
Acq: 21 Oct 2019 03:14 pm

Tgt Ion:202 Resp: 818

Ion	Ratio	Lower	Upper
202	100		
101	0.0	7.7	11.5#

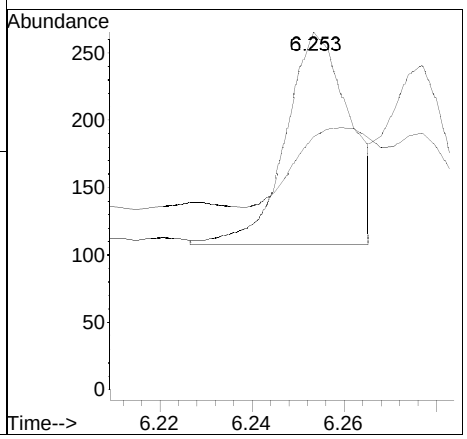


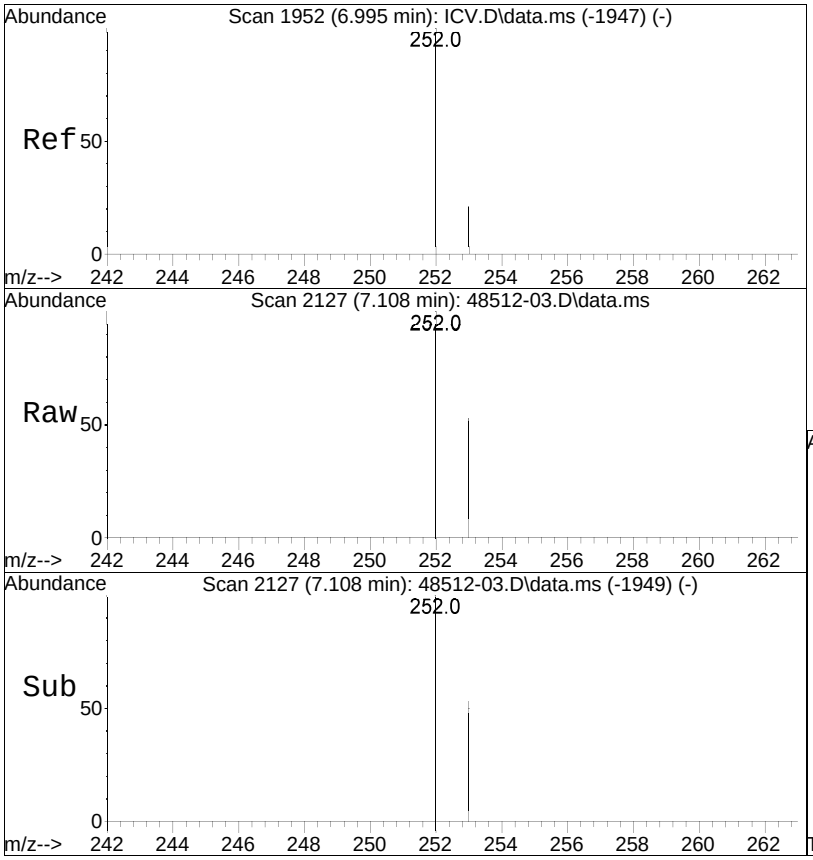


#31
Benzo[a]anthracene
Concen: 17.29 ng/ml M4
RT: 6.253 min Scan# 1830
Delta R.T. 0.006 min
Lab File: 48512-03.D
Acq: 21 Oct 2019 03:14 pm

Tgt Ion:226 Resp: 154

Ion	Ratio	Lower	Upper
226	100		
227	0.0	23.4	35.2#

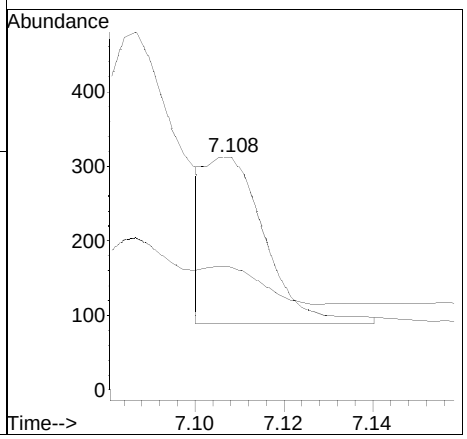




#36
Benzo[k]fluoranthene
Concen: 6.99 ng/ml M3
RT: 7.108 min Scan# 2127
Delta R.T. 0.005 min
Lab File: 48512-03.D
Acq: 21 Oct 2019 03:14 pm

Tgt Ion:252 Resp: 210

Ion	Ratio	Lower	Upper
252	100		
253	0.0	17.3	25.9#



Quantitation Report (QT Reviewed)

Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-04.D
Acq On : 21 Oct 2019 03:30 pm
Operator : SV125:cb
Sample : l1948512-04,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 22 12:57:12 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	2.196	152	22096	4000.000	ng/ml	0.00
Standard Area 1 = 26099			Recovery = 84.66%			
8) Naphthalene-d8	2.876	136	79622	4000.000	ng/ml	0.00
Standard Area 1 = 93727			Recovery = 84.95%			
17) Acenaphthene-d10	3.868	164	43765	4000.000	ng/ml	0.00
Standard Area 1 = 52732			Recovery = 83.00%			
21) Phenanthrene-d10	4.716	188	94308	4000.000	ng/ml	0.00
Standard Area 1 = 111411			Recovery = 84.65%			
30) Chrysene-d12	6.259	240	93456	4000.000	ng/ml	0.00
Standard Area 1 = 102905			Recovery = 90.82%			
34) Perylene-d12	7.444	264	108045	4000.000	ng/ml	0.00
Standard Area 1 = 120235			Recovery = 89.86%			
System Monitoring Compounds						
2) 2-Fluorophenol	1.586	112	14597	2465.897	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 4931.79%#			
3) Phenol-d6	2.013	99	16314	2388.687	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 4777.37%#			
7) Nitrobenzene-d5	2.487	82	10377	1825.885	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 7303.54%#			
14) 2-Fluorobiphenyl	3.485	172	31979	2059.446	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 8237.78%#			
20) 2,4,6-Tribromophenol	4.321	330	10668	4546.772	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 9093.54%#			
29) 4-Terphenyl-d14	5.632	244	45177	2532.409	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 10129.64%#			
Target Compounds						Qvalue
6) Hexachloroethane	0.000		0	N.D.	d	
9) Naphthalene	0.000		0	N.D.	d	
11) Hexachlorobutadiene	0.000		0	N.D.		
12) 2-Methylnaphthalene	3.275	142	106	8.068	ng/ml#	80
15) 2-Chloronaphthalene	0.000		0	N.D.		
16) Acenaphthylene	0.000		0	N.D.	d	
18) Acenaphthene	0.000		0	N.D.		
19) Fluorene	0.000		0	N.D.		
23) Hexachlorobenzene	0.000		0	N.D.		
24) Pentachlorophenol	0.000		0	N.D.	d	

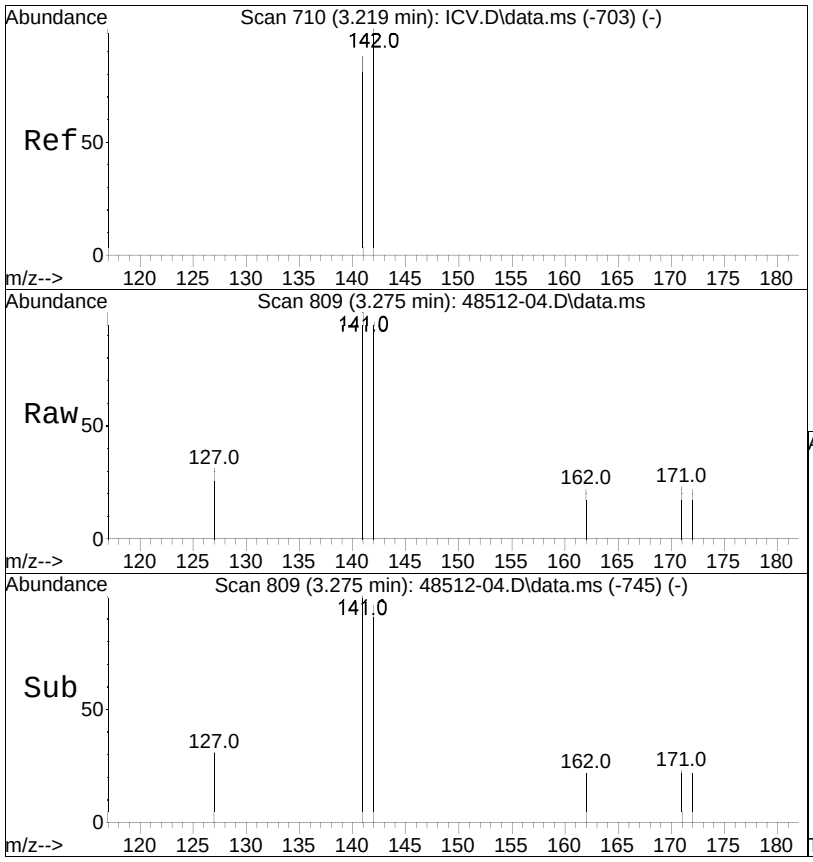
Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-04.D
Acq On : 21 Oct 2019 03:30 pm
Operator : SV125:cb
Sample : l1948512-04,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 22 12:57:12 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) Phenanthrene	4.730	178	145M6	5.790	ng/ml	
26) Anthracene	4.759	178	121	5.014	ng/ml#	63
27) Fluoranthene	5.411	202	128	4.591	ng/ml#	74
28) Pyrene	5.542	202	111M3	3.839	ng/ml	
31) Benzo[a]anthracene	6.253	226	204	25.983	ng/ml#	45
32) Chrysene	6.274	228	157M3	5.517	ug/ml	
35) Benzo[b]fluoranthene	7.084	252	1139	41.138	ng/ml	98
36) Benzo[k]fluoranthene	7.106	252	375M3	13.455	ng/ml	
37) Benzo[a]pyrene	7.388	252	661	25.731	ng/ml	98
38) Indeno[1,2,3-cd]pyrene	8.655	276	924	35.638	ng/ml#	88
39) Dibenzo[a,h]anthracene	8.686	278	161	6.097	ng/ml#	60
40) Benzo[g,h,i]perylene	8.991	276	915	32.756	ng/ml	92

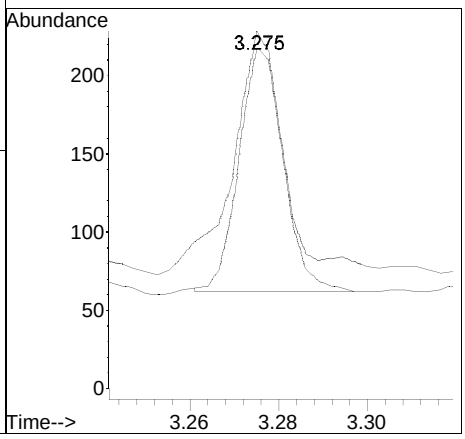
(#) = qualifier out of range (m) = manual integration (+) = signals summed

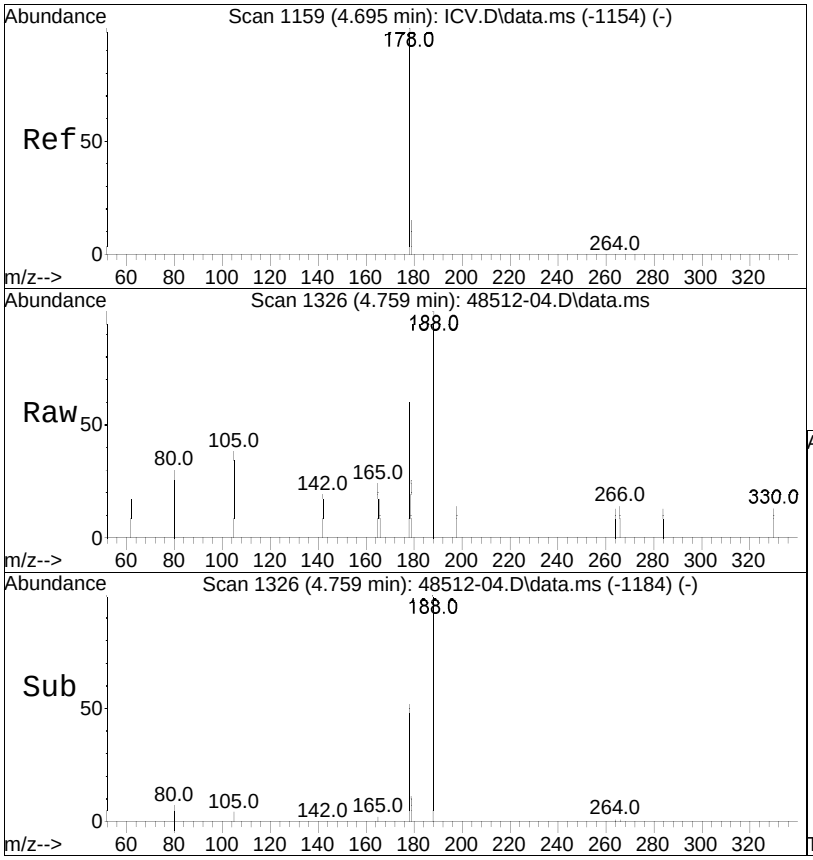


#12
2-Methylnaphthalene
Concen: 8.07 ng/ml
RT: 3.275 min Scan# 809
Delta R.T. -0.000 min
Lab File: 48512-04.D
Acq: 21 Oct 2019 03:30 pm

Tgt Ion:142 Resp: 106

Ion	Ratio	Lower	Upper
142	100		
141	107.5	71.3	106.9#

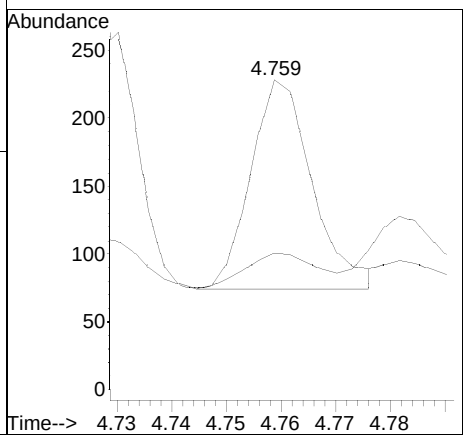


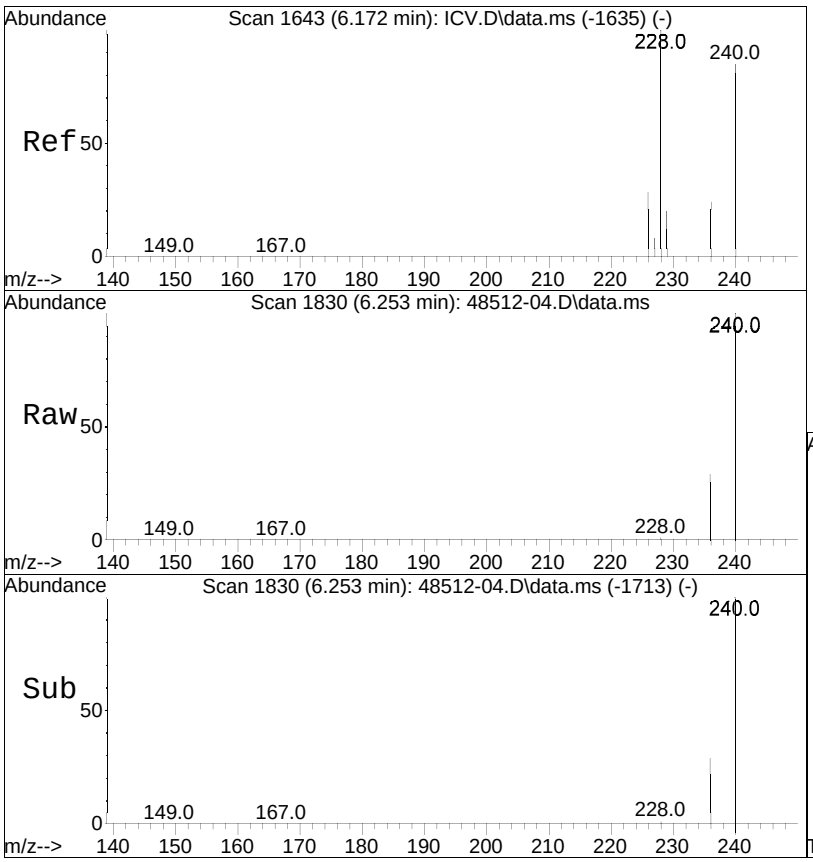


#26
Anthracene
Concen: 5.01 ng/ml
RT: 4.759 min Scan# 1326
Delta R.T. 0.003 min
Lab File: 48512-04.D
Acq: 21 Oct 2019 03:30 pm

Tgt Ion:178 Resp: 121

Ion	Ratio	Lower	Upper
178	100		
179	0.0	12.2	18.4#

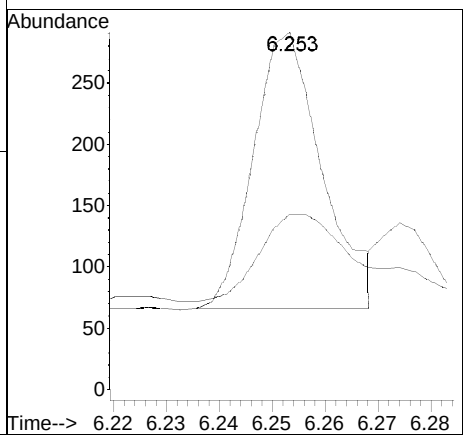


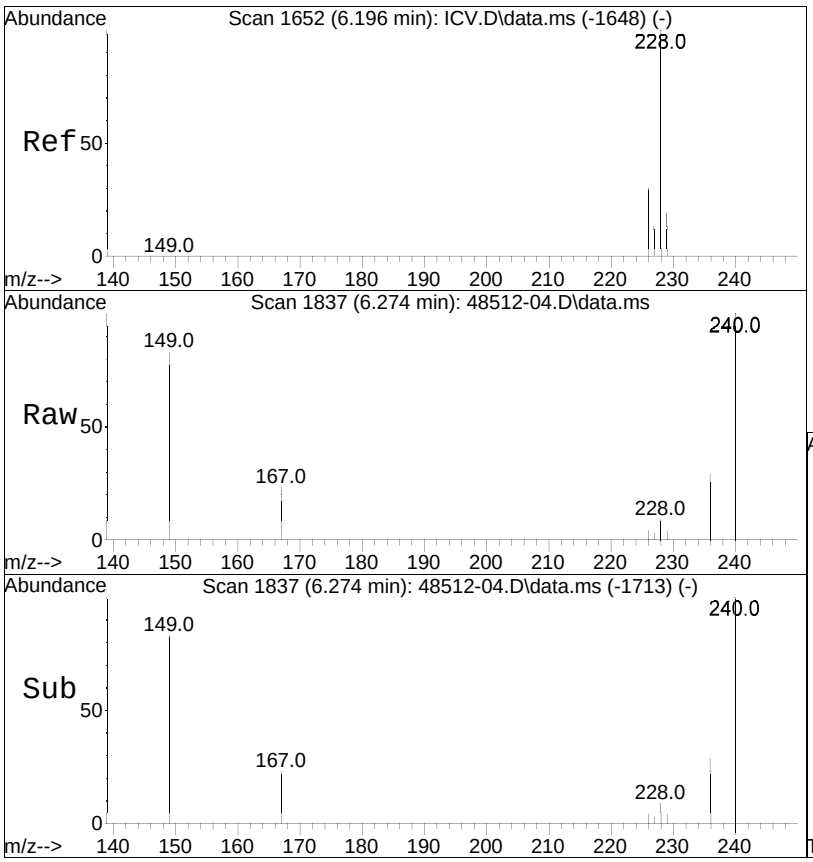


#31
Benzo[a]anthracene
Concen: 25.98 ng/ml
RT: 6.253 min Scan# 1830
Delta R.T. 0.006 min
Lab File: 48512-04.D
Acq: 21 Oct 2019 03:30 pm

Tgt Ion:226 Resp: 204

Ion	Ratio	Lower	Upper
226	100		
227	0.0	23.4	35.2#

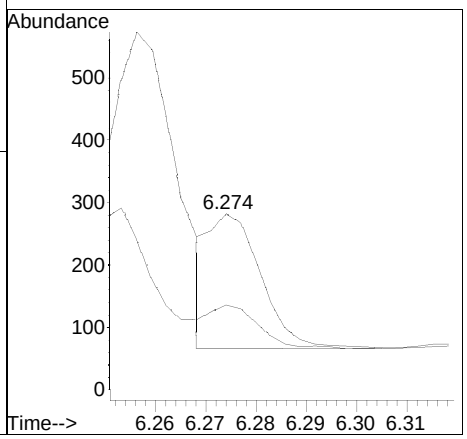


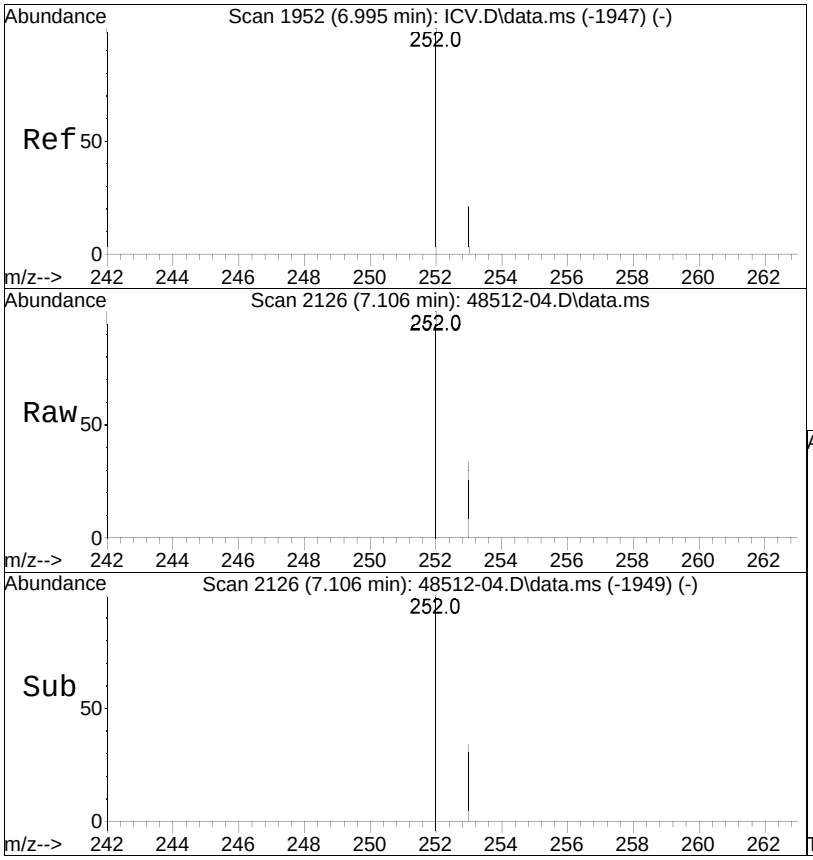


#32
Chrysene
Concen: 5.52 ug/ml M3
RT: 6.274 min Scan# 1837
Delta R.T. -0.000 min
Lab File: 48512-04.D
Acq: 21 Oct 2019 03:30 pm

Tgt Ion:228 Resp: 157

Ion	Ratio	Lower	Upper
228	100		
226	129.9	23.7	35.5#

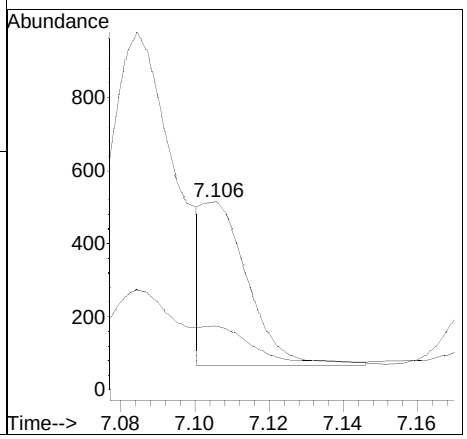


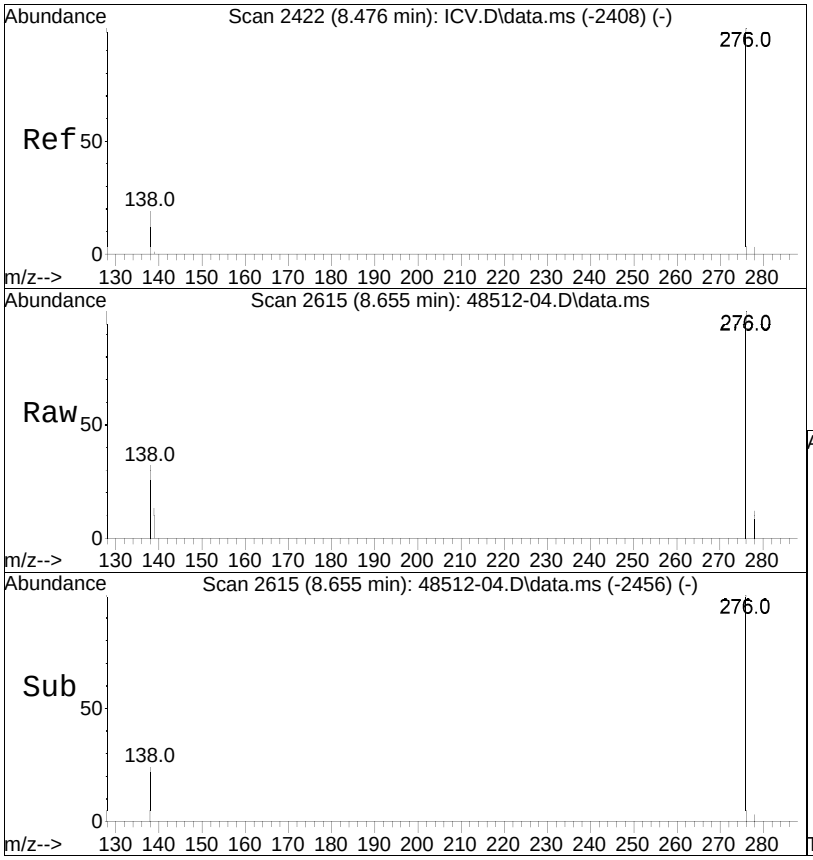


#36
Benzo[k]fluoranthene
Concen: 13.45 ng/ml M3
RT: 7.106 min Scan# 2126
Delta R.T. 0.003 min
Lab File: 48512-04.D
Acq: 21 Oct 2019 03:30 pm

Tgt Ion:252 Resp: 375

Ion	Ratio	Lower	Upper
252	100		
253	62.7	17.3	25.9#

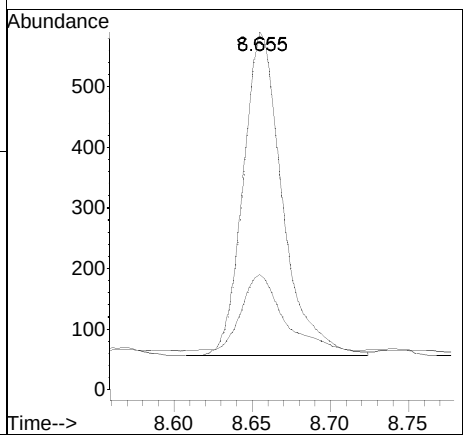


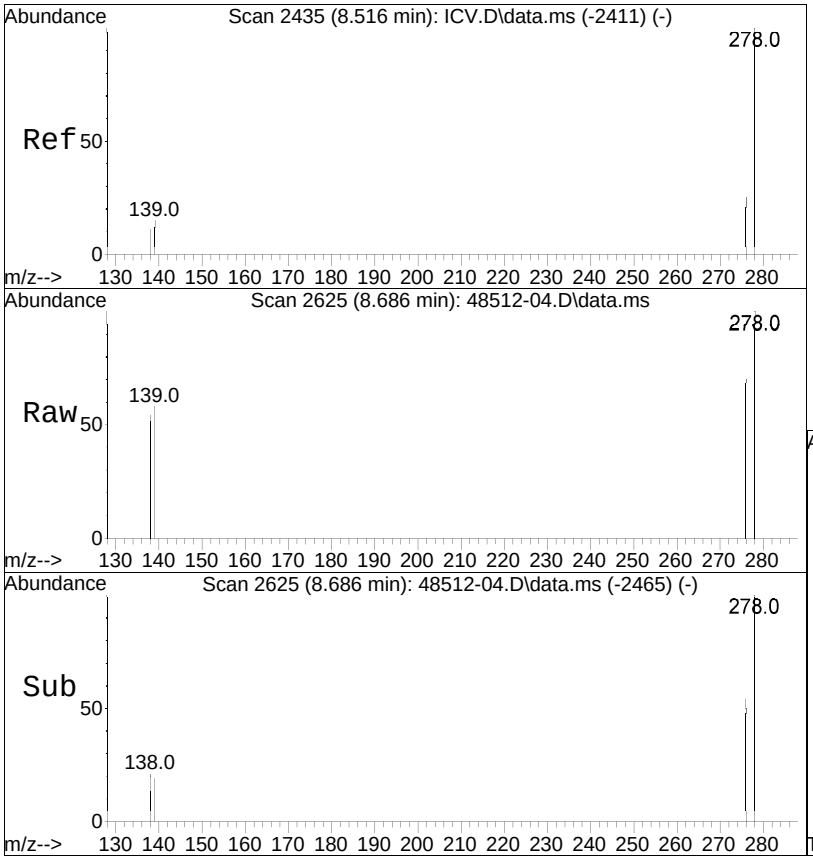


#38
Indeno[1,2,3-cd]pyrene
Concen: 35.64 ng/ml
RT: 8.655 min Scan# 2615
Delta R.T. 0.007 min
Lab File: 48512-04.D
Acq: 21 Oct 2019 03:30 pm

Tgt Ion:276 Resp: 924

Ion	Ratio	Lower	Upper
276	100		
138	26.0	16.5	24.7#

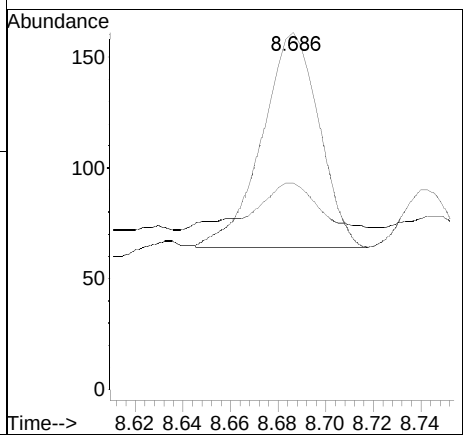




#39
Dibenzo[a,h]anthracene
Concen: 6.10 ng/ml
RT: 8.686 min Scan# 2625
Delta R.T. 0.004 min
Lab File: 48512-04.D
Acq: 21 Oct 2019 03:30 pm

Tgt Ion:278 Resp: 161

Ion	Ratio	Lower	Upper
278	100		
139	0.0	13.8	20.8#



Quantitation Report (QT Reviewed)

Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-05.D
Acq On : 21 Oct 2019 03:46 pm
Operator : SV125:cb
Sample : l1948512-05,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 22 12:58:11 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	2.196	152	25406	4000.000	ng/ml	0.00
Standard Area 1 = 26099			Recovery = 97.34%			
8) Naphthalene-d8	2.876	136	92505	4000.000	ng/ml	0.00
Standard Area 1 = 93727			Recovery = 98.70%			
17) Acenaphthene-d10	3.869	164	50241	4000.000	ng/ml	0.00
Standard Area 1 = 52732			Recovery = 95.28%			
21) Phenanthrene-d10	4.716	188	106015	4000.000	ng/ml	0.00
Standard Area 1 = 111411			Recovery = 95.16%			
30) Chrysene-d12	6.260	240	99891	4000.000	ng/ml	0.00
Standard Area 1 = 102905			Recovery = 97.07%			
34) Perylene-d12	7.444	264	118324	4000.000	ng/ml	0.00
Standard Area 1 = 120235			Recovery = 98.41%			
System Monitoring Compounds						
2) 2-Fluorophenol	1.586	112	21166	3109.764	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 6219.53%#			
3) Phenol-d6	2.013	99	22164	2822.437	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 5644.87%#			
7) Nitrobenzene-d5	2.487	82	13573	2077.087	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 8308.35%#			
14) 2-Fluorobiphenyl	3.486	172	39011	2162.423	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 8649.69%#			
20) 2,4,6-Tribromophenol	4.321	330	11182	4176.855	ng/ml	0.00
Spiked Amount 50.000	Range 15 - 110		Recovery = 8353.71%#			
29) 4-Terphenyl-d14	5.632	244	45449	2266.324	ng/ml	0.00
Spiked Amount 25.000	Range 30 - 130		Recovery = 9065.30%#			
Target Compounds						Qvalue
6) Hexachloroethane	0.000		0	N.D.		
9) Naphthalene	2.887	128	207	9.205	ng/ml#	69
11) Hexachlorobutadiene	0.000		0	N.D.		
12) 2-Methylnaphthalene	0.000		0	N.D.		
15) 2-Chloronaphthalene	0.000		0	N.D.		
16) Acenaphthylene	0.000		0	N.D. d		
18) Acenaphthene	0.000		0	N.D.		
19) Fluorene	0.000		0	N.D.		
23) Hexachlorobenzene	0.000		0	N.D.		
24) Pentachlorophenol	0.000		0	N.D.		

Quantitation Report (QT Reviewed)

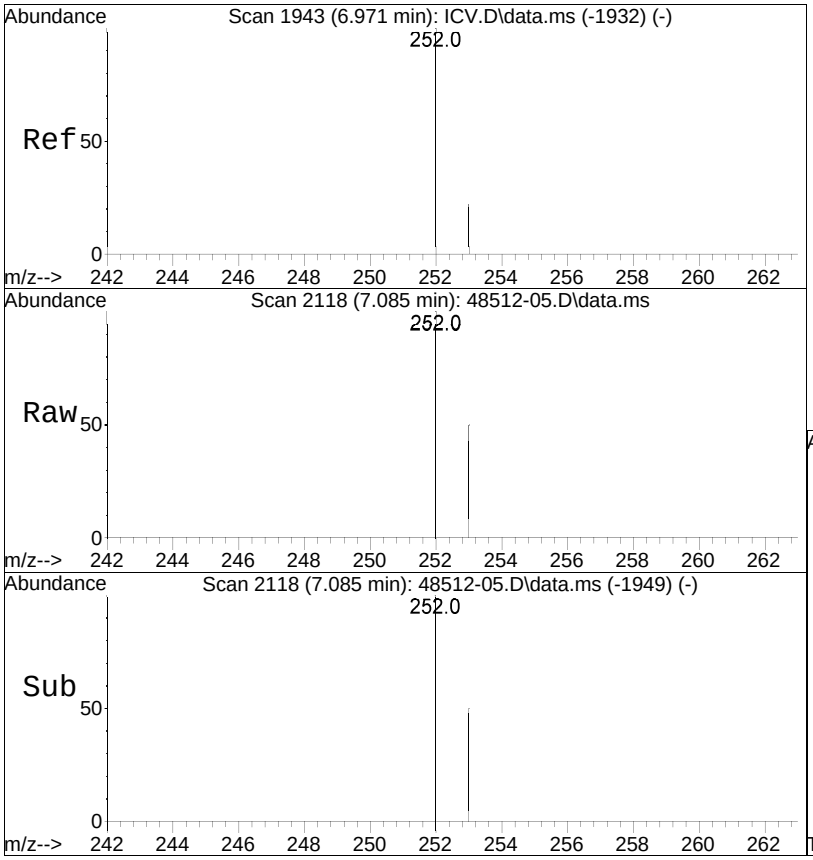
Data Path : I:\8270SIM\SV125\191021LVI\
Data File : 48512-05.D
Acq On : 21 Oct 2019 03:46 pm
Operator : SV125:cb
Sample : l1948512-05,32,,nytcl,jjw
Misc : wg1298638,wg1298384,ical16017
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 22 12:58:11 2019
Quant Method : I:\8270SIM\SV125\191021LVI\SIM-LVI_190807_sv125.M
Quant Title : Semivolatiles by GC/MS by modified 8270
QLast Update : Mon Oct 21 10:23:53 2019
Response via : Initial Calibration

CCAL FILE(s) : 1 - I:\8270SIM\SV125\191021LVI\CCV1021.D
Sub List : Default - All compounds listed

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
25) Phenanthrene	4.730	178	168M6	5.967	ng/ml	
26) Anthracene	4.762	178	37M3	1.364	ng/ml	
27) Fluoranthene	0.000		0	N.D.		
28) Pyrene	0.000		0	N.D.	d	
31) Benzo[a]anthracene	0.000		0	N.D.		
32) Chrysene	0.000		0	N.D.	d	
35) Benzo[b]fluoranthene	7.085	252	163M1	5.376	ng/ml	
36) Benzo[k]fluoranthene	7.104	252	61M3	1.999	ng/ml	
37) Benzo[a]pyrene	7.388	252	99M3	3.519	ng/ml	
38) Indeno[1,2,3-cd]pyrene	8.658	276	134M4	4.719	ng/ml	
39) Dibenzo[a,h]anthracene	0.000		0	N.D.		
40) Benzo[g,h,i]perylene	8.994	276	131	4.282	ng/ml#	53

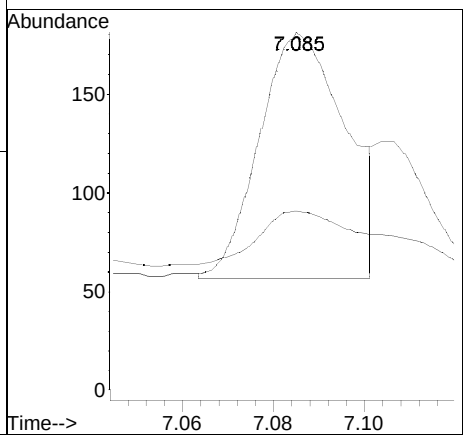
(#) = qualifier out of range (m) = manual integration (+) = signals summed

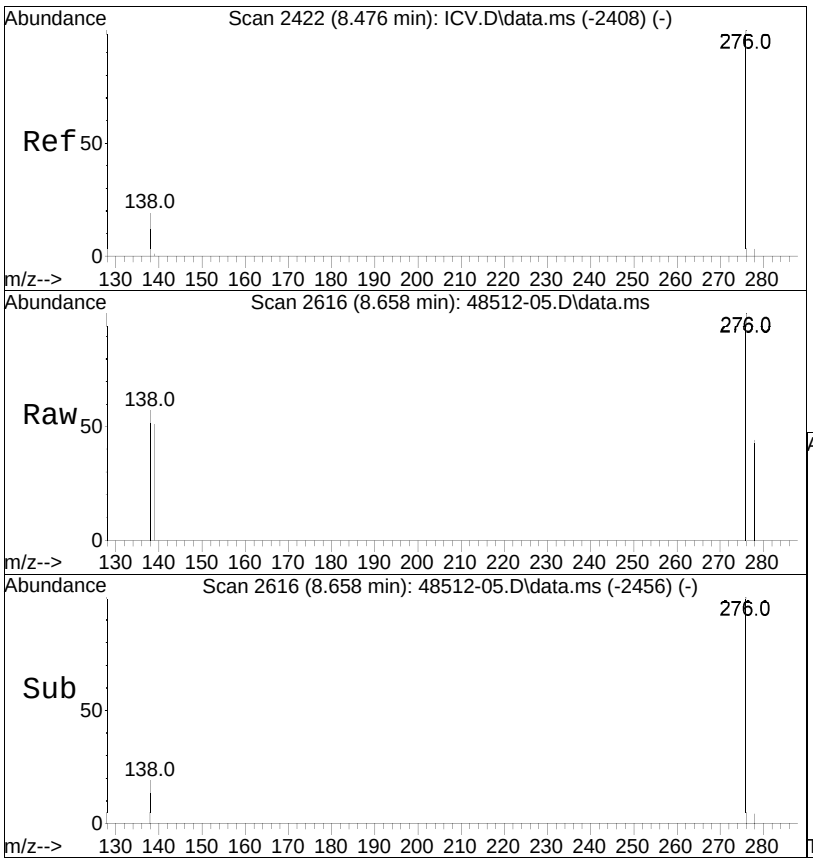


#35
Benzo[b]fluoranthene
Concen: 5.38 ng/ml M1
RT: 7.085 min Scan# 2118
Delta R.T. 0.006 min
Lab File: 48512-05.D
Acq: 21 Oct 2019 03:46 pm

Tgt Ion:252 Resp: 163

Ion	Ratio	Lower	Upper
252	100		
253	0.0	17.2	25.8#

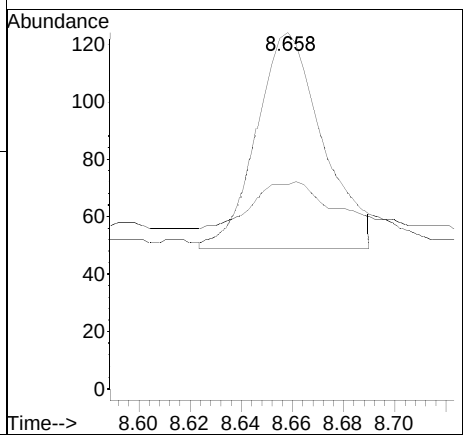


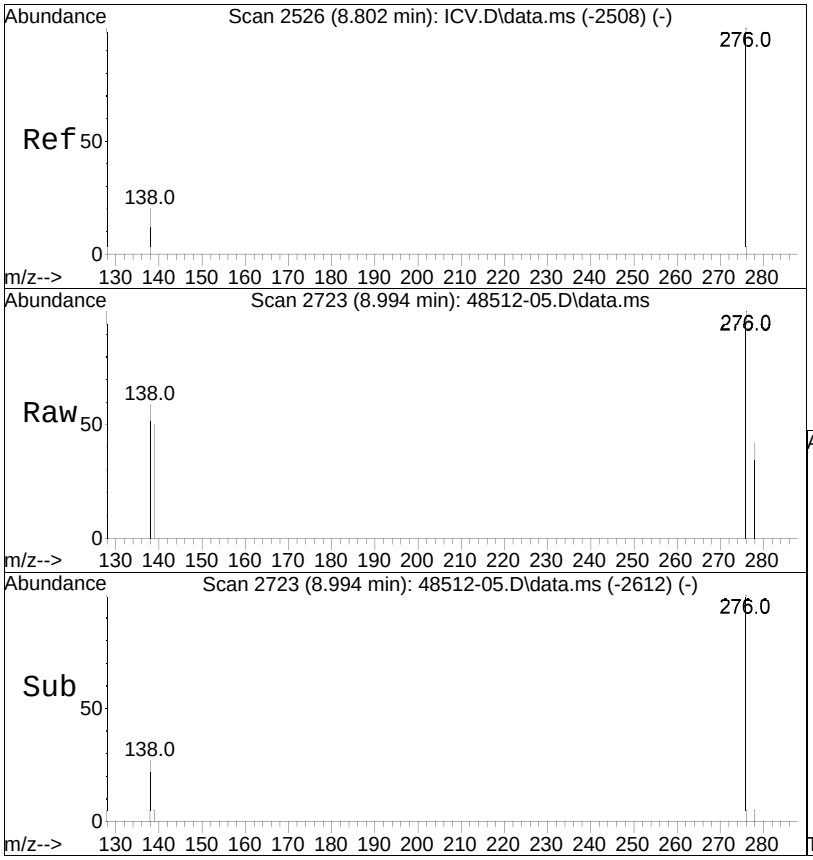


#38
Indeno[1,2,3-cd]pyrene
Concen: 4.72 ng/ml M4
RT: 8.658 min Scan# 2616
Delta R.T. 0.011 min
Lab File: 48512-05.D
Acq: 21 Oct 2019 03:46 pm

Tgt Ion:276 Resp: 134

Ion	Ratio	Lower	Upper
276	100		
138	0.0	16.5	24.7#

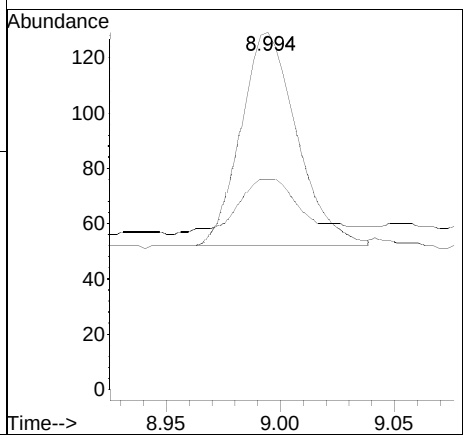




#40
Benzo[g,h,i]perylene
Concen: 4.28 ng/ml
RT: 8.994 min Scan# 2723
Delta R.T. 0.007 min
Lab File: 48512-05.D
Acq: 21 Oct 2019 03:46 pm

Tgt Ion:276 Resp: 131

Ion	Ratio	Lower	Upper
276	100		
138	0.0	18.1	27.1#



Surrogate Recovery Summary
Form 2
Pesticides

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1948512
Project Number: G6-2420
Matrix: Water

GC Column 1: CLPPesticides
GC Column 2: CLPPesticidesII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
MW-2 (L1948512-01)	64	77	60	70			0
MW-3 (L1948512-02)	93	90	88	85			0
MW-4 (L1948512-03)	92	89	84	77			0
MW-5 (L1948512-04)	64	66	61	57			0
FIELD BLANK (L1948512-05)	85	82	76	73			0
WG1298185-1BLANK	75	72	67	61			0
WG1298185-2LCS	74	72	73	68			0
WG1298185-3LCSD	67	82	66	61			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Laboratory Control Sample Summary
Form 3
Pesticides

Client : Hillmann Consulting, LLC
Lab Number : L1948512
Project Name : G6-2420
Project Number : G6-2420
Matrix : WATER
LCS Sample ID : WG1298185-2 **Analysis Date** : 10/19/19 21:47 **File ID** : 11191019a-19
LCSD Sample ID : WG1298185-3 **Analysis Date** : 10/19/19 21:57 **File ID** : 11191019a-20

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Delta-BHC	0.357	0.258	72	0.357	0.238	67	8	30-150	20
Lindane	0.357	0.251	70	0.357	0.222	62	12	30-150	20
Alpha-BHC	0.357	0.277	78	0.357	0.245	69	12	30-150	20
Beta-BHC	0.357	0.257	72	0.357	0.226	63	13	30-150	20
Heptachlor	0.357	0.224	63	0.357	0.193	54	15	30-150	20
Aldrin	0.357	0.266	75	0.357	0.232	65	14	30-150	20
Heptachlor epoxide	0.357	0.277	78	0.357	0.246	69	12	30-150	20
Endrin	0.357	0.274	77	0.357	0.243	68	12	30-150	20
Endrin aldehyde	0.357	0.233	65	0.357	0.206	58	12	30-150	20
Endrin ketone	0.357	0.256	72	0.357	0.226	63	12	30-150	20
Dieldrin	0.357	0.291	82	0.357	0.259	73	12	30-150	20
4,4'-DDE	0.357	0.306	86	0.357	0.273	76	11	30-150	20
4,4'-DDD	0.357	0.255	71	0.357	0.224	63	13	30-150	20
4,4'-DDT	0.357	0.233	65	0.357	0.205	57	13	30-150	20
Endosulfan I	0.357	0.262	73	0.357	0.233	65	12	30-150	20
Endosulfan II	0.357	0.262	73	0.357	0.233	65	12	30-150	20
Endosulfan sulfate	0.357	0.258	72	0.357	0.234	66	10	30-150	20
Methoxychlor	0.357	0.250	70	0.357	0.219	61	13	30-150	20
cis-Chlordane	0.357	0.255	71	0.357	0.225	63	13	30-150	20
trans-Chlordane	0.357	0.255	71	0.357	0.226	63	12	30-150	20

Form 1
METALS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: L1948512-05	**Date Collected**	: 10/16/19 11:40
Client ID	: FIELD BLANK	**Date Received**	: 10/16/19
Sample Location	: NY	**Date Analyzed**	: 10/22/19 13:18
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: AM
Lab File ID	: WG1298999.pdf	**Instrument ID**	: ICPMSQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 10/21/19

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7429-90-5	Aluminum, Dissolved	ND	0.0100	0.00327	U
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	0.00064	0.00050	0.00017	
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	0.0529	0.100	0.0394	J
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	ND	0.00050	0.00016	U
7440-50-8	Copper, Dissolved	0.00162	0.00100	0.00038	
7439-89-6	Iron, Dissolved	ND	0.0500	0.0191	U
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	ND	0.0700	0.0242	U
7439-96-5	Manganese, Dissolved	ND	0.00100	0.00044	U
7440-02-0	Nickel, Dissolved	ND	0.00200	0.00055	U
7440-09-7	Potassium, Dissolved	ND	0.100	0.0309	U
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	0.235	0.100	0.0293	
7440-28-0	Thallium, Dissolved	0.00023	0.00050	0.00014	J
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

Form 1
METALS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948512
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: WG1298746-1	**Date Collected**	: NA
Client ID	: WG1298746-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 10/22/19 11:16
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: AM
Lab File ID	: WG1298999.pdf	**Instrument ID**	: ICPMSQ
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 10/21/19

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7429-90-5	Aluminum, Dissolved	ND	0.0100	0.00327	U
7440-36-0	Antimony, Dissolved	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Dissolved	ND	0.00050	0.00016	U
7440-39-3	Barium, Dissolved	ND	0.00050	0.00017	U
7440-41-7	Beryllium, Dissolved	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Dissolved	ND	0.00020	0.00005	U
7440-70-2	Calcium, Dissolved	ND	0.100	0.0394	U
7440-47-3	Chromium, Dissolved	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Dissolved	ND	0.00050	0.00016	U
7440-50-8	Copper, Dissolved	ND	0.00100	0.00038	U
7439-89-6	Iron, Dissolved	ND	0.0500	0.0191	U
7439-92-1	Lead, Dissolved	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Dissolved	ND	0.0700	0.0242	U
7439-96-5	Manganese, Dissolved	ND	0.00100	0.00044	U
7440-02-0	Nickel, Dissolved	ND	0.00200	0.00055	U
7440-09-7	Potassium, Dissolved	ND	0.100	0.0309	U
7782-49-2	Selenium, Dissolved	ND	0.00500	0.00173	U
7440-22-4	Silver, Dissolved	ND	0.00040	0.00016	U
7440-23-5	Sodium, Dissolved	0.0516	0.100	0.0293	J
7440-28-0	Thallium, Dissolved	0.00030	0.00100	0.00014	J
7440-62-2	Vanadium, Dissolved	ND	0.00500	0.00157	U
7440-66-6	Zinc, Dissolved	ND	0.01000	0.00341	U

November 22, 2019

Mr. Chris Hirschmann, CHMM
Hillmann Consulting, LLC
1600 Route 22 East
Union, N.J. 07083

Re: Data Usability Summary Report – Alpha Analytical – Groundwater Samples

Dear Mr. Hirschman:

The evaluation of analytical data for per- and polyfluoroalkyl substances (PFAS) analysis by Alpha Analytical for four groundwaters and one field blank for project G6-2420, which were reported in a single data package under Job No. L1953183 (Rev1), has been completed. The data package was received by ddms, inc. (ddms) for review, and the following samples were reported:

MW-2	MW-3	MW-4
MW-5	FIELD BLANK	

Analyses were performed in accordance with a modified Method 537 (PFAS). ddms' review was performed, to the extent possible, in accordance with the analytical methods and "DER-10/Technical Guidance for Site Investigation and Remediation". Professional judgment was applied as necessary and appropriate. Qualifiers consistent with those defined by EPA Region 2 were applied as necessary and appropriate.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See Following Sections
4.	Have all of the data been generated using established and agreed upon analytical protocols?	No – See Documentation Section
5.	Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6.	Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7.	Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes

Based on the data review effort, results are usable, with the following qualifications:

- The results for all PFAS compounds in all samples were qualified as estimated (J, UJ) because the samples were extracted outside the method hold time.

- The result for perfluorohexanoic acid (PFHxA) in FIELD BLANK was qualified as not detected (U) at the reporting limit because the sample concentration is less than five times the concentration in the field blank.

- The results for perfluorohexanesulfonic acid (PFHxS) in all samples were qualified as estimated (UJ) due to low recovery in corresponding labeled analog (br-PFHxS) in the continuing calibration (CC) standard.

- The results for perfluorooctanesulfonamide (FOSA) in all samples were qualified as estimated (UJ) due to low recovery in the corresponding labeled analog.

- The result for PFHxA in MW-4 was qualified as estimated (UJ) due to low recovery in the corresponding labeled analog.

All qualifiers applied as a result of the validation process are reflected on the table included as Attachment A to this report. Only the samples documenting qualification of data have been included in this table. Qualifier definitions are also provided in the attachment. Copies of the chain of custody records are provided in Attachment B. Pages from the data package illustrating the exceedances and issues described in this validation report are included as Attachment C.

The following components were reviewed, where applicable:

- Chain of Custody
- Receiving conditions
- Holding times
- Preservation
- Analyte lists
- Reporting limits
- Requested methods
- Units
- Sample related quality control data:
    - Method blanks
    - Field blank
    - Surrogate recoveries
    - LCS/LCSD recoveries
    - MS/MSD recoveries
    - Internal standard areas
    - Duplicates
- Instrument related quality control data:
    - Instrument tunes
    - Calibration summaries

In the remaining sections of this report, only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed.

When a sample result is qualified estimated 'J' in addition to estimated 'J+' or 'J-', the 'J' qualifier takes precedence and the bias is indeterminate. When a sample result is rejected (R), the 'R' qualifier takes precedence over any previous qualification.

Documentation: A completeness review of the data package was performed, and the data package was determined to be a complete Category B data package. Issues observed during the review are detailed below:

- The samples were analyzed using a laboratory modified Method 537.
- The compound names and abbreviations reported on the summary forms for some compounds are slightly different than those in the electronic data deliverable (EDD). An example follows:
    - Perfluorotridecanoic Acid (PFTrDA) – summary form in data package
    - Perfluorotridecanoic Acid (PFTriA) - EDD

At the discretion of the data user, the laboratory may be contacted to address these discrepancies.

Holding Times, Preservation, Sample Integrity:

Copies of the applicable chain of custody (COC) records were included in the data package, documenting collection date of October 16, 2019. The samples were received by the laboratory on October 17, 2019. All samples were prepared 10 days beyond the 14 day hold time. The results for all PFAS compounds were qualified as estimated (J, UJ) on this basis. All samples were analyzed with the method specified 28 day hold time.

A. Per- and Polyfluoroalkyl substances (PFAS)

1. Calibration:

One initial calibration (IC) was performed in support of sample analyses. All RRFs and RSDs or correlation coefficients were acceptable. One mid-range CC standard and one low level CC was analyzed, and all percent recoveries were acceptable with the exception of Perfluorohexanesulfonic Acid-Branched (br-PFHxS) [26 %R]. Since PFHxS is reported as the sum of the branched and linear PFHxS, the results for PFHxS in all samples were qualified as estimated (UJ) due to low recovery in br-PFHxS.

Where the percent recovery was biased high and the compound was not detected in the samples, no qualification of sample results was warranted and is not discussed further.

2. Blanks

One method blank was prepared and analyzed in support of sample analyses. One field blank was submitted with this sample set. PFHxA [0.388 ng/L] was detected in the method blank. The result for PFHxA in FIELD BLANK was qualified as not detected (U) at the reporting limit because

the sample concentration is less than five times the concentration in the field blank. Following qualification based on the method blank, no targets were detected in the field blank.

3. Surrogates (Extracted Internal Standards/ Labeled Analogs):

All surrogate recoveries were acceptable (50-150%R) with the following exceptions:

Sample	Labeled Analog	%R
MW-2	1H,1H,2H,2H-Perfluoro[1,2-13c2]octanesulfonic acid (M2-6:2FTS)	167
	Perfluoro[13c8]octanesulfonamide (M8FOSA)	31
MW-3	1H,1H,2H,2H-Perfluoro[1,2-13c2]octanesulfonic acid (M2-6:2FTS)	154
	Perfluoro[13c8]octanesulfonamide (M8FOSA)	28
MW-4	Perfluoro[1,2,3,4,6-13c5]hexanoic acid (M5PFHXA)	49
	1H,1H,2H,2H-Perfluoro[1,2-13c2]octanesulfonic acid (M2-6:2FTS)	223
	Perfluoro[13c8]octanesulfonamide (M8FOSA)	42
	1H,1H,2H,2H-Perfluoro[1,2-13c2]decanesulfonic acid (M2-8:2FTS)	153
MW-5	Perfluoro[13c8]octanesulfonamide (M8FOSA)	35
FIELD BLANK	Perfluoro[13c8]octanesulfonamide (M8FOSA)	47

Sample results were qualified as detailed below based on recoveries outside acceptance limits for the labeled analog:

- In all cases where the recovery of the analog was biased high, the corresponding target compound was not detected in the samples and no qualification of sample results was warranted.

- The results for FOSA in all samples were qualified as estimated (UJ) due to low recovery in the corresponding labeled analog.

- The result for PFHxA in MW-4 was qualified as estimated (UJ) due to low recovery in the corresponding labeled analog.

No other qualifications to sample results were made.

Please feel free to contact me at (908) 370-3431 or jrossi@ddmsinc.com if you have any questions regarding this data package review report or need further information.

Sincerely,

de maximis Data Management Solutions, Inc.

Jeri L Rossi, CEAC
Sr. Environmental Chemist

ATTACHMENT A

Qualification Summary Table
Laboratory Job No. L1953183

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-5_20191016	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	1.06	1.74
MW-5_20191016	Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)			UJ	1.16	1.74
MW-5_20191016	N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine			UJ	0.700	1.74
MW-5_20191016	2-(N-methyl perfluorooctanesulfonamido) acetic acid			UJ	0.564	1.74
MW-5_20191016	Perfluorodecane Sulfonic Acid			UJ	0.854	1.74
MW-5_20191016	Perfluorodecanoic acid (PFDA)			UJ	0.265	1.74
MW-5_20191016	Perfluorododecanoic acid (PFDoA)			UJ	0.324	1.74
MW-5_20191016	Perfluoroheptane Sulfonate (PFHPS)			UJ	0.599	1.74
MW-5_20191016	Perfluorooctane Sulfonamide (FOSA)			UJ	0.505	1.74
MW-5_20191016	Perfluorotetradecanoic acid (PFTA)			UJ	0.216	1.74
MW-5_20191016	Perfluorotridecanoic Acid (PFTriA)			UJ	0.285	1.74
MW-5_20191016	Perfluoroundecanoic Acid (PFUnA)			UJ	0.226	1.74
MW-5_20191016	TOTAL PFOA AND PFOS	59.4	ng/l	J	0.206	1.74
MW-5_20191016	Perfluorobutanesulfonic acid (PFBS)	9.18	ng/l	J	0.207	1.74
MW-5_20191016	Perfluorobutanoic Acid	18.1	ng/l	J	0.355	1.74
MW-5_20191016	Perfluoroheptanoic acid (PFHpA)	17.2	ng/l	J	0.196	1.74
MW-5_20191016	Perfluorohexanesulfonic acid (PFHxS)	4.77	ng/l	J	0.328	1.74
MW-5_20191016	Perfluorohexanoic acid (PFHxA)	32.5	ng/l	J	0.286	1.74
MW-5_20191016	Perfluorononanoic acid (PFNA)	2.24	ng/l	J	0.272	1.74
MW-5_20191016	Perfluorooctanesulfonic acid (PFOS)	14.3	ng/l	J	0.439	1.74
MW-5_20191016	Perfluorooctanoic acid (PFOA)	45.1	ng/l	J	0.206	1.74
MW-5_20191016	Perfluoropentanoic Acid (PFPeA)	33.2	ng/l	J	0.345	1.74
MW-4_20191016	Perfluorononanoic acid (PFNA)	1.37	ng/l	J	0.278	1.78
MW-4_20191016	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	1.08	1.78
MW-4_20191016	Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)			UJ	1.19	1.78
MW-4_20191016	N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine			UJ	0.718	1.78
MW-4_20191016	2-(N-methyl perfluorooctanesulfonamido) acetic acid			UJ	0.578	1.78
MW-4_20191016	Perfluorodecane Sulfonic Acid			UJ	0.875	1.78
MW-4_20191016	Perfluorodecanoic acid (PFDA)			UJ	0.271	1.78
MW-4_20191016	Perfluorododecanoic acid (PFDoA)			UJ	0.332	1.78
MW-4_20191016	Perfluoroheptane Sulfonate (PFHPS)			UJ	0.614	1.78
MW-4_20191016	Perfluorooctane Sulfonamide (FOSA)			UJ	0.518	1.78
MW-4_20191016	Perfluorotetradecanoic acid (PFTA)			UJ	0.221	1.78
MW-4_20191016	Perfluorotridecanoic Acid (PFTriA)			UJ	0.292	1.78
MW-4_20191016	Perfluoroundecanoic Acid (PFUnA)			UJ	0.232	1.78
MW-4_20191016	TOTAL PFOA AND PFOS	37.1	ng/l	J	0.211	1.78
MW-4_20191016	Perfluorobutanesulfonic acid (PFBS)	8.66	ng/l	J	0.212	1.78
MW-4_20191016	Perfluorobutanoic Acid	16.1	ng/l	J	0.364	1.78
MW-4_20191016	Perfluoroheptanoic acid (PFHpA)	6.26	ng/l	J	0.201	1.78
MW-4_20191016	Perfluorohexanesulfonic acid (PFHxS)	4.88	ng/l	J	0.336	1.78
MW-4_20191016	Perfluorohexanoic acid (PFHxA)	13.1	ng/l	J	0.293	1.78
MW-4_20191016	Perfluorooctanesulfonic acid (PFOS)	5.10	ng/l	J	0.450	1.78
MW-4_20191016	Perfluorooctanoic acid (PFOA)	32.0	ng/l	J	0.211	1.78
MW-4_20191016	Perfluoropentanoic Acid (PFPeA)	14.0	ng/l	J	0.354	1.78
MW-3_20191016	Perfluorononanoic acid (PFNA)	1.12	ng/l	J	0.274	1.75
MW-3_20191016	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	1.06	1.75
MW-3_20191016	Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)			UJ	1.17	1.75
MW-3_20191016	N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine			UJ	0.705	1.75
MW-3_20191016	2-(N-methyl perfluorooctanesulfonamido) acetic acid			UJ	0.568	1.75
MW-3_20191016	Perfluorodecane Sulfonic Acid			UJ	0.860	1.75
MW-3_20191016	Perfluorodecanoic acid (PFDA)			UJ	0.267	1.75
MW-3_20191016	Perfluorododecanoic acid (PFDoA)			UJ	0.326	1.75
MW-3_20191016	Perfluoroheptane Sulfonate (PFHPS)			UJ	0.604	1.75
MW-3_20191016	Perfluorooctane Sulfonamide (FOSA)			UJ	0.509	1.75
MW-3_20191016	Perfluorotetradecanoic acid (PFTA)			UJ	0.218	1.75
MW-3_20191016	Perfluorotridecanoic Acid (PFTriA)			UJ	0.287	1.75
MW-3_20191016	Perfluoroundecanoic Acid (PFUnA)			UJ	0.228	1.75
MW-3_20191016	TOTAL PFOA AND PFOS	58.3	ng/l	J	0.207	1.75
MW-3_20191016	Perfluorobutanesulfonic acid (PFBS)	8.82	ng/l	J	0.209	1.75
MW-3_20191016	Perfluorobutanoic Acid	13.8	ng/l	J	0.358	1.75
MW-3_20191016	Perfluoroheptanoic acid (PFHpA)	11.6	ng/l	J	0.198	1.75
MW-3_20191016	Perfluorohexanesulfonic acid (PFHxS)	4.00	ng/l	J	0.330	1.75

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-3_20191016	Perfluorohexanoic acid (PFHxA)	21.0	ng/l	J	0.288	1.75
MW-3_20191016	Perfluorooctanesulfonic acid (PFOS)	11.1	ng/l	J	0.442	1.75
MW-3_20191016	Perfluorooctanoic acid (PFOA)	47.2	ng/l	J	0.207	1.75
MW-3_20191016	Perfluoropentanoic Acid (PFPeA)	20.4	ng/l	J	0.347	1.75
MW-2_20191016	Perfluorodecanoic acid (PFDA)	0.408	ng/l	J	0.287	1.89
MW-2_20191016	Perfluorohexanesulfonic acid (PFHxS)	1.50	ng/l	J	0.355	1.89
MW-2_20191016	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	1.14	1.89
MW-2_20191016	Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)			UJ	1.26	1.89
MW-2_20191016	N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine			UJ	0.758	1.89
MW-2_20191016	2-(N-methyl perfluorooctanesulfonamido) acetic acid			UJ	0.611	1.89
MW-2_20191016	Perfluorodecane Sulfonic Acid			UJ	0.924	1.89
MW-2_20191016	Perfluorododecanoic acid (PFDoA)			UJ	0.351	1.89
MW-2_20191016	Perfluoroheptane Sulfonate (PFHPS)			UJ	0.649	1.89
MW-2_20191016	Perfluorooctane Sulfonamide (FOSA)			UJ	0.547	1.89
MW-2_20191016	Perfluorotetradecanoic acid (PFTA)			UJ	0.234	1.89
MW-2_20191016	Perfluorotridecanoic Acid (PFTriA)			UJ	0.309	1.89
MW-2_20191016	Perfluoroundecanoic Acid (PFUnA)			UJ	0.245	1.89
MW-2_20191016	TOTAL PFOA AND PFOS	41.1	ng/l	J	0.223	1.89
MW-2_20191016	Perfluorobutanesulfonic acid (PFBS)	5.75	ng/l	J	0.224	1.89
MW-2_20191016	Perfluorobutanoic Acid	12.0	ng/l	J	0.385	1.89
MW-2_20191016	Perfluoroheptanoic acid (PFHpA)	8.67	ng/l	J	0.212	1.89
MW-2_20191016	Perfluorohexanoic acid (PFHxA)	18.2	ng/l	J	0.309	1.89
MW-2_20191016	Perfluorononanoic acid (PFNA)	3.33	ng/l	J	0.294	1.89
MW-2_20191016	Perfluorooctanesulfonic acid (PFOS)	16.9	ng/l	J	0.475	1.89
MW-2_20191016	Perfluorooctanoic acid (PFOA)	24.2	ng/l	J	0.223	1.89
MW-2_20191016	Perfluoropentanoic Acid (PFPeA)	18.3	ng/l	J	0.374	1.89
FIELD BLANK	Perfluorohexanoic acid (PFHxA)		ng/l	UJ	0.288	1.75
FIELD BLANK	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)			UJ	1.06	1.75
FIELD BLANK	Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)			UJ	1.17	1.75
FIELD BLANK	N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine			UJ	0.705	1.75
FIELD BLANK	2-(N-methyl perfluorooctanesulfonamido) acetic acid			UJ	0.568	1.75
FIELD BLANK	TOTAL PFOA AND PFOS			UJ	0.207	1.75
FIELD BLANK	Perfluorobutanesulfonic acid (PFBS)			UJ	0.209	1.75
FIELD BLANK	Perfluorobutanoic Acid			UJ	0.358	1.75
FIELD BLANK	Perfluorodecane Sulfonic Acid			UJ	0.860	1.75
FIELD BLANK	Perfluorodecanoic acid (PFDA)			UJ	0.267	1.75
FIELD BLANK	Perfluorododecanoic acid (PFDoA)			UJ	0.326	1.75
FIELD BLANK	Perfluoroheptane Sulfonate (PFHPS)			UJ	0.604	1.75
FIELD BLANK	Perfluoroheptanoic acid (PFHpA)			UJ	0.198	1.75
FIELD BLANK	Perfluorohexanesulfonic acid (PFHxS)			UJ	0.330	1.75
FIELD BLANK	Perfluorononanoic acid (PFNA)			UJ	0.274	1.75
FIELD BLANK	Perfluorooctane Sulfonamide (FOSA)			UJ	0.509	1.75
FIELD BLANK	Perfluorooctanesulfonic acid (PFOS)			UJ	0.442	1.75
FIELD BLANK	Perfluorooctanoic acid (PFOA)			UJ	0.207	1.75
FIELD BLANK	Perfluoropentanoic Acid (PFPeA)			UJ	0.347	1.75
FIELD BLANK	Perfluorotetradecanoic acid (PFTA)			UJ	0.218	1.75
FIELD BLANK	Perfluorotridecanoic Acid (PFTriA)			UJ	0.287	1.75
FIELD BLANK	Perfluoroundecanoic Acid (PFUnA)			UJ	0.228	1.75

EPA Qualifier Definitions

U	**The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.**
J	**The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.**
J+	**The result is an estimated quantity, but the result may be biased high.**
J-	**The result is an estimated quantity, but the result may be biased low.**
NJ	**The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.**
UJ	**The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.**
R	**The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.**

ATTACHMENT B

CHAIN OF CUSTODY RECORD
Laboratory Job No. L1953183

L1953183

KB 11/7/19

NEW JERSEY CHAIN OF CUSTODY

ALPHA

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page ___ of ___

Date Rec'd in Lab: 10/17/19

ALPHA Job #: L1948512

Client Information
Client: Hillmann Consulting
Address: 1600 Rt 22 E
Union NJ 07083
Phone: 908 688 7800
Fax:
Email: chirschmann@hillmanngroup.com

Project Information
Project Name: GG-2420
Project Location: NY
Project #: GG-2420
(Use Project name as Project #) ☒
Project Manager: C. Hirschmann
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ NJ Full / Reduced
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☒ Other NY Aw

Billing Information
☒ Same as Client Info
PO# GG-2420

Site Information
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

For EPH, selection is REQUIRED: ☐ Category 1 ☐ Category 2

For VOC, selection is REQUIRED: ☐ 1,4-Dioxane ☐ 8011

Other project specific requirements/comments:
(A) PFAA via EPA 537(M) NYS 21 compounds
Please specify Metals or (A).
Location: NY/EQuIS & ASP-B

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

	ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL/TCL+30	Lab filtered metals	Total Cyanide	PFAA (A)					Sample Specific Comments	Total Bottles
-01	48512-01	MW-2	10/16/19	0945	GW	DF	X	X	X	X						
-02	-02	MW-3	10/16/19	0910	GW	DF	X	X	X	X						
-03	-03	MW-4	10/16/19	1105	GW	DF	X	X	X	X						
-04	-04	MW 5	10/16/19	0835	GW	DF	X	X	X	X						
-05	-05	Field Blank	10/16/19	1140	Blank	DF	X	X	X							
	-06	Trip Blank														

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
R K [signature]	10-16-19 1555	[signature] VAA4	10-16-19 1555
[signature] VAA4	10-16-19 1730	[signature]	10/17/19 01:05

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-14 HC (rev. 30-Sept-2013)

ATTACHMENT C

SELECTED PAGES FROM DATA PACKAGE -
QC EXCEEDANCES AND VALIDATION ISSUES
Laboratory Job No. L1953183

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1953183
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: WG1306447-1	**Date Collected**	: NA
Client ID	: WG1306447-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 11/11/19 20:31
Sample Matrix	: WATER	**Date Extracted**	: 11/09/19
Analytical Method	: 134,LCMSMS-ID	**Dilution Factor**	: 1
Lab File ID	: I13020	**Analyst**	: JW
Sample Amount	: 250 g	**Instrument ID**	: LCMS02
Extraction Method	: EPA 537	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	2.00	0.408	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	2.00	0.396	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	2.00	0.238	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.388	2.00	0.328	J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	2.00	0.225	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	2.00	0.376	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	2.00	0.236	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	2.00	1.33	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	2.00	0.688	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	2.00	0.312	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	2.00	0.504	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	2.00	0.304	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	2.00	1.21	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	2.00	0.648	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	2.00	0.260	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	2.00	0.980	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	2.00	0.580	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	2.00	0.804	U

Calibration Verification Summary
Form 7
Semivolatiles

Client	: Hillmann Consulting, LLC		**Lab Number**	: L1953183	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: LCMS02		**Calibration Date**	: 11/12/19 00:22	
Lab File ID	: I13034		**Init. Calib. Date(s)**	: 10/18/19	10/19/19
Sample No	: WG1307185-3		**Init. Calib. Times**	: 23:07	01:19
Channel	:				

Compound	Concentration (ng/ml)	True Value (ng/ml)	% Recovery	QC Limits
Perfluorobutanoic Acid (PFBA)	0.504	0.500	100.9	50-150
Perfluoropentanoic Acid (PFPeA)	0.514	0.500	102.9	50-150
Perfluorobutanesulfonic Acid (PFBS)	0.416	0.440	94	50-150
Perfluorohexanoic Acid (PFHxA)	0.602	0.500	120.3	50-150
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.482	0.470	103.1	50-150
Perfluoropentanesulfonic Acid (PFPeS)	0.472	0.470	100.4	50-150
Perfluoroheptanoic Acid (PFHpA)	0.544	0.500	108.8	50-150
Perfluorohexanesulfonic Acid-Branched (br-PFHxS)	0.022	0.090	26*	50-150
Perfluorohexanesulfonic Acid-Linear (L-PFHxS)	0.385	0.370	104.2	50-150
Perfluorohexanesulfonic Acid (PFHxS)	0.408	0.460	-	50-150
Perfluorooctanoic Acid-Branched (br-PFOA)				
Perfluorooctanoic Acid-Linear (L-PFOA)	0.535	0.500	106.9	50-150
Perfluorooctanoic Acid (PFOA)	0.535	0.500	-	50-150
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	0.498	0.480	104.8	50-150
Perfluoroheptanesulfonic Acid (PFHpS)	0.401	0.480	84.5	50-150
Perfluorononanoic Acid (PFNA)	0.529	0.500	105.7	50-150
Perfluorooctanesulfonic Acid-Branched (br-PFOS)	0.059	0.100	58.6	50-150
Perfluorooctanesulfonic Acid-Linear (L-PFOS)	0.260	0.370	71.3	50-150
Perfluorooctanesulfonic Acid (PFOS)	0.319	0.460	-	50-150
Perfluorodecanoic Acid (PFDA)	0.501	0.500	100.3	50-150
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.710	0.480	147.9	50-150
Perfluorononanesulfonic Acid (PFNS)	0.455	0.480	94.9	50-150
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.492	0.500	-	50-150
br-NMeFOSAA				
L-NMeFOSAA	0.492		98.4	
Perfluoroundecanoic Acid (PFUnA)	0.478	0.500	95.6	50-150
Perfluorodecanesulfonic Acid (PFDS)	0.572	0.480	118.5	50-150
Perfluorooctanesulfonamide (FOSA)	0.468	0.500	93.5	50-150
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.511	0.500	-	50-150
br-NEtFOSAA				
L-NEtFOSAA	0.511		102.2	
Perfluorododecanoic Acid (PFDoA)	0.571	0.500	114.1	50-150
Perfluorotridecanoic Acid (PFTrDA)	0.661	0.500	132.2	50-150
Perfluorotetradecanoic Acid (PFTA)	0.565	0.500	113	50-150
Perfluoro[13C4]Butanoic Acid (MPFBA)	9.546	10.000	95.5	50-150
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	7.339	10.000	73.4	50-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	9.283	10.000	92.8	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	4.972	10.000	49.7*	50-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	7.365	10.000	73.6	50-150
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	8.959	10.000	89.6	50-150
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	8.948	10.000	89.5	50-150
Perfluoro[13C8]Octanoic Acid (M8PFOA)	9.781	10.000	97.8	50-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	5.191	10.000	51.9	50-150

*** Value outside of QC limits.**

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1953183
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 ()	S2 ()	S3 ()	S4 ()	S5 ()	S6 ()	S7 ()
MW-2 (L1953183-01)	91	66	100	61	80	99	92
MW-3 (L1953183-02)	90	65	98	60	79	101	93
MW-4 (L1953183-03)	87	53	90	49	68	90	85
MW-5 (L1953183-04)	91	70	92	63	80	95	92
FIELD BLANK (L1953183-05)	93	75	106	73	86	106	91
WG1306447-1BLANK	90	71	103	70	84	110	90
WG1306447-2LCS	91	73	101	70	84	104	91
WG1306447-3LCSD	91	73	102	69	83	96	89

QC LIMITS

(2-156)	S1 = PERFLUORO[13C4]BUTANOIC ACID (MPFBA)
(16-173)	S2 = PERFLUORO[13C5]PENTANOIC ACID (M5PFPEA)
(31-159)	S3 = PERFLUORO[2,3,4-13C3]BUTANESULFONIC ACID (M3PFBS)
(21-145)	S4 = PERFLUORO[1,2,3,4,6-13C5]HEXANOIC ACID (M5PFHXA)
(30-139)	S5 = PERFLUORO[1,2,3,4-13C4]HEPTANOIC ACID (M4PFHPA)
(47-153)	S6 = PERFLUORO[1,2,3-13C3]HEXANESULFONIC ACID (M3PFHXS)
(47-153)	S7 = PERFLUORO[13C8]OCTANOIC ACID (M8PFOA)

*** Values outside of QC limits**

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1953183
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S8 ()	S9 ()	S10 ()	S11 ()	S12 ()	S13 ()	S14 ()
MW-2 (L1953183-01)	167	103	91	80	131	95	87
MW-3 (L1953183-02)	154	102	94	80	87	76	77
MW-4 (L1953183-03)	223	97	85	78	153	114	86
MW-5 (L1953183-04)	125	100	88	81	67	78	81
FIELD BLANK (L1953183-05)	63	106	99	90	55	92	96
WG1306447-1BLANK	60	101	96	91	57	87	100
WG1306447-2LCS	61	103	95	93	52	96	97
WG1306447-3LCSD	65	98	90	84	50	83	89

QC LIMITS

(1-244) S8 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]OCTANESULFONIC ACID (M2-6:2FTS)
(34-146) S9 = PERFLUORO[13C9]NONANOIC ACID (M9PFNA)
(42-146) S10 = PERFLUORO[13C8]OCTANESULFONIC ACID (M8PFOS)
(38-144) S11 = PERFLUORO[1,2,3,4,5,6-13C6]DECANOIC ACID (M6PFDA)
(7-170) S12 = 1H,1H,2H,2H-PERFLUORO[1,2-13C2]DECANESULFONIC ACID (M2-8:2FTS)
(1-181) S13 = N-DEUTERIOMETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D3-NMEFOSAA)
(1-181) S14 = PERFLUORO[1,2,3,4,5,6,7-13C7]UNDECANOIC ACID (M7-PFUDA)

*** Values outside of QC limits**

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L1953183
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S15 ()	S16 ()	S17 ()	S18 ()	S19 ()	S20 ()	S21 ()	TOT OUT
MW-2 (L1953183-01)	31	86	78	72	--	--	--	0
MW-3 (L1953183-02)	28	77	73	73	--	--	--	0
MW-4 (L1953183-03)	42	115	86	83	--	--	--	0
MW-5 (L1953183-04)	35	81	79	75	--	--	--	0
FIELD BLANK (L1953183-05)	47	92	108	97	--	--	--	0
WG1306447-1BLANK	39	93	110	92	--	--	--	0
WG1306447-2LCS	43	97	109	102	--	--	--	0
WG1306447-3LCSD	38	91	97	63	--	--	--	0

QC LIMITS

(1-87) S15 = PERFLUORO[13C8]OCTANESULFONAMIDE (M8FOSA)
(23-146) S16 = N-DEUTERIOETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D5-NETFOSAA)
(24-161) S17 = PERFLUORO[1,2-13C2]DODECANOIC ACID (MPFDOA)
(33-143) S18 = PERFLUORO[1,2-13C2]TETRADECANOIC ACID (M2PFTEDA)

*** Values outside of QC limits**

FORM II A2-NY-537-ISOTOPE (Continued)

ORGANIC ELN REPORT

Workgroup: WG1306447

Prep Method: EPA 537
Solvent Type: Methanol
Surrogate Type: NA
Spike Type: 537
Spike Verify by: N/A
Lims Spikelot: 537I

Lot #: DX494-US
Lot #: LC_537_ISO_SURR_191107
Lot #: LC_537_ISO_LCS_191106

Additional Reagents/Stds

2% NH4OH	EC110719D
25 mM NaOAc	EC110719C
Acetic Acid	2018081300

Conc.Method: N-EVAP
Solvent Type: 80:20 Methanol/Wat
Lot #: EC110619E

Additional Reagents/Stds

IS	537_ISO_ISTD_191107

Cleanup 1

Cleanup Method 1:
Cleanup Method 2:
Solvent Type:
Lot #:

Additional Reagents/Stds

Extraction / **Concentration**

Sample/ Type	Extract Date	Analyst	Initial Sample Weight	Final Weight g	Sample Vol g	Balance Id	Surr Amt ml	Spike Amt ml	Pipette Id	Lot: Spe Cartrid	Flow Rate ml/min	Lot: Clnup Cartridg	Flow Rate 2 ml/min	Conc Date	Analyst	Final Vol ml	Conc Unit	Pipette Id
L1948351-01 WATER	11/09/19 19:35	Daniel Robbins	290	24	266	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 65 7	WHG-31/29
	5-4,20																	
L1948351-02 WATER	11/09/19 19:35	Daniel Robbins	296	25	271	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 65 7	WHG-31/29
	5-6,3																	
L1948351-03 WATER	11/09/19 19:35	Daniel Robbins	271	23	248	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 65 7	WHG-31/29
	1-1,19																	
L1948351-04 WATER	11/09/19 19:35	Daniel Robbins	273	23	250	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 65 7	WHG-31/29
	1-2,4																	
L1949451-01 WATER	11/09/19 19:35	Daniel Robbins	25	N/A	25	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 65 7	WHG-31/29
	1-3,39																	
L1949451-04 WATER	11/09/19 19:35	Daniel Robbins	25	N/A	25	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 65 7	WHG-31/29
	1-4,34																	

Reported: 22-NOV-19 02:32 PM

ORGANIC ELN REPORT

Workgroup: WG1306447

Sample/ Type	Extraction													Concentration				
	Extract Date	Analyst	Initial Sample Weight	Final Weight **g**	Sample Vol **g**	Balance Id	Surr Amt **ml**	Spike Amt **ml**	Pipette Id	Lot: Spe Cartrid	Flow Rate **ml/min**	Lot: Clnup Cartridg	Flow Rate 2 **ml/min**	Conc Date	Analyst	Final Vol **ml**	Conc Unit	Pipette Id
L1949451-05 WATER	11/09/19 19:35 **1-5,10**	Daniel Robbins	50	N/A	50	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1949451-06 WATER	11/09/19 19:35 **1-6,13**	Daniel Robbins	25	N/A	25	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1949451-07 WATER	11/09/19 19:35 **2-1,14**	Daniel Robbins	2.5	N/A	2.5	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1949451-08 WATER	11/09/19 19:35 **2-3,15**	Daniel Robbins	297	24	273	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1949883-01 WATER	11/09/19 19:35 **2-4,12**	Daniel Robbins	301	24	277	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1949883-07 WATER	11/09/19 19:35 **2-5,7**	Daniel Robbins	294	23	271	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1949883-10 WATER	11/09/19 19:35 **2-6,25**	Daniel Robbins	286	24	262	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1953183-01 SAMP	11/09/19 19:35 **3-1,26**	Daniel Robbins	289	24	265	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1953183-02 SAMP	11/09/19 19:35 **3-2,11**	Daniel Robbins	308	23	285	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1953183-03 SAMP	11/09/19 19:35 **3-3,32**	Daniel Robbins	303	23	280	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29

Reported: 22-NOV-19 02:32 PM

ORGANIC ELN REPORT

Workgroup: WG1306447

Sample/ Type	Extraction													Concentration					
	Extract Date	Analyst	Initial Sample Weight	Final Weight **g**	Sample Vol **g**	Balance Id	Surr Amt **ml**	Spike Amt **ml**	Pipette Id	Lot: Spe Cartrid	Flow Rate **ml/min**	Lot: Clnup Cartridg	Flow Rate 2 **ml/min**	Conc Date	Analyst	Final Vol **ml**	Conc Unit	Pipette Id
L1953183-04 SAMP	11/09/19 19:35 **3-4,17**	Daniel Robbins	310	23	287	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
L1953183-05 SAMP	11/09/19 19:35 **3-5,23**	Daniel Robbins	308	23	285	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
WG1306447-1 BLANK	11/09/19 19:35 **5-1,40**	Daniel Robbins	275	25	250	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25 **PUT ONTO THE NEVAP BY CP.**	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
WG1306447-2 LCS	11/09/19 19:35 **5-2,33**	Daniel Robbins	275	25	250	BAL-7	.02	.02	WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
WG1306447-3 LCSD	11/09/19 19:35 **5-3,28**	Daniel Robbins	275	25	250	BAL-7	.02	.02	WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
WG1306447-4 MS	11/09/19 19:35 **5-5,2**	Daniel Robbins	261	24	237	BAL-7	.02	.02	WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
WG1306447-5 DUP	11/09/19 19:35 **5-7,13**	Daniel Robbins	283	24	259	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29
WG1306447-6 DUP	11/09/19 19:35 **2-2,5**	Daniel Robbins	2.5	N/A	2.5	BAL-7	.02		WHG-31	S308-0095	4	1/1242/G	4	11/11/19 09:25	Laura Vanasse	1.0	NEVAP 657	WHG-31/29

Reported: 22-NOV-19 02:32 PM

November 22, 2019

Mr. Chris Hirschmann, CHMM
Hillmann Consulting, LLC
1600 Route 22 East
Union, N.J. 07083

Re: Data Usability Summary Report – Alpha Analytical – Groundwater Samples

Dear Mr. Hirschmann:

The evaluation of analytical data for volatile organic analysis by Alpha Analytical for three groundwaters for project G6-2420, which were reported in a single data package under Job No. L1948968, has been completed. The data package was received by ddms, inc. (ddms) for review, and the following samples were reported:

SP-2 SP-3 SP-4

Analyses were performed in accordance with USEPA Methods 8260C (Volatile Organic Compounds). ddms' review was performed, to the extent possible, in accordance with the analytical methods and "DER-10/Technical Guidance for Site Investigation and Remediation". Professional judgment was applied as necessary and appropriate. Qualifiers consistent with those defined by EPA Region 2 were applied as necessary and appropriate.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See Following Sections
4.	Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5.	Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6.	Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7.	Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes

Based on the data review effort, results are usable, with the following qualifications:

- The results for 2,2-dichloropropane and bromodichloromethane in SP-3 and SP-4 and the results for the 1,1-dichloroethene, vinyl acetate, cis-1,2-dichloroethene, bromodichloromethane and bromoform in SP-2 were qualified as estimated (J, UJ) due to unacceptable percent differences in the second source initial calibration verification (ICV) standard.

- The results for bromomethane, methyl-t-butyl ether and 2,2-dichloropropane in SP-3 and SP-4 and the results for carbon tetrachloride and bromoform in SP-2 were qualified as estimated (UJ) due to low response in the continuing calibration (CC) standard.

- The results for acetone in SP-3 and SP-4 were qualified as estimated (J+) due to high response in the associated CC.

- The results for bromomethane and 2,2-dichloropropane in SP-3 and SP-4 were qualified as estimated (UJ) due to low recovery in the laboratory control sample (LCS) and LCS duplicate (LCSD).

- The results for acetone in SP-3 and SP-4 were qualified as estimated (J+) due to high recovery in the LCS.

All qualifiers applied as a result of the validation process are reflected on the table included as Attachment A to this report. Only the samples documenting qualification of data have been included in this table. Qualifier definitions are also provided in the attachment. Copies of the chain of custody records are provided in Attachment B. Pages from the data package illustrating the exceedances and issues described in this validation report are included as Attachment C.

The following components were reviewed, where applicable:

- Chain of Custody
- Receiving conditions
- Holding times
- Preservation
- Analyte lists
- Reporting limits
- Requested methods
- Units
- Sample related quality control data:
    - Method blanks
    - Field blanks
    - Trip Blanks
    - Surrogate recoveries
    - LCS/LCSD recoveries
    - MS/MSD recoveries
    - Internal standard areas
    - Duplicates
- Instrument related quality control data:
    - Instrument tunes

- o Calibration summaries
- o Interference Check Sample (metals only)

In the remaining sections of this report, only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed.

When a sample result is qualified estimated 'J' in addition to estimated 'J+' or 'J-', the 'J' qualifier takes precedence and the bias is indeterminate. When a sample result is rejected (R), the 'R' qualifier takes precedence over any previous qualification.

Documentation: A completeness review of the data package was performed, and the data package was determined to be a complete Category B data package. No documentation issues were observed during the review.

Holding Times, Preservation, Sample Integrity:

Copies of the applicable chain of custody (COC) records were included in the data package, documenting a collection date of October 17, 2019. The samples were received by the laboratory on October 18, 2019. All samples were properly preserved and were analyzed within analytical method required holding time.

A. Volatile Organic Compounds

1. Calibration:

Two initial calibration (ICs) were performed in support of sample analyses. All relative response factors (RRFs) and relative standard deviations (RSDs) or correlation coefficients (r^2) were acceptable. One second source ICV standard was analyzed following the IC and percent differences (%Ds) were acceptable (<20%D) with the following exceptions:

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
VOA122	2,2-Dichloropropane	23.4	SP-3 SP-4	UJ
	Bromodichloromethane	20.4		
ELAINE	1,1-Dichloroethene	20.1	SP-2	J, UJ
	Vinyl acetate	25.1		
	cis-1,2-Dichloroethene	20.3		
	Bromodichloromethane	20.5		
	Bromoform	23.3		

Sample results were qualified as indicated above due to unacceptable %Ds in the ICV.

Two CC standards were analyzed in support of sample analyses. All RRFs and %Ds were acceptable with the exceptions noted below:

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
VOA122	Bromomethane	45.6	SP-3 SP-4	UJ
	Methyl-t-butyl ether	27.5		
	2,2-Dichloropropane	46.2		
	Acetone	51.2	SP-3 SP-4	J+
ELAINE	Carbon tetrachloride	23.2	SP-2	UJ
	Bromoform	25.6		

The percent difference for acetone represents an increase in instrument sensitivity. The results for acetone in SP-3 and SP-4 were qualified as estimated (J+) due to high response in the associated CC. In all other instances, the percent differences represent a decrease in instrument sensitivity. Sample results were qualified as indicated above due to low response in the CC.

2. Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)

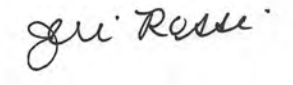
Two LCS/LCSD pairs were analyzed in support of sample analyses. All percent recoveries and relative percent differences (RPDs) were acceptable with the exception of bromomethane (55 / 51 %R), acetone (150%R in LCS) and 2,2-Dichloropropane (54/46) in LCS/LCSD WG1300204-3&4. The results for bromomethane and 2,2-dichloropropane in SP-3 and SP-4 were qualified as estimated (UJ) due to low recovery in the LCS and LCSD. The results for acetone in SP-3 and SP-4 were qualified as estimated (J+) due to high recovery in the LCS.

No other qualifications to sample results were made.

Please feel free to contact me at (908) 370-3431 or jrossi@ddmsinc.com if you have any questions regarding this data package review report or need further information.

Sincerely,

de maximis Data Management Solutions, Inc.



Jeri L Rossi, CEAC
Sr. Environmental Chemist

ATTACHMENT A

Qualification Summary Table
Laboratory Job No. L1948968

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Method	Parameter	Result	Units	Validation Qualifier	ML	RL
SP-2_20191017	SW8260C	1,1-Dichloroethene			UJ	0.34	1.0
SP-2_20191017	SW8260C	Bromodichloromethane	0.84	ug/l	J	0.38	1.0
SP-2_20191017	SW8260C	Bromoform			UJ	1.3	4.0
SP-2_20191017	SW8260C	Carbon Tetrachloride			UJ	0.27	1.0
SP-2_20191017	SW8260C	Vinyl Acetate			UJ	2.0	10
SP-2_20191017	SW8260C	Cis-1,2-Dichloroethylene			UJ	1.4	5.0
SP-3_20191017	SW8260C	Acetone	3.4	ug/l	J+	1.5	5.0
SP-3_20191017	SW8260C	2,2-Dichloropropane			UJ	0.70	2.5
SP-3_20191017	SW8260C	Bromodichloromethane			UJ	0.19	0.50
SP-3_20191017	SW8260C	Bromomethane			UJ	0.70	2.5
SP-3_20191017	SW8260C	Tert-Butyl Methyl Ether			UJ	0.70	2.5
SP-4_20191017	SW8260C	2,2-Dichloropropane			UJ	0.70	2.5
SP-4_20191017	SW8260C	Bromodichloromethane			UJ	0.19	0.50
SP-4_20191017	SW8260C	Bromomethane			UJ	0.70	2.5
SP-4_20191017	SW8260C	Tert-Butyl Methyl Ether			UJ	0.70	2.5
SP-4_20191017	SW8260C	Acetone	34	ug/l	J+	1.5	5.0

EPA Qualifier Definitions

U	**The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.**
J	**The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.**
J+	**The result is an estimated quantity, but the result may be biased high.**
J-	**The result is an estimated quantity, but the result may be biased low.**
NJ	**The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.**
UJ	**The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.**
R	**The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.**

ATTACHMENT B

CHAIN OF CUSTODY RECORD
Laboratory Job No. L1948968

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page: 1 of 1

Date Rec'd in Lab: 10/18/19

ALPHA Job #: L1961896

Client Information

Client: Hillmann Consulting
Address: 1600 Rt 22 East
Union NJ 07083
Phone: 908-888-7800
Fax:
Email: chirschman@hillmanngroup.com

Project Information

Project Name: GB-2420
Project Location: NY
Project #: GB-2420
(Use Project name as Project #) ☐
Project Manager: C. Hirschman
ALPHAQuote #:

Turn-Around Time

Standard ☐ Due Date: 5 day
Rush (only if pre approved) ☐ # of Days: 5 day

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Deliverables

☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirement

☒ NY TOGS ☐ NY Part 375
☒ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs + TICs	Total Bottle
L1961896-01	SP-2	10/17/19	1300	AQ	BP	✓	
-02	SP-3		1320			✓	
-03	SP-4	↓	1340	↓	↓	✓	

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Sample Specific Comments

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type									
Preservative									

Relinquished By:	Date/Time	Received By	Date/Time
Barry Peters	10/17/19 1900	[illegible]	10-18-19 8:33
[illegible]	10-18-19 1530	P.S. AAC	10/18/19 17:00
P.S.	10/18/19 21:30	[illegible]	10/18/19 21:50

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ATTACHMENT C

SELECTED PAGES FROM DATA PACKAGE -
QC EXCEEDANCES AND VALIDATION ISSUES
Laboratory Job No. L1948968

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948968
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1300204-3	**Analysis Date** : 10/24/19 09:04	**File ID** : V22191024A02
LCSD Sample ID	: WG1300204-4	**Analysis Date** : 10/24/19 09:29	**File ID** : V22191024A03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	10	100	10	8.8	88	13	70-130	20
1,1-Dichloroethane	10	8.9	89	10	8.5	85	5	70-130	20
Chloroform	10	9.9	99	10	9.5	95	4	70-130	20
Carbon tetrachloride	10	10	100	10	10	100	0	63-132	20
1,2-Dichloropropane	10	8.9	89	10	8.6	86	3	70-130	20
Dibromochloromethane	10	10	100	10	10	100	0	63-130	20
1,1,2-Trichloroethane	10	9.7	97	10	9.9	99	2	70-130	20
Tetrachloroethene	10	8.9	89	10	9.1	91	2	70-130	20
Chlorobenzene	10	10	100	10	9.7	97	3	75-130	20
Trichlorofluoromethane	10	11	110	10	10	100	10	62-150	20
1,2-Dichloroethane	10	9.9	99	10	10	100	1	70-130	20
1,1,1-Trichloroethane	10	10	100	10	10	100	0	67-130	20
Bromodichloromethane	10	9.6	96	10	9.3	93	3	67-130	20
trans-1,3-Dichloropropene	10	9.6	96	10	9.6	96	0	70-130	20
cis-1,3-Dichloropropene	10	10	100	10	10	100	0	70-130	20
1,1-Dichloropropene	10	9.3	93	10	9.9	99	6	70-130	20
Bromoform	10	11	110	10	10	100	10	54-136	20
1,1,2,2-Tetrachloroethane	10	11	110	10	11	110	0	67-130	20
Benzene	10	9.1	91	10	9.4	94	3	70-130	20
Toluene	10	9.4	94	10	9.2	92	2	70-130	20
Ethylbenzene	10	10	100	10	9.8	98	2	70-130	20
Chloromethane	10	9.2	92	10	9.0	90	2	64-130	20
Bromomethane	10	5.5	55	10	5.1	51	8	39-139	20
Vinyl chloride	10	10	100	10	9.5	95	5	55-140	20
Chloroethane	10	11	110	10	10	100	10	55-138	20
1,1-Dichloroethene	10	10	100	10	9.2	92	8	61-145	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948968
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1300204-3	**Analysis Date** : 10/24/19 09:04	**File ID** : V22191024A02
LCSD Sample ID	: WG1300204-4	**Analysis Date** : 10/24/19 09:29	**File ID** : V22191024A03

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
trans-1,2-Dichloroethene	10	9.1	91	10	9.0	90	1	70-130	20
Trichloroethene	10	9.3	93	10	9.3	93	0	70-130	20
1,2-Dichlorobenzene	10	10	100	10	10	100	0	70-130	20
1,3-Dichlorobenzene	10	10	100	10	10	100	0	70-130	20
1,4-Dichlorobenzene	10	10	100	10	10	100	0	70-130	20
Methyl tert butyl ether	10	7.2	72	10	7.0	70	3	63-130	20
p/m-Xylene	20	21	105	20	20	100	5	70-130	20
o-Xylene	20	20	100	20	20	100	0	70-130	20
cis-1,2-Dichloroethene	10	9.4	94	10	9.2	92	2	70-130	20
Dibromomethane	10	9.2	92	10	9.1	91	1	70-130	20
1,2,3-Trichloropropane	10	11	110	10	11	110	0	64-130	20
Acrylonitrile	10	11	110	10	10	100	10	70-130	20
Styrene	20	21	105	20	21	105	0	70-130	20
Dichlorodifluoromethane	10	9.0	90	10	8.5	85	6	36-147	20
Acetone	10	15	150 Q	10	13	130	14	58-148	20
Carbon disulfide	10	9.8	98	10	8.8	88	11	51-130	20
2-Butanone	10	11	110	10	11	110	0	63-138	20
Vinyl acetate	10	12	120	10	11	110	9	70-130	20
4-Methyl-2-pentanone	10	10	100	10	10	100	0	59-130	20
2-Hexanone	10	9.9	99	10	10	100	1	57-130	20
Bromochloromethane	10	9.4	94	10	9.1	91	3	70-130	20
2,2-Dichloropropane	10	5.4	54 Q	10	4.6	46 Q	16	63-133	20
1,2-Dibromoethane	10	9.7	97	10	9.6	96	1	70-130	20
1,3-Dichloropropane	10	9.6	96	10	9.8	98	2	70-130	20
1,1,1,2-Tetrachloroethane	10	11	110	10	11	110	0	64-130	20
Bromobenzene	10	9.9	99	10	9.4	94	5	70-130	20

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA122\2019\191003\
Data File : V22191004A02.D
Acq On : 04 Oct 2019 12:05 pm
Operator : VOA122:PK
Sample : C8260STD10PPB
Misc : WG1292444
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 13:56:56 2019
Quant Method : I:\VOLATILES\VOA122\2019\191003\V122_191003A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Oct 04 09:44:53 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	110	0.00
2	TP	Dichlorodifluoromethane	0.271	0.246	9.2	93	0.00
3	TP	Chloromethane	0.326	0.267	18.1	86	0.00
4	TC	Vinyl chloride	0.291	0.255	12.4	95	0.00
5	TP	Bromomethane	0.136	0.139	-2.2	126	0.00
6	TP	Chloroethane	0.165	0.141	14.5	89	0.00
7	TP	Trichlorofluoromethane	0.392	0.369	5.9	94	0.00
8	TP	Ethyl ether	0.107	0.106	0.9	114	0.00
10	TC	1,1-Dichloroethene	0.207	0.187	9.7	92	0.00
11	TP	Carbon disulfide	0.651	0.539	17.2	86	0.00
12	TP	Freon-113	0.229	0.221	3.5	93	0.00
13	TP	Iodomethane	0.272	0.229	15.8	84	0.00
14	TP	Acrolein	0.026	0.025#	3.8	102	0.00
15	TP	Methylene chloride	0.246	0.208	15.4	91	0.00
17	TP	Acetone	0.043	0.044#	-2.3	101	0.00
18	TP	trans-1,2-Dichloroethene	0.218	0.208	4.6	99	0.00
19	TP	Methyl acetate	0.099	0.086#	13.1	101	0.00
21	TP	Methyl tert-butyl ether	0.461	0.454	1.5	108	0.00
22	TP	tert-Butyl alcohol	0.011	0.010#	9.1	113	0.00
24	TP	Diisopropyl ether	0.654	0.621	5.0	103	0.00
25	TP	1,1-Dichloroethane	0.448	0.368	17.9	86	0.00
26	TP	Halothane	0.193	0.187	3.1	100	0.00
27	TP	Acrylonitrile	0.046	0.051	-10.9	109	0.00
28	TP	Ethyl tert-butyl ether	0.579	0.567	2.1	107	0.00
29	TP	Vinyl acetate	0.299	0.319	-6.7	130	0.00
30	TP	cis-1,2-Dichloroethene	0.270	0.230	14.8	91	0.00
31	TP	2,2-Dichloropropane	0.290	0.222	23.4#	91	0.00
32	TP	Bromochloromethane	0.121	0.102	15.7	88	0.00
33	TP	Cyclohexane	0.370	0.358	3.2	98	0.00
34	TC	Chloroform	0.447	0.385	13.9	90	0.00
35	TP	Ethyl acetate	0.150	0.132	12.0	81	0.00
36	TP	Carbon tetrachloride	0.361	0.314	13.0	89	0.00
37	TP	Tetrahydrofuran	0.050	0.046#	8.0	100	0.00
38	S	Dibromofluoromethane	0.261	0.256	1.9	108	0.00
39	TP	1,1,1-Trichloroethane	0.389	0.348	10.5	91	0.00
41	TP	2-Butanone	0.060	0.054#	10.0	95	0.00
42	TP	1,1-Dichloropropene	0.306	0.277	9.5	96	0.00
44	TP	Benzene	1.040	0.917	11.8	91	0.00
45	TP	tert-Amyl methyl ether	0.375	0.357	4.8	106	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\VOA122\2019\191003\
Data File : V22191004A02.D
Acq On : 04 Oct 2019 12:05 pm
Operator : VOA122:PK
Sample : C8260STD10PPB
Misc : WG1292444
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 13:56:56 2019
Quant Method : I:\VOLATILES\VOA122\2019\191003\V122_191003A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Fri Oct 04 09:44:53 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
46	S	1,2-Dichloroethane-d4	0.308	0.306	0.6	106	0.00
47	T	1,2-Dichloroethane	0.293	0.253	13.7	96	0.00
50	TP	Methyl cyclohexane	0.379	0.351	7.4	99	0.00
51	TP	Trichloroethene	0.253	0.221	12.6	91	0.00
53	TP	Dibromomethane	0.137	0.112	18.2	89	0.00
54	TC	1,2-Dichloropropane	0.238	0.208	12.6	95	0.00
56	TP	2-Chloroethyl vinyl ether	0.109	0.098	10.1	101	0.00
57	TP	Bromodichloromethane	0.334	0.266	20.4#	88	0.00
60	TP	1,4-Dioxane	0.00089	0.00102#	-14.6	120	0.00
61	TP	cis-1,3-Dichloropropene	0.205	0.179#	12.7	95	0.00
62	I	Chlorobenzene-d5	1.000	1.000	0.0	111	0.00
63	S	Toluene-d8	1.139	1.153	-1.2	113	0.00
64	TC	Toluene	0.736	0.635	13.7	95	0.00
65	TP	4-Methyl-2-pentanone	0.056	0.053#	5.4	107	0.00
66	TP	Tetrachloroethene	0.324	0.294	9.3	97	0.00
68	TP	trans-1,3-Dichloropropene	0.381	0.336	11.8	98	0.00
70	TP	Ethyl methacrylate	0.228	0.241	-5.7	121	0.00
71	TP	1,1,2-Trichloroethane	0.193	0.168	13.0	93	0.00
72	TP	Chlorodibromomethane	0.278	0.246	11.5	97	0.00
73	TP	1,3-Dichloropropane	0.376	0.337	10.4	96	0.00
74	TP	1,2-Dibromoethane	0.222	0.196	11.7	98	0.00
76	TP	2-Hexanone	0.096	0.086#	10.4	105	0.00
77	TP	Chlorobenzene	0.814	0.715	12.2	96	0.00
78	TC	Ethylbenzene	1.349	1.251	7.3	98	0.00
79	TP	1,1,1,2-Tetrachloroethane	0.298	0.265	11.1	95	0.00
80	TP	p/m Xylene	0.513	0.486	5.3	97	0.00
81	TP	o Xylene	0.479	0.474	1.0	104	0.00
82	TP	Styrene	0.792	0.807	-1.9	102	0.00
83	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	110	0.00
84	TP	Bromoform	0.336	0.289	14.0	97	0.00
86	TP	Isopropylbenzene	2.483	2.246	9.5	95	0.00
87	S	4-Bromofluorobenzene	0.812	0.817	-0.6	115	0.00
88	TP	Bromobenzene	0.638	0.556	12.9	99	0.00
89	TP	n-Propylbenzene	3.081	2.807	8.9	96	0.00
90	TP	1,4-Dichlorobutane	0.649	0.661	-1.8	111	0.00
91	TP	1,1,2,2-Tetrachloroethane	0.487	0.441	9.4	100	0.00
92	TP	4-Ethyltoluene	2.321	2.422	-4.4	108	0.00

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Elaine\2019\191019\
Data File : VE191021A02.D
Acq On : 21 Oct 2019 11:00 am
Operator : ELAINE:PD
Sample : C8260STDL10PPB
Misc : WG1299073,ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 09:52:02 2019
Quant Method : I:\VOLATILES\Elaine\2019\191019\Elaine_191019A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat Oct 19 11:00:55 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound		AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene		1.000	1.000	0.0	114	0.00
2	TP	Dichlorodifluoromethane		0.383	0.321	16.2	97	0.00
3	TP	Chloromethane		0.392	0.371	5.4	103	0.08
4	TC	Vinyl chloride		0.306	0.257	16.0	100	0.00
5	TP	Bromomethane	*	10.000	9.669	3.3	122	0.01
6	TP	Chloroethane		0.199	0.184	7.5	105	0.00
7	TP	Trichlorofluoromethane	*	10.000	8.019	19.8	103	0.00
8	TP	Ethyl ether		0.117	0.118	-0.9	117	0.00
10	TC	1,1-Dichloroethene		0.239	0.191	20.1#	102	0.00
11	TP	Carbon disulfide		0.751	0.716	4.7	116	0.00
12	TP	Freon-113		0.230	0.188	18.3	92	0.00
13	TP	Iodomethane		0.344	0.354	-2.9	114	0.00
14	TP	Acrolein		0.031	0.025#	19.4	98	0.01
15	TP	Methylene chloride		0.267	0.253	5.2	105	0.00
17	TP	Acetone		0.058	0.051#	12.1	99	0.00
18	TP	trans-1,2-Dichloroethene		0.235	0.210	10.6	108	0.00
19	TP	Methyl acetate		0.111	0.110	0.9	116	0.00
20	TP	Methyl tert-butyl ether		0.684	0.633	7.5	115	0.00
21	TP	tert-Butyl alcohol		0.017	0.020#	-17.6	148	0.00
22	TP	Diisopropyl ether	*	10.000	10.049	-0.5	117	0.00
23	TP	1,1-Dichloroethane		0.538	0.449	16.5	105	0.00
24	TP	Halothane		0.183	0.158	13.7	99	0.00
25	TP	Acrylonitrile		0.069	0.066	4.3	113	0.00
26	TP	Ethyl tert-butyl ether		0.872	0.770	11.7	110	0.00
27	TP	Vinyl acetate		0.303	0.379	-25.1#	128	0.00
28	TP	cis-1,2-Dichloroethene		0.305	0.243	20.3#	94	0.00
29	TP	2,2-Dichloropropane	*	10.000	10.245	-2.4	115	0.00
30	TP	Bromochloromethane		0.121	0.103	14.9	102	0.00
31	TP	Cyclohexane		0.474	0.372	21.5#	93	0.00
32	TC	Chloroform		0.530	0.444	16.2	100	0.00
33	TP	Ethyl acetate		0.160	0.145	9.4	102	0.00
34	TP	Carbon tetrachloride		0.416	0.337	19.0	97	0.00
35	TP	Tetrahydrofuran		0.048	0.048#	0.0	125	0.00
36	S	Dibromofluoromethane		0.251	0.245	2.4	112	0.00
37	TP	1,1,1-Trichloroethane		0.527	0.440	16.5	99	0.00
39	TP	2-Butanone		0.069	0.070#	-1.4	117	0.00
40	TP	1,1-Dichloropropene		0.387	0.340	12.1	105	0.00
41	TP	Benzene		1.080	0.923	14.5	106	0.00
42	TP	tert-Amyl methyl ether	*	10.000	9.444	5.6	108	0.00

Data Path : I:\VOLATILES\Elaine\2019\191019\
Data File : VE191021A02.D
Acq On : 21 Oct 2019 11:00 am
Operator : ELAINE:PD
Sample : C8260STDL10PPB
Misc : WG1299073,ICAL
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 09:52:02 2019
Quant Method : I:\VOLATILES\Elaine\2019\191019\Elaine_191019A_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Sat Oct 19 11:00:55 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
43	S	1,2-Dichloroethane-d4	0.339	0.320	5.6	109	0.00
44	TP	1,2-Dichloroethane	* 10.000	8.979	10.2	103	0.00
47	TP	Methyl cyclohexane	0.410	0.325	20.7#	97	0.00
48	TP	Trichloroethene	0.290	0.258	11.0	111	0.00
50	TP	Dibromomethane	0.140	0.121	13.6	101	0.00
51	TC	1,2-Dichloropropane	0.263	0.233	11.4	106	0.00
53	TP	2-Chloroethyl vinyl ether	0.130	0.115	11.5	104	0.00
54	TP	Bromodichloromethane	0.386	0.307	20.5#	98	0.00
57	TP	1,4-Dioxane	0.00191	0.00181#	5.2	125	0.00
58	TP	cis-1,3-Dichloropropene	0.443	0.386	12.9	105	0.00
59	I	Chlorobenzene-d5	1.000	1.000	0.0	113	0.00
60	S	Toluene-d8	1.224	1.230	-0.5	112	0.00
61	TC	Toluene	0.817	0.748	8.4	105	0.00
62	TP	4-Methyl-2-pentanone	0.075	0.070#	6.7	104	0.00
63	TP	Tetrachloroethene	0.359	0.323	10.0	106	0.00
65	TP	trans-1,3-Dichloropropene	0.471	0.413	12.3	103	0.00
67	TP	Ethyl methacrylate	0.303	0.302	0.3	115	0.00
68	TP	1,1,2-Trichloroethane	0.190	0.170	10.5	108	0.00
69	TP	Chlorodibromomethane	0.265	0.223	15.8	109	0.00
70	TP	1,3-Dichloropropane	0.439	0.391	10.9	105	0.00
71	TP	1,2-Dibromoethane	0.245	0.215	12.2	107	0.00
72	TP	2-Hexanone	0.126	0.126	0.0	110	0.00
73	TP	Chlorobenzene	* 10.000	9.683	3.2	107	0.00
74	TC	Ethylbenzene	1.762	1.629	7.5	109	0.00
75	TP	1,1,1,2-Tetrachloroethane	0.309	0.273	11.7	108	0.00
76	TP	p/m Xylene	* 20.000	20.841	-4.2	110	0.00
77	TP	o Xylene	* 20.000	21.448	-7.2	114	0.00
78	TP	Styrene	1.106	1.063	3.9	115	0.00
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00
80	TP	Bromoform	0.262	0.201	23.3#	108	0.00
82	TP	Isopropylbenzene	3.081	2.695	12.5	106	0.00
83	S	4-Bromofluorobenzene	1.008	0.981	2.7	112	0.00
84	TP	Bromobenzene	0.649	0.578	10.9	107	0.00
85	TP	n-Propylbenzene	3.524	3.196	9.3	110	0.00
86	TP	1,4-Dichlorobutane	0.822	0.801	2.6	123	0.00
87	TP	1,1,2,2-Tetrachloroethane	* 10.000	8.971	10.3	108	0.00
88	TP	4-Ethyltoluene	2.971	3.019	-1.6	122	0.00

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC		**Lab Number**	: L1948968	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: ELAINE		**Calibration Date**	: 10/24/19 06:45	
Lab File ID	: VE191024A01		**Init. Calib. Date(s)**	: 10/19/19	10/19/19
Sample No	: WG1300188-2		**Init. Calib. Times**	: 03:09	08:37
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	109	0
Dichlorodifluoromethane	0.383	0.359	-	6.3	20	104	0
Chloromethane	0.392	0.415	-	-5.9	20	110	.07
Vinyl chloride	0.306	0.256	-	16.3	20	96	0
Bromomethane	10	10.357	-	-3.6	20	125	0
Chloroethane	0.199	0.187	-	6	20	103	0
Trichlorofluoromethane	10	8.927	-	10.7	20	112	0
Ethyl ether	0.117	0.11	-	6	20	105	0
1,1-Dichloroethene	0.239	0.217	-	9.2	20	111	0
Carbon disulfide	0.751	0.688	-	8.4	20	107	0
Freon-113	0.23	0.237	-	-3	20	112	0
Acrolein	0.031	0.031*	-	0	20	117	0
Methylene chloride	0.267	0.268	-	-0.4	20	107	0
Acetone	0.058	0.059*	-	-1.7	20	112	0
trans-1,2-Dichloroethene	0.235	0.226	-	3.8	20	111	0
Methyl acetate	0.111	0.11	-	0.9	20	111	0
Methyl tert-butyl ether	0.684	0.612	-	10.5	20	107	0
tert-Butyl alcohol	0.017	0.014*	-	17.6	20	99	0
Diisopropyl ether	10	9.907	-	0.9	20	111	0
1,1-Dichloroethane	0.538	0.473	-	12.1	20	106	0
Halothane	0.183	0.179	-	2.2	20	108	0
Acrylonitrile	0.069	0.062	-	10.1	20	101	0
Ethyl tert-butyl ether	0.872	0.75	-	14	20	103	0
Vinyl acetate	0.303	0.291	-	4	20	94	0
cis-1,2-Dichloroethene	0.305	0.286	-	6.2	20	106	0
2,2-Dichloropropane	10	10.457	-	-4.6	20	113	0
Bromochloromethane	0.121	0.109	-	9.9	20	103	0
Cyclohexane	0.474	0.452	-	4.6	20	109	0
Chloroform	0.53	0.492	-	7.2	20	107	0
Ethyl acetate	0.16	0.185	-	-15.6	20	126	0
Carbon tetrachloride	0.416	0.319	-	23.3*	20	88	0
Tetrahydrofuran	0.048	0.047*	-	2.1	20	116	0
Dibromofluoromethane	0.251	0.25	-	0.4	20	109	0
1,1,1-Trichloroethane	0.527	0.445	-	15.6	20	96	0
2-Butanone	0.069	0.081*	-	-17.4	20	130	0
1,1-Dichloropropene	0.387	0.376	-	2.8	20	111	0
Benzene	1.08	0.967	-	10.5	20	106	0
tert-Amyl methyl ether	10	9.269	-	7.3	20	102	0
1,2-Dichloroethane-d4	0.339	0.339	-	0	20	110	0
1,2-Dichloroethane	10	10.073	-	-0.7	20	110	0
Methyl cyclohexane	0.41	0.401	-	2.2	20	114	0
Trichloroethene	0.29	0.27	-	6.9	20	112	0
Dibromomethane	0.14	0.133	-	5	20	107	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948968		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: ELAINE	**Calibration Date**	: 10/24/19 06:45		
Lab File ID	: VE191024A01	**Init. Calib. Date(s)**	: 10/19/19	10/19/19	
Sample No	: WG1300188-2	**Init. Calib. Times**	: 03:09	08:37	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.263	0.242	-	8	20	106	0
Bromodichloromethane	0.386	0.325	-	15.8	20	99	0
1,4-Dioxane	0.00191	0.00162*	-	15.2	20	108	0
cis-1,3-Dichloropropene	0.443	0.387	-	12.6	20	101	0
Chlorobenzene-d5	1	1	-	0	20	107	0
Toluene-d8	1.224	1.238	-	-1.1	20	107	0
Toluene	0.817	0.78	-	4.5	20	104	0
4-Methyl-2-pentanone	0.075	0.071*	-	5.3	20	101	-.01
Tetrachloroethene	0.359	0.351	-	2.2	20	110	0
trans-1,3-Dichloropropene	0.471	0.41	-	13	20	97	0
Ethyl methacrylate	0.303	0.235	-	22.4*	20	85	0
1,1,2-Trichloroethane	0.19	0.181	-	4.7	20	109	0
Chlorodibromomethane	0.265	0.208	-	21.5*	20	96	0
1,3-Dichloropropane	0.439	0.431	-	1.8	20	110	0
1,2-Dibromoethane	0.245	0.23	-	6.1	20	108	0
2-Hexanone	0.126	0.119	-	5.6	20	98	0
Chlorobenzene	10	9.891	-	1.1	20	103	0
Ethylbenzene	1.762	1.629	-	7.5	20	103	0
1,1,1,2-Tetrachloroethane	0.309	0.26	-	15.9	20	97	0
p/m Xylene	20	19.991	-	0	20	100	0
o Xylene	20	19.549	-	2.3	20	99	0
Styrene	1.106	0.939	-	15.1	20	96	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	99	0
Bromoform	0.262	0.195	-	25.6*	20	92	0
Isopropylbenzene	3.081	3.004	-	2.5	20	103	0
4-Bromofluorobenzene	1.008	1.052	-	-4.4	20	105	0
Bromobenzene	0.649	0.631	-	2.8	20	102	0
n-Propylbenzene	3.524	3.328	-	5.6	20	100	0
1,4-Dichlorobutane	0.822	0.78	-	5.1	20	105	0
1,1,2,2-Tetrachloroethane	10	10.594	-	-5.9	20	111	-.01
4-Ethyltoluene	2.971	2.744	-	7.6	20	97	0
2-Chlorotoluene	10	9.978	-	0.2	20	99	0
1,3,5-Trimethylbenzene	2.626	2.467	-	6.1	20	99	0
1,2,3-Trichloropropane	10	10.486	-	-4.9	20	111	0
trans-1,4-Dichloro-2-buten	0.162	0.146	-	9.9	20	95	0
4-Chlorotoluene	10	9.978	-	0.2	20	97	0
tert-Butylbenzene	2.186	2.046	-	6.4	20	102	0
1,2,4-Trimethylbenzene	2.591	2.446	-	5.6	20	98	0
sec-Butylbenzene	2.782	2.66	-	4.4	20	102	0
p-Isopropyltoluene	2.538	2.444	-	3.7	20	102	0
1,3-Dichlorobenzene	10	10.421	-	-4.2	20	103	0
1,4-Dichlorobenzene	10	10.421	-	-4.2	20	100	0
p-Diethylbenzene	1.357	1.308	-	3.6	20	99	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948968		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: VOA122	**Calibration Date**	: 10/24/19 09:04		
Lab File ID	: V22191024A02	**Init. Calib. Date(s)**	: 10/03/19	10/03/19	
Sample No	: WG1300204-2	**Init. Calib. Times**	: 06:00	09:44	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	65	0
Dichlorodifluoromethane	0.271	0.243	-	10.3	20	54	0
Chloromethane	0.326	0.3	-	8	20	56	.01
Vinyl chloride	0.291	0.289	-	0.7	20	64	0
Bromomethane	0.136	0.074*	-	45.6*	20	39	0
Chloroethane	0.165	0.176	-	-6.7	20	65	-.01
Trichlorofluoromethane	0.392	0.443	-	-13	20	67	0
Ethyl ether	0.107	0.109	-	-1.9	20	68	0
1,1-Dichloroethene	0.207	0.207	-	0	20	60	0
Carbon disulfide	0.651	0.639	-	1.8	20	60	0
Freon-113	0.229	0.234	-	-2.2	20	58	0
Acrolein	0.026	0.028*	-	-7.7	20	66	0
Methylene chloride	0.246	0.246	-	0	20	63	0
Acetone	0.043	0.065*	-	-51.2*	20	87	0
trans-1,2-Dichloroethene	0.218	0.2	-	8.3	20	56	0
Methyl acetate	0.099	0.107	-	-8.1	20	73	0
Methyl tert-butyl ether	0.461	0.334	-	27.5*	20	46	0
tert-Butyl alcohol	0.01083	0.00373*	-	65.6*	20	24	0
Diisopropyl ether	0.654	0.565	-	13.6	20	55	0
1,1-Dichloroethane	0.448	0.399	-	10.9	20	55	0
Halothane	0.193	0.177	-	8.3	20	56	0
Acrylonitrile	0.046	0.051	-	-10.9	20	63	0
Ethyl tert-butyl ether	0.579	0.437	-	24.5*	20	48	0
Vinyl acetate	0.299	0.352	-	-17.7	20	84	0
cis-1,2-Dichloroethene	0.27	0.254	-	5.9	20	59	0
2,2-Dichloropropane	0.29	0.156	-	46.2*	20	37	0
Bromochloromethane	0.121	0.114	-	5.8	20	58	0
Cyclohexane	0.37	0.333	-	10	20	53	0
Chloroform	0.447	0.442	-	1.1	20	61	0
Ethyl acetate	0.15	0.179	-	-19.3	20	65	0
Carbon tetrachloride	0.361	0.376	-	-4.2	20	62	0
Tetrahydrofuran	0.05	0.051	-	-2	20	64	0
Dibromofluoromethane	0.261	0.284	-	-8.8	20	70	0
1,1,1-Trichloroethane	0.389	0.404	-	-3.9	20	62	0
2-Butanone	0.06	0.065*	-	-8.3	20	68	0
1,1-Dichloropropene	0.306	0.284	-	7.2	20	57	0
Benzene	1.04	0.949	-	8.8	20	55	0
tert-Amyl methyl ether	0.375	0.264	-	29.6*	20	46	0
1,2-Dichloroethane-d4	0.308	0.323	-	-4.9	20	65	0
1,2-Dichloroethane	0.293	0.291	-	0.7	20	65	0
Methyl cyclohexane	0.379	0.329	-	13.2	20	54	0
Trichloroethene	0.253	0.235	-	7.1	20	57	0
Dibromomethane	0.137	0.127	-	7.3	20	59	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L1948968		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: VOA122	**Calibration Date**	: 10/24/19 09:04		
Lab File ID	: V22191024A02	**Init. Calib. Date(s)**	: 10/03/19	10/03/19	
Sample No	: WG1300204-2	**Init. Calib. Times**	: 06:00	09:44	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.238	0.211	-	11.3	20	56	0
Bromodichloromethane	0.334	0.321	-	3.9	20	62	0
1,4-Dioxane	0.00089	0.00127*	-	-42.7*	20	88	0
cis-1,3-Dichloropropene	0.205	0.215	-	-4.9	20	67	0
Chlorobenzene-d5	1	1	-	0	20	64	-.01
Toluene-d8	1.139	1.169	-	-2.6	20	66	0
Toluene	0.736	0.688	-	6.5	20	59	0
4-Methyl-2-pentanone	0.056	0.058*	-	-3.6	20	68	0
Tetrachloroethene	0.324	0.289	-	10.8	20	55	0
trans-1,3-Dichloropropene	0.381	0.367	-	3.7	20	62	0
Ethyl methacrylate	0.228	0.226	-	0.9	20	65	0
1,1,2-Trichloroethane	0.193	0.187	-	3.1	20	59	0
Chlorodibromomethane	0.278	0.294	-	-5.8	20	67	0
1,3-Dichloropropane	0.376	0.361	-	4	20	59	0
1,2-Dibromoethane	0.222	0.215	-	3.2	20	62	0
2-Hexanone	0.096	0.094*	-	2.1	20	67	0
Chlorobenzene	0.814	0.811	-	0.4	20	63	0
Ethylbenzene	1.349	1.356	-	-0.5	20	61	0
1,1,1,2-Tetrachloroethane	0.298	0.32	-	-7.4	20	66	0
p/m Xylene	0.513	0.533	-	-3.9	20	61	0
o Xylene	0.479	0.474	-	1	20	60	0
Styrene	0.792	0.83	-	-4.8	20	60	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	61	0
Bromoform	0.336	0.364	-	-8.3	20	68	0
Isopropylbenzene	2.483	2.512	-	-1.2	20	59	0
4-Bromofluorobenzene	0.812	0.857	-	-5.5	20	67	0
Bromobenzene	0.638	0.632	-	0.9	20	62	0
n-Propylbenzene	3.081	3.135	-	-1.8	20	59	0
1,4-Dichlorobutane	0.649	0.671	-	-3.4	20	63	0
1,1,2,2-Tetrachloroethane	0.487	0.536	-	-10.1	20	67	0
4-Ethyltoluene	2.321	2.43	-	-4.7	20	60	0
2-Chlorotoluene	2.04	2.18	-	-6.9	20	61	0
1,3,5-Trimethylbenzene	2.081	2.217	-	-6.5	20	60	0
1,2,3-Trichloropropane	0.389	0.44	-	-13.1	20	68	0
trans-1,4-Dichloro-2-buten	0.122	0.124	-	-1.6	20	60	0
4-Chlorotoluene	1.839	1.927	-	-4.8	20	62	0
tert-Butylbenzene	1.765	1.834	-	-3.9	20	60	0
1,2,4-Trimethylbenzene	2.033	2.197	-	-8.1	20	61	0
sec-Butylbenzene	1.875	1.923	-	-2.6	20	53	0
p-Isopropyltoluene	2.146	2.322	-	-8.2	20	62	0
1,3-Dichlorobenzene	1.259	1.301	-	-3.3	20	60	0
1,4-Dichlorobenzene	1.272	1.305	-	-2.6	20	63	0
p-Diethylbenzene	1.205	1.294	-	-7.4	20	63	0

*** Value outside of QC limits.**

March 25, 2020

Mr. Chris Hirschmann, CHMM
Hillmann Consulting, LLC
1600 Route 22 East
Union, N.J. 07083

Re: Data Usability Summary Report – Alpha Analytical – Air Quality Samples

Dear Mr. Hirschmann:

The evaluation of analytical data for volatile organic analysis parameters by Alpha Analytical for 18 air quality samples for project G6-2420, which were reported in a single data package under Job No. L2007789, has been completed. The data package was received by ddms, inc. (ddms) for review, and the following samples were reported:

IA-19	SV-19	IA-20	SV-20	IA-21
SV-21	IA-22	SV-22	IA-23	SV-23
IA-24	SV-24	IA-25	SV-25	IA-26
SV-26	IA-27	SV-27		

Analyses were performed in accordance with USEPA Method TO-15 full scan and Selected Ion Monitoring (SIM). ddms' review was performed, to the extent possible, in accordance with the analytical methods, "DER-10/Technical Guidance for Site Investigation and Remediation", and ddms' Standard Operating Procedure: Validation and Review of Organic Air Data, ECS-SOP-001. Professional judgment was applied as necessary and appropriate. Qualifiers consistent with those defined by EPA Region 2 were applied as necessary and appropriate.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See Following Sections
4.	Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5.	Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6.	Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes

7. Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes

Based on the data review effort, results are usable, with the following qualifications:

- The results for all compounds in SV-19 and SV-22 were qualified as estimated (J, UJ) because the canisters were received at ambient.

- Styrene was detected in SV-20 at a concentration barely above the reporting limit (RL) but was not detected in the laboratory duplicate. The result for styrene in SV-20 was qualified as estimated (J) on this basis based on imprecision between laboratory duplicates.

All qualifiers applied as a result of the validation process are reflected on the table included as Attachment A to this report. Qualifier definitions are also provided in this attachment. A copy of the chain of custody record is provided in Attachment B. Pages from the data package illustrating the exceedances and issues described in this validation report are included as Attachment C.

The following components were reviewed, where applicable:

- Chain of Custody
- Sample condition on receipt
- Holding times
- Sample Preservation
- Analyte lists
- Reporting limits
- Requested method
- Units
- Sample related quality control data:
    - Blanks
    - LCS/LCSD recoveries
    - Internal standard areas
    - Duplicates
- Instrument related quality control data:
    - Instrument tunes
    - Calibration summaries

Only those quality excursions resulting in qualified data are discussed in the remaining sections of this report. Quality control excursions having no impact to sample results are not discussed.

When a sample result is qualified as estimated, 'J', in addition to estimated, 'J+' or 'J-', the 'J' qualifier takes precedence, and the direction of potential bias is indeterminate. When a sample result is rejected (R), the 'R' qualifier takes precedence over any previous qualification. Rejected results are not usable for any application.

Documentation: A completeness review of the data package was performed; the data package was determined to be a complete Category B data package. Documentation issues observed during the review effort include:

- Improper edits were observed on the chain of custody (COC) records. Proper edits are made by drawing a single line through incorrect information; adding the correct information; and dating and initialing the change(s).

- The identification of the sampler(s) is not provided on the COC records.

- The laboratory data package "SDG summary" lists a receipt date of 2/21/20, however the COC records list 2/22/20.

- No affiliations accompany the signatures on the COC records, therefore, the correct date for receipt at the laboratory cannot be determined.

Holding Times, Preservation, Sample Integrity:

Copies of the applicable chain of custody (COC) records were included in the data package, documenting a collection date of February 20, 2020. The samples were received by the laboratory on February 21 or 22, 2020 (see previous section on documentation). All samples were properly preserved and prepared and/or analyzed within analytical method required holding times with the following exceptions:

- Samples SV-19 and SV-22 were received at ambient pressure (0.0"Hg). Because the sample integrity may have been compromised, results for all target compounds in these samples were qualified as estimated (J, UJ).

- Samples IA-24 and SV-24 were received with significant vacuum remaining (-17.3"Hg and -13.7"Hg, respectively). The laboratory calculated concentrations and reporting limits accurately for the sample volume collected and no qualification of results was necessary.

A. Volatile Organic Compounds

1. Calibration:

Three ICs (two for low level [LL] full scan analyses, and one for the SIM analyses) were performed in support of sample analyses. Response factors (RFs) and RSDs for all project target analytes were acceptable (RF: 0.05; relative standard deviation [RSD]: <30%).

An initial calibration verification (ICV) standard was analyzed following each of the ICs, and percent differences (%Ds) between the ICV and IC, for all project target analytes, were acceptable (<20%D). Three continuing calibration (CC) standards were analyzed in support of sample analyses and all RFs and %Ds were acceptable (RF: 0.05; %D: <30%).

2. Laboratory Duplicate:

Sample SV-20 and IA-21 were analyzed in duplicate by the laboratory. All results showed good precision except styrene in the SV-20 duplicate pair. Styrene was detected in SV-20 at a concentration slightly above the RL, but was not detected in the laboratory duplicate. The result for styrene in SV-20 was qualified as estimated (J) on this basis.

Please feel free to contact me at (302) 233-5274 or dshepperd@ddmsinc.com if you have any questions regarding this data package review report or need further information.

Sincerely,

de maximis Data Management Solutions, Inc.

Denise “Dee” Shepperd
Sr. Environmental Chemist

ATTACHMENT A

Qualification Summary Table
Laboratory Job No. L2007789

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-19_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
IA-19_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
IA-19_20200221	TO15	1,1-Dichloroethane				0.254	0.809
IA-19_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
IA-19_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
IA-19_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
IA-19_20200221	TO15	1,2-Dichloroethane				0.244	0.809
IA-19_20200221	TO15	1,2-Dichloropropane				0.282	0.924
IA-19_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)				0.332	0.983
IA-19_20200221	TO15	1,3-Butadiene				0.148	0.442
IA-19_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
IA-19_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
IA-19_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)				0.142	1.47
IA-19_20200221	TO15	2-Hexanone				0.266	0.820
IA-19_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
IA-19_20200221	TO15	4-Ethyltoluene				0.182	0.983
IA-19_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
IA-19_20200221	TO15	Benzyl Chloride				0.250	1.04
IA-19_20200221	TO15	Bromodichloromethane				0.338	1.34
IA-19_20200221	TO15	Bromoform				0.663	2.07
IA-19_20200221	TO15	Bromomethane				0.300	0.777
IA-19_20200221	TO15	Chlorobenzene				0.287	0.921
IA-19_20200221	TO15	Chloroethane				0.212	0.528
IA-19_20200221	TO15	Chloroform				0.309	0.977
IA-19_20200221	TO15	Cyclohexane				0.127	0.688
IA-19_20200221	TO15	Dibromochloromethane				0.523	1.70
IA-19_20200221	TO15	Ethyl Acetate				0.440	1.80
IA-19_20200221	TO15	Ethylbenzene				0.188	0.869
IA-19_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
IA-19_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
IA-19_20200221	TO15	Hexachlorobutadiene				0.564	2.13
IA-19_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
IA-19_20200221	TO15	Methylene Chloride				0.466	1.74
IA-19_20200221	TO15	Styrene				0.185	0.852
IA-19_20200221	TO15	Tert-Butyl Alcohol				0.141	1.52
IA-19_20200221	TO15	Tetrahydrofuran				0.168	1.47
IA-19_20200221	TO15	Trichlorofluoromethane				0.386	1.12
IA-19_20200221	TO15	Vinyl Bromide				0.313	0.874
IA-19_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
IA-19_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)				0.197	0.869
IA-19_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
IA-19_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
IA-19_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.045	0.109
IA-19_20200221	TO15 SIM	1,1-Dichloroethene				0.033	0.079
IA-19_20200221	TO15 SIM	Trichloroethylene (TCE)				0.033	0.107
IA-19_20200221	TO15 SIM	Vinyl Chloride				0.018	0.051
IA-19_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.038	0.079
IA-19_20200221	TO15	1,2,4-Trimethylbenzene	1.36	ug/m3		0.181	0.983
IA-19_20200221	TO15	1,4-Dichlorobenzene	12.1	ug/m3		0.382	1.20
IA-19_20200221	TO15	2,2,4-Trimethylpentane	1.13	ug/m3		0.169	0.934
IA-19_20200221	TO15	Acetone	2.80	ug/m3		1.64	2.38
IA-19_20200221	TO15	Benzene	1.13	ug/m3		0.156	0.639
IA-19_20200221	TO15	Carbon Disulfide	3.33	ug/m3		0.174	0.623
IA-19_20200221	TO15	Chloromethane	0.975	ug/m3		0.142	0.413
IA-19_20200221	TO15	Dichlorodifluoromethane	1.86	ug/m3		0.288	0.989
IA-19_20200221	TO15	Ethanol	22.0	ug/m3		1.38	9.42
IA-19_20200221	TO15	N-Heptane	0.889	ug/m3		0.193	0.820
IA-19_20200221	TO15	Isopropanol	2.30	ug/m3		1.17	1.23
IA-19_20200221	TO15	Toluene	3.77	ug/m3		0.196	0.754
IA-19_20200221	TO15	N-Hexane	2.09	ug/m3		0.128	0.705
IA-19_20200221	TO15	m,p-Xylene	2.47	ug/m3		0.395	1.74
IA-19_20200221	TO15 SIM	Carbon Tetrachloride	0.333	ug/m3		0.063	0.126

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-19_20200221	TO15 SIM	Tetrachloroethylene (PCE)	0.149	ug/m3		0.053	0.136
IA-20_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
IA-20_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
IA-20_20200221	TO15	1,1-Dichloroethane				0.254	0.809
IA-20_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
IA-20_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
IA-20_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
IA-20_20200221	TO15	1,2-Dichloroethane				0.244	0.809
IA-20_20200221	TO15	1,2-Dichloropropane				0.282	0.924
IA-20_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)				0.332	0.983
IA-20_20200221	TO15	1,3-Butadiene				0.148	0.442
IA-20_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
IA-20_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
IA-20_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)				0.142	1.47
IA-20_20200221	TO15	2-Hexanone				0.266	0.820
IA-20_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
IA-20_20200221	TO15	4-Ethyltoluene				0.182	0.983
IA-20_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
IA-20_20200221	TO15	Benzyl Chloride				0.250	1.04
IA-20_20200221	TO15	Bromodichloromethane				0.338	1.34
IA-20_20200221	TO15	Bromoform				0.663	2.07
IA-20_20200221	TO15	Bromomethane				0.300	0.777
IA-20_20200221	TO15	Carbon Disulfide				0.174	0.623
IA-20_20200221	TO15	Chlorobenzene				0.287	0.921
IA-20_20200221	TO15	Chloroethane				0.212	0.528
IA-20_20200221	TO15	Chloroform				0.309	0.977
IA-20_20200221	TO15	Cyclohexane				0.127	0.688
IA-20_20200221	TO15	Dibromochloromethane				0.523	1.70
IA-20_20200221	TO15	Ethyl Acetate				0.440	1.80
IA-20_20200221	TO15	Ethylbenzene				0.188	0.869
IA-20_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
IA-20_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
IA-20_20200221	TO15	N-Heptane				0.193	0.820
IA-20_20200221	TO15	Hexachlorobutadiene				0.564	2.13
IA-20_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
IA-20_20200221	TO15	Methylene Chloride				0.466	1.74
IA-20_20200221	TO15	Styrene				0.185	0.852
IA-20_20200221	TO15	Tert-Butyl Alcohol				0.141	1.52
IA-20_20200221	TO15	Tetrahydrofuran				0.168	1.47
IA-20_20200221	TO15	Trichlorofluoromethane				0.386	1.12
IA-20_20200221	TO15	Vinyl Bromide				0.313	0.874
IA-20_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
IA-20_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)				0.197	0.869
IA-20_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
IA-20_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
IA-20_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.045	0.109
IA-20_20200221	TO15 SIM	1,1-Dichloroethene				0.033	0.079
IA-20_20200221	TO15 SIM	Trichloroethylene (TCE)				0.033	0.107
IA-20_20200221	TO15 SIM	Vinyl Chloride				0.018	0.051
IA-20_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.038	0.079
IA-20_20200221	TO15	1,2,4-Trimethylbenzene	1.59	ug/m3		0.181	0.983
IA-20_20200221	TO15	1,4-Dichlorobenzene	6.07	ug/m3		0.382	1.20
IA-20_20200221	TO15	2,2,4-Trimethylpentane	1.13	ug/m3		0.169	0.934
IA-20_20200221	TO15	Acetone	3.85	ug/m3		1.64	2.38
IA-20_20200221	TO15	Benzene	1.04	ug/m3		0.156	0.639
IA-20_20200221	TO15	Chloromethane	0.894	ug/m3		0.142	0.413
IA-20_20200221	TO15	Dichlorodifluoromethane	1.90	ug/m3		0.288	0.989
IA-20_20200221	TO15	Ethanol	20.7	ug/m3		1.38	9.42
IA-20_20200221	TO15	Isopropanol	2.19	ug/m3		1.17	1.23
IA-20_20200221	TO15	Toluene	3.68	ug/m3		0.196	0.754
IA-20_20200221	TO15	N-Hexane	2.03	ug/m3		0.128	0.705
IA-20_20200221	TO15	m,p-Xylene	2.51	ug/m3		0.395	1.74

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-20_20200221	TO15 SIM	Carbon Tetrachloride	0.277	ug/m3		0.063	0.126
IA-20_20200221	TO15 SIM	Tetrachloroethylene (PCE)	0.210	ug/m3		0.053	0.136
IA-21_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
IA-21_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
IA-21_20200221	TO15	1,1-Dichloroethane				0.254	0.809
IA-21_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
IA-21_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
IA-21_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
IA-21_20200221	TO15	1,2-Dichloroethane				0.244	0.809
IA-21_20200221	TO15	1,2-Dichloropropane				0.282	0.924
IA-21_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)				0.332	0.983
IA-21_20200221	TO15	1,3-Butadiene				0.148	0.442
IA-21_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
IA-21_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
IA-21_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
IA-21_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)				0.142	1.47
IA-21_20200221	TO15	2-Hexanone				0.266	0.820
IA-21_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
IA-21_20200221	TO15	4-Ethyltoluene				0.182	0.983
IA-21_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
IA-21_20200221	TO15	Benzyl Chloride				0.250	1.04
IA-21_20200221	TO15	Bromodichloromethane				0.338	1.34
IA-21_20200221	TO15	Bromoform				0.663	2.07
IA-21_20200221	TO15	Bromomethane				0.300	0.777
IA-21_20200221	TO15	Carbon Disulfide				0.174	0.623
IA-21_20200221	TO15	Chlorobenzene				0.287	0.921
IA-21_20200221	TO15	Chloroethane				0.212	0.528
IA-21_20200221	TO15	Chloroform				0.309	0.977
IA-21_20200221	TO15	Cyclohexane				0.127	0.688
IA-21_20200221	TO15	Dibromochloromethane				0.523	1.70
IA-21_20200221	TO15	Ethyl Acetate				0.440	1.80
IA-21_20200221	TO15	Ethylbenzene				0.188	0.869
IA-21_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
IA-21_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
IA-21_20200221	TO15	N-Heptane				0.193	0.820
IA-21_20200221	TO15	Hexachlorobutadiene				0.564	2.13
IA-21_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
IA-21_20200221	TO15	Methylene Chloride				0.466	1.74
IA-21_20200221	TO15	Styrene				0.185	0.852
IA-21_20200221	TO15	Tert-Butyl Alcohol				0.141	1.52
IA-21_20200221	TO15	Tetrahydrofuran				0.168	1.47
IA-21_20200221	TO15	Trichlorofluoromethane				0.386	1.12
IA-21_20200221	TO15	Vinyl Bromide				0.313	0.874
IA-21_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
IA-21_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)				0.197	0.869
IA-21_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
IA-21_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
IA-21_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.045	0.109
IA-21_20200221	TO15 SIM	1,1-Dichloroethene				0.033	0.079
IA-21_20200221	TO15 SIM	Trichloroethylene (TCE)				0.033	0.107
IA-21_20200221	TO15 SIM	Vinyl Chloride				0.018	0.051
IA-21_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.038	0.079
IA-21_20200221	TO15	1,2,4-Trimethylbenzene	1.04	ug/m3		0.181	0.983
IA-21_20200221	TO15	1,4-Dichlorobenzene	9.92	ug/m3		0.382	1.20
IA-21_20200221	TO15	Acetone	3.97	ug/m3		1.64	2.38
IA-21_20200221	TO15	Benzene	0.930	ug/m3		0.156	0.639
IA-21_20200221	TO15	Chloromethane	0.966	ug/m3		0.142	0.413
IA-21_20200221	TO15	Dichlorodifluoromethane	1.79	ug/m3		0.288	0.989
IA-21_20200221	TO15	Ethanol	26.2	ug/m3		1.38	9.42
IA-21_20200221	TO15	Isopropanol	3.98	ug/m3		1.17	1.23
IA-21_20200221	TO15	Toluene	2.82	ug/m3		0.196	0.754
IA-21_20200221	TO15	N-Hexane	1.67	ug/m3		0.128	0.705

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-21_20200221	TO15	m,p-Xylene	1.86	ug/m3		0.395	1.74
IA-21_20200221	TO15 SIM	Carbon Tetrachloride	0.296	ug/m3		0.063	0.126
IA-21_20200221	TO15 SIM	Tetrachloroethylene (PCE)	0.136	ug/m3		0.053	0.136
IA-22_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
IA-22_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
IA-22_20200221	TO15	1,1-Dichloroethane				0.254	0.809
IA-22_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
IA-22_20200221	TO15	1,2,4-Trimethylbenzene				0.181	0.983
IA-22_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
IA-22_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
IA-22_20200221	TO15	1,2-Dichloroethane				0.244	0.809
IA-22_20200221	TO15	1,2-Dichloropropane				0.282	0.924
IA-22_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)				0.332	0.983
IA-22_20200221	TO15	1,3-Butadiene				0.148	0.442
IA-22_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
IA-22_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
IA-22_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
IA-22_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)				0.142	1.47
IA-22_20200221	TO15	2-Hexanone				0.266	0.820
IA-22_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
IA-22_20200221	TO15	4-Ethyltoluene				0.182	0.983
IA-22_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
IA-22_20200221	TO15	Benzene				0.156	0.639
IA-22_20200221	TO15	Benzyl Chloride				0.250	1.04
IA-22_20200221	TO15	Bromodichloromethane				0.338	1.34
IA-22_20200221	TO15	Bromoform				0.663	2.07
IA-22_20200221	TO15	Bromomethane				0.300	0.777
IA-22_20200221	TO15	Carbon Disulfide				0.174	0.623
IA-22_20200221	TO15	Chlorobenzene				0.287	0.921
IA-22_20200221	TO15	Chloroethane				0.212	0.528
IA-22_20200221	TO15	Chloroform				0.309	0.977
IA-22_20200221	TO15	Cyclohexane				0.127	0.688
IA-22_20200221	TO15	Dibromochloromethane				0.523	1.70
IA-22_20200221	TO15	Ethyl Acetate				0.440	1.80
IA-22_20200221	TO15	Ethylbenzene				0.188	0.869
IA-22_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
IA-22_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
IA-22_20200221	TO15	N-Heptane				0.193	0.820
IA-22_20200221	TO15	Hexachlorobutadiene				0.564	2.13
IA-22_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
IA-22_20200221	TO15	Methylene Chloride				0.466	1.74
IA-22_20200221	TO15	Styrene				0.185	0.852
IA-22_20200221	TO15	Tert-Butyl Alcohol				0.141	1.52
IA-22_20200221	TO15	Tetrahydrofuran				0.168	1.47
IA-22_20200221	TO15	Trichlorofluoromethane				0.386	1.12
IA-22_20200221	TO15	Vinyl Bromide				0.313	0.874
IA-22_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
IA-22_20200221	TO15	N-Hexane				0.128	0.705
IA-22_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)				0.197	0.869
IA-22_20200221	TO15	m,p-Xylene				0.395	1.74
IA-22_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
IA-22_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
IA-22_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.045	0.109
IA-22_20200221	TO15 SIM	1,1-Dichloroethene				0.033	0.079
IA-22_20200221	TO15 SIM	Tetrachloroethylene (PCE)				0.053	0.136
IA-22_20200221	TO15 SIM	Trichloroethylene (TCE)				0.033	0.107
IA-22_20200221	TO15 SIM	Vinyl Chloride				0.018	0.051
IA-22_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.038	0.079
IA-22_20200221	TO15	1,4-Dichlorobenzene	3.33	ug/m3		0.382	1.20
IA-22_20200221	TO15	Acetone	3.42	ug/m3		1.64	2.38
IA-22_20200221	TO15	Chloromethane	0.946	ug/m3		0.142	0.413
IA-22_20200221	TO15	Dichlorodifluoromethane	1.86	ug/m3		0.288	0.989

Validation Summary Table
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Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-22_20200221	TO15	Ethanol	10.5	ug/m3		1.38	9.42
IA-22_20200221	TO15	Isopropanol	1.62	ug/m3		1.17	1.23
IA-22_20200221	TO15	Toluene	1.14	ug/m3		0.196	0.754
IA-22_20200221	TO15 SIM	Carbon Tetrachloride	0.296	ug/m3		0.063	0.126
IA-23_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
IA-23_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
IA-23_20200221	TO15	1,1-Dichloroethane				0.254	0.809
IA-23_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
IA-23_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
IA-23_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
IA-23_20200221	TO15	1,2-Dichloroethane				0.244	0.809
IA-23_20200221	TO15	1,2-Dichloropropane				0.282	0.924
IA-23_20200221	TO15	1,3-Butadiene				0.148	0.442
IA-23_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
IA-23_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
IA-23_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
IA-23_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)				0.142	1.47
IA-23_20200221	TO15	2-Hexanone				0.266	0.820
IA-23_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
IA-23_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
IA-23_20200221	TO15	Benzene				0.156	0.639
IA-23_20200221	TO15	Benzyl Chloride				0.250	1.04
IA-23_20200221	TO15	Bromodichloromethane				0.338	1.34
IA-23_20200221	TO15	Bromoform				0.663	2.07
IA-23_20200221	TO15	Bromomethane				0.300	0.777
IA-23_20200221	TO15	Carbon Disulfide				0.174	0.623
IA-23_20200221	TO15	Chlorobenzene				0.287	0.921
IA-23_20200221	TO15	Chloroethane				0.212	0.528
IA-23_20200221	TO15	Chloroform				0.309	0.977
IA-23_20200221	TO15	Cyclohexane				0.127	0.688
IA-23_20200221	TO15	Dibromochloromethane				0.523	1.70
IA-23_20200221	TO15	Ethyl Acetate				0.440	1.80
IA-23_20200221	TO15	Ethylbenzene				0.188	0.869
IA-23_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
IA-23_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
IA-23_20200221	TO15	N-Heptane				0.193	0.820
IA-23_20200221	TO15	Hexachlorobutadiene				0.564	2.13
IA-23_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
IA-23_20200221	TO15	Methylene Chloride				0.466	1.74
IA-23_20200221	TO15	Styrene				0.185	0.852
IA-23_20200221	TO15	Tert-Butyl Alcohol				0.141	1.52
IA-23_20200221	TO15	Tetrahydrofuran				0.168	1.47
IA-23_20200221	TO15	Trichlorofluoromethane				0.386	1.12
IA-23_20200221	TO15	Vinyl Bromide				0.313	0.874
IA-23_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
IA-23_20200221	TO15	N-Hexane				0.128	0.705
IA-23_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
IA-23_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
IA-23_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.045	0.109
IA-23_20200221	TO15 SIM	1,1-Dichloroethene				0.033	0.079
IA-23_20200221	TO15 SIM	Tetrachloroethylene (PCE)				0.053	0.136
IA-23_20200221	TO15 SIM	Vinyl Chloride				0.018	0.051
IA-23_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.038	0.079
IA-23_20200221	TO15	1,2,4-Trimethylbenzene	10.3	ug/m3		0.181	0.983
IA-23_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	2.87	ug/m3		0.332	0.983
IA-23_20200221	TO15	1,4-Dichlorobenzene	2.52	ug/m3		0.382	1.20
IA-23_20200221	TO15	4-Ethyltoluene	2.56	ug/m3		0.182	0.983
IA-23_20200221	TO15	Acetone	6.58	ug/m3		1.64	2.38
IA-23_20200221	TO15	Chloromethane	0.940	ug/m3		0.142	0.413
IA-23_20200221	TO15	Dichlorodifluoromethane	1.91	ug/m3		0.288	0.989
IA-23_20200221	TO15	Ethanol	20.3	ug/m3		1.38	9.42
IA-23_20200221	TO15	Isopropanol	2.51	ug/m3		1.17	1.23

Validation Summary Table
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Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-23_20200221	TO15	Toluene	1.32	ug/m3		0.196	0.754
IA-23_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	0.960	ug/m3		0.197	0.869
IA-23_20200221	TO15	m,p-Xylene	2.01	ug/m3		0.395	1.74
IA-23_20200221	TO15 SIM	Carbon Tetrachloride	0.327	ug/m3		0.063	0.126
IA-23_20200221	TO15 SIM	Trichloroethylene (TCE)	0.769	ug/m3		0.033	0.107
IA-24_20200221	TO15	1,1,2,2-Tetrachloroethane				0.790	2.57
IA-24_20200221	TO15	1,1,2-Trichloroethane				0.682	2.04
IA-24_20200221	TO15	1,1-Dichloroethane				0.474	1.51
IA-24_20200221	TO15	1,2,4-Trichlorobenzene				0.935	2.78
IA-24_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.807	2.87
IA-24_20200221	TO15	1,2-Dichlorobenzene				0.703	2.25
IA-24_20200221	TO15	1,2-Dichloroethane				0.453	1.51
IA-24_20200221	TO15	1,2-Dichloropropane				0.527	1.73
IA-24_20200221	TO15	1,3-Butadiene				0.277	0.827
IA-24_20200221	TO15	1,3-Dichlorobenzene				0.703	2.25
IA-24_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.541	1.35
IA-24_20200221	TO15	2,2,4-Trimethylpentane				0.315	1.75
IA-24_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)				0.265	2.75
IA-24_20200221	TO15	2-Hexanone				0.496	1.53
IA-24_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.341	1.17
IA-24_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.322	3.83
IA-24_20200221	TO15	Benzene				0.291	1.19
IA-24_20200221	TO15	Benzyl Chloride				0.466	1.94
IA-24_20200221	TO15	Bromodichloromethane				0.630	2.51
IA-24_20200221	TO15	Bromoform				1.24	3.87
IA-24_20200221	TO15	Bromomethane				0.559	1.45
IA-24_20200221	TO15	Carbon Disulfide				0.324	1.16
IA-24_20200221	TO15	Chlorobenzene				0.534	1.72
IA-24_20200221	TO15	Chloroethane				0.396	0.987
IA-24_20200221	TO15	Chloroform				0.576	1.83
IA-24_20200221	TO15	Cyclohexane				0.236	1.29
IA-24_20200221	TO15	Dibromochloromethane				0.980	3.19
IA-24_20200221	TO15	Ethyl Acetate				0.822	3.37
IA-24_20200221	TO15	Ethylbenzene				0.351	1.62
IA-24_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.935	2.87
IA-24_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.769	2.61
IA-24_20200221	TO15	N-Heptane				0.360	1.53
IA-24_20200221	TO15	Hexachlorobutadiene				1.05	3.99
IA-24_20200221	TO15	Isopropanol				2.20	2.30
IA-24_20200221	TO15	Tert-Butyl Methyl Ether				0.354	1.35
IA-24_20200221	TO15	Methylene Chloride				0.869	3.24
IA-24_20200221	TO15	Styrene				0.345	1.59
IA-24_20200221	TO15	Tert-Butyl Alcohol				0.264	2.83
IA-24_20200221	TO15	Tetrahydrofuran				0.313	2.75
IA-24_20200221	TO15	Trichlorofluoromethane				0.719	2.10
IA-24_20200221	TO15	Vinyl Bromide				0.586	1.64
IA-24_20200221	TO15	Cis-1,3-Dichloropropene				0.347	1.70
IA-24_20200221	TO15	N-Hexane				0.240	1.32
IA-24_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)				0.367	1.62
IA-24_20200221	TO15	m,p-Xylene				0.738	3.24
IA-24_20200221	TO15	Trans-1,2-Dichloroethene				0.476	1.48
IA-24_20200221	TO15	Trans-1,3-Dichloropropene				0.370	1.70
IA-24_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.085	0.204
IA-24_20200221	TO15 SIM	1,1-Dichloroethene				0.062	0.148
IA-24_20200221	TO15 SIM	Tetrachloroethylene (PCE)				0.099	0.254
IA-24_20200221	TO15 SIM	Trichloroethylene (TCE)				0.062	0.201
IA-24_20200221	TO15 SIM	Vinyl Chloride				0.034	0.096
IA-24_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.071	0.148
IA-24_20200221	TO15	1,2,4-Trimethylbenzene	9.59	ug/m3		0.338	1.84
IA-24_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	3.02	ug/m3		0.619	1.84
IA-24_20200221	TO15	1,4-Dichlorobenzene	3.75	ug/m3		0.715	2.25
IA-24_20200221	TO15	4-Ethyltoluene	2.28	ug/m3		0.340	1.84

Validation Summary Table
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Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-24_20200221	TO15	Acetone	11.2	ug/m3		3.06	4.44
IA-24_20200221	TO15	Chloromethane	0.999	ug/m3		0.266	0.772
IA-24_20200221	TO15	Dichlorodifluoromethane	1.92	ug/m3		0.539	1.85
IA-24_20200221	TO15	Ethanol	33.9	ug/m3		2.58	17.6
IA-24_20200221	TO15	Toluene	1.44	ug/m3		0.366	1.41
IA-24_20200221	TO15 SIM	Carbon Tetrachloride	0.387	ug/m3		0.118	0.235
IA-25_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
IA-25_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
IA-25_20200221	TO15	1,1-Dichloroethane				0.254	0.809
IA-25_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
IA-25_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
IA-25_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
IA-25_20200221	TO15	1,2-Dichloroethane				0.244	0.809
IA-25_20200221	TO15	1,2-Dichloropropane				0.282	0.924
IA-25_20200221	TO15	1,3-Butadiene				0.148	0.442
IA-25_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
IA-25_20200221	TO15	1,4-Dichlorobenzene				0.382	1.20
IA-25_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
IA-25_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
IA-25_20200221	TO15	2-Hexanone				0.266	0.820
IA-25_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
IA-25_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
IA-25_20200221	TO15	Benzyl Chloride				0.250	1.04
IA-25_20200221	TO15	Bromodichloromethane				0.338	1.34
IA-25_20200221	TO15	Bromoform				0.663	2.07
IA-25_20200221	TO15	Bromomethane				0.300	0.777
IA-25_20200221	TO15	Carbon Disulfide				0.174	0.623
IA-25_20200221	TO15	Chlorobenzene				0.287	0.921
IA-25_20200221	TO15	Chloroethane				0.212	0.528
IA-25_20200221	TO15	Cyclohexane				0.127	0.688
IA-25_20200221	TO15	Dibromochloromethane				0.523	1.70
IA-25_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
IA-25_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
IA-25_20200221	TO15	Hexachlorobutadiene				0.564	2.13
IA-25_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
IA-25_20200221	TO15	Methylene Chloride				0.466	1.74
IA-25_20200221	TO15	Tert-Butyl Alcohol				0.141	1.52
IA-25_20200221	TO15	Trichlorofluoromethane				0.386	1.12
IA-25_20200221	TO15	Vinyl Bromide				0.313	0.874
IA-25_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
IA-25_20200221	TO15	N-Hexane				0.128	0.705
IA-25_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
IA-25_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
IA-25_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.045	0.109
IA-25_20200221	TO15 SIM	1,1-Dichloroethene				0.033	0.079
IA-25_20200221	TO15 SIM	Trichloroethylene (TCE)				0.033	0.107
IA-25_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.038	0.079
IA-25_20200221	TO15	1,2,4-Trimethylbenzene	36.4	ug/m3		0.181	0.983
IA-25_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	9.78	ug/m3		0.332	0.983
IA-25_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	3.92	ug/m3		0.142	1.47
IA-25_20200221	TO15	4-Ethyltoluene	5.70	ug/m3		0.182	0.983
IA-25_20200221	TO15	Acetone	42.8	ug/m3		1.64	2.38
IA-25_20200221	TO15	Benzene	1.28	ug/m3		0.156	0.639
IA-25_20200221	TO15	Chloroform	16.3	ug/m3		0.309	0.977
IA-25_20200221	TO15	Chloromethane	1.31	ug/m3		0.142	0.413
IA-25_20200221	TO15	Dichlorodifluoromethane	2.26	ug/m3		0.288	0.989
IA-25_20200221	TO15	Ethanol	499	ug/m3		1.38	9.42
IA-25_20200221	TO15	Ethyl Acetate	8.40	ug/m3		0.440	1.80
IA-25_20200221	TO15	Ethylbenzene	2.75	ug/m3		0.188	0.869
IA-25_20200221	TO15	N-Heptane	1.01	ug/m3		0.193	0.820
IA-25_20200221	TO15	Isopropanol	25.8	ug/m3		1.17	1.23
IA-25_20200221	TO15	Styrene	1.03	ug/m3		0.185	0.852

Validation Summary Table
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Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-25_20200221	TO15	Tetrahydrofuran	13.6	ug/m3		0.168	1.47
IA-25_20200221	TO15	Toluene	4.30	ug/m3		0.196	0.754
IA-25_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	7.17	ug/m3		0.197	0.869
IA-25_20200221	TO15	m,p-Xylene	12.2	ug/m3		0.395	1.74
IA-25_20200221	TO15 SIM	Carbon Tetrachloride	0.333	ug/m3		0.063	0.126
IA-25_20200221	TO15 SIM	Tetrachloroethylene (PCE)	0.217	ug/m3		0.053	0.136
IA-25_20200221	TO15 SIM	Vinyl Chloride	0.072	ug/m3		0.018	0.051
IA-26_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
IA-26_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
IA-26_20200221	TO15	1,1-Dichloroethane				0.254	0.809
IA-26_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
IA-26_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
IA-26_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
IA-26_20200221	TO15	1,2-Dichloroethane				0.244	0.809
IA-26_20200221	TO15	1,2-Dichloropropane				0.282	0.924
IA-26_20200221	TO15	1,3-Butadiene				0.148	0.442
IA-26_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
IA-26_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
IA-26_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
IA-26_20200221	TO15	2-Hexanone				0.266	0.820
IA-26_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
IA-26_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
IA-26_20200221	TO15	Benzyl Chloride				0.250	1.04
IA-26_20200221	TO15	Bromoform				0.663	2.07
IA-26_20200221	TO15	Bromomethane				0.300	0.777
IA-26_20200221	TO15	Carbon Disulfide				0.174	0.623
IA-26_20200221	TO15	Chlorobenzene				0.287	0.921
IA-26_20200221	TO15	Chloroethane				0.212	0.528
IA-26_20200221	TO15	Dibromochloromethane				0.523	1.70
IA-26_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
IA-26_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
IA-26_20200221	TO15	N-Heptane				0.193	0.820
IA-26_20200221	TO15	Hexachlorobutadiene				0.564	2.13
IA-26_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
IA-26_20200221	TO15	Methylene Chloride				0.466	1.74
IA-26_20200221	TO15	Styrene				0.185	0.852
IA-26_20200221	TO15	Tert-Butyl Alcohol				0.141	1.52
IA-26_20200221	TO15	Tetrahydrofuran				0.168	1.47
IA-26_20200221	TO15	Vinyl Bromide				0.313	0.874
IA-26_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
IA-26_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
IA-26_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
IA-26_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.045	0.109
IA-26_20200221	TO15 SIM	1,1-Dichloroethene				0.033	0.079
IA-26_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.038	0.079
IA-26_20200221	TO15	1,2,4-Trimethylbenzene	10.4	ug/m3		0.181	0.983
IA-26_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	2.64	ug/m3		0.332	0.983
IA-26_20200221	TO15	1,4-Dichlorobenzene	4.98	ug/m3		0.382	1.20
IA-26_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	1.95	ug/m3		0.142	1.47
IA-26_20200221	TO15	4-Ethyltoluene	1.70	ug/m3		0.182	0.983
IA-26_20200221	TO15	Acetone	12.6	ug/m3		1.64	2.38
IA-26_20200221	TO15	Benzene	0.776	ug/m3		0.156	0.639
IA-26_20200221	TO15	Bromodichloromethane	1.87	ug/m3		0.338	1.34
IA-26_20200221	TO15	Chloroform	24.1	ug/m3		0.309	0.977
IA-26_20200221	TO15	Chloromethane	1.01	ug/m3		0.142	0.413
IA-26_20200221	TO15	Cyclohexane	1.26	ug/m3		0.127	0.688
IA-26_20200221	TO15	Dichlorodifluoromethane	2.00	ug/m3		0.288	0.989
IA-26_20200221	TO15	Ethanol	184	ug/m3		1.38	9.42
IA-26_20200221	TO15	Ethyl Acetate	2.25	ug/m3		0.440	1.80
IA-26_20200221	TO15	Ethylbenzene	1.03	ug/m3		0.188	0.869
IA-26_20200221	TO15	Isopropanol	18.1	ug/m3		1.17	1.23
IA-26_20200221	TO15	Toluene	2.49	ug/m3		0.196	0.754

Validation Summary Table
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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-26_20200221	TO15	Trichlorofluoromethane	1.13	ug/m3		0.386	1.12
IA-26_20200221	TO15	N-Hexane	3.04	ug/m3		0.128	0.705
IA-26_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	2.45	ug/m3		0.197	0.869
IA-26_20200221	TO15	m,p-Xylene	4.33	ug/m3		0.395	1.74
IA-26_20200221	TO15 SIM	Carbon Tetrachloride	0.365	ug/m3		0.063	0.126
IA-26_20200221	TO15 SIM	Tetrachloroethylene (PCE)	0.312	ug/m3		0.053	0.136
IA-26_20200221	TO15 SIM	Trichloroethylene (TCE)	0.430	ug/m3		0.033	0.107
IA-26_20200221	TO15 SIM	Vinyl Chloride	0.092	ug/m3		0.018	0.051
IA-27_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
IA-27_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
IA-27_20200221	TO15	1,1-Dichloroethane				0.254	0.809
IA-27_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
IA-27_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
IA-27_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
IA-27_20200221	TO15	1,2-Dichloroethane				0.244	0.809
IA-27_20200221	TO15	1,2-Dichloropropane				0.282	0.924
IA-27_20200221	TO15	1,3-Butadiene				0.148	0.442
IA-27_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
IA-27_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
IA-27_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
IA-27_20200221	TO15	2-Hexanone				0.266	0.820
IA-27_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
IA-27_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
IA-27_20200221	TO15	Benzyl Chloride				0.250	1.04
IA-27_20200221	TO15	Bromoform				0.663	2.07
IA-27_20200221	TO15	Bromomethane				0.300	0.777
IA-27_20200221	TO15	Carbon Disulfide				0.174	0.623
IA-27_20200221	TO15	Chlorobenzene				0.287	0.921
IA-27_20200221	TO15	Chloroethane				0.212	0.528
IA-27_20200221	TO15	Dibromochloromethane				0.523	1.70
IA-27_20200221	TO15	Ethylbenzene				0.188	0.869
IA-27_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
IA-27_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
IA-27_20200221	TO15	N-Heptane				0.193	0.820
IA-27_20200221	TO15	Hexachlorobutadiene				0.564	2.13
IA-27_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
IA-27_20200221	TO15	Methylene Chloride				0.466	1.74
IA-27_20200221	TO15	Styrene				0.185	0.852
IA-27_20200221	TO15	Tert-Butyl Alcohol				0.141	1.52
IA-27_20200221	TO15	Tetrahydrofuran				0.168	1.47
IA-27_20200221	TO15	Vinyl Bromide				0.313	0.874
IA-27_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
IA-27_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
IA-27_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
IA-27_20200221	TO15 SIM	1,1,1-Trichloroethane (TCA)				0.045	0.109
IA-27_20200221	TO15 SIM	1,1-Dichloroethene				0.033	0.079
IA-27_20200221	TO15 SIM	Cis-1,2-Dichloroethylene				0.038	0.079
IA-27_20200221	TO15	1,2,4-Trimethylbenzene	6.98	ug/m3		0.181	0.983
IA-27_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	1.74	ug/m3		0.332	0.983
IA-27_20200221	TO15	1,4-Dichlorobenzene	5.07	ug/m3		0.382	1.20
IA-27_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	1.48	ug/m3		0.142	1.47
IA-27_20200221	TO15	4-Ethyltoluene	1.17	ug/m3		0.182	0.983
IA-27_20200221	TO15	Acetone	12.5	ug/m3		1.64	2.38
IA-27_20200221	TO15	Benzene	1.60	ug/m3		0.156	0.639
IA-27_20200221	TO15	Bromodichloromethane	1.71	ug/m3		0.338	1.34
IA-27_20200221	TO15	Chloroform	23.6	ug/m3		0.309	0.977
IA-27_20200221	TO15	Chloromethane	1.16	ug/m3		0.142	0.413
IA-27_20200221	TO15	Cyclohexane	1.94	ug/m3		0.127	0.688
IA-27_20200221	TO15	Dichlorodifluoromethane	2.02	ug/m3		0.288	0.989
IA-27_20200221	TO15	Ethanol	134	ug/m3		1.38	9.42
IA-27_20200221	TO15	Ethyl Acetate	2.38	ug/m3		0.440	1.80
IA-27_20200221	TO15	Isopropanol	12.1	ug/m3		1.17	1.23

Validation Summary Table
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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
IA-27_20200221	TO15	Toluene	2.15	ug/m3		0.196	0.754
IA-27_20200221	TO15	Trichlorofluoromethane	1.23	ug/m3		0.386	1.12
IA-27_20200221	TO15	N-Hexane	4.69	ug/m3		0.128	0.705
IA-27_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	1.54	ug/m3		0.197	0.869
IA-27_20200221	TO15	m,p-Xylene	2.86	ug/m3		0.395	1.74
IA-27_20200221	TO15 SIM	Carbon Tetrachloride	0.377	ug/m3		0.063	0.126
IA-27_20200221	TO15 SIM	Tetrachloroethylene (PCE)	0.305	ug/m3		0.053	0.136
IA-27_20200221	TO15 SIM	Trichloroethylene (TCE)	0.113	ug/m3		0.033	0.107
IA-27_20200221	TO15 SIM	Vinyl Chloride	0.095	ug/m3		0.018	0.051
SV-19_20200221	TO15	1,1,2,2-Tetrachloroethane			UJ	0.422	1.37
SV-19_20200221	TO15	1,1,2-Trichloroethane			UJ	0.366	1.09
SV-19_20200221	TO15	1,1-Dichloroethane			UJ	0.254	0.809
SV-19_20200221	TO15	1,1-Dichloroethene			UJ	0.255	0.793
SV-19_20200221	TO15	1,2,4-Trichlorobenzene			UJ	0.500	1.48
SV-19_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)			UJ	0.431	1.54
SV-19_20200221	TO15	1,2-Dichlorobenzene			UJ	0.378	1.20
SV-19_20200221	TO15	1,2-Dichloroethane			UJ	0.244	0.809
SV-19_20200221	TO15	1,2-Dichloropropane			UJ	0.282	0.924
SV-19_20200221	TO15	1,3-Butadiene			UJ	0.148	0.442
SV-19_20200221	TO15	1,3-Dichlorobenzene			UJ	0.377	1.20
SV-19_20200221	TO15	1,4-Dichlorobenzene			UJ	0.382	1.20
SV-19_20200221	TO15	1,4-Dioxane (P-Dioxane)			UJ	0.290	0.721
SV-19_20200221	TO15	2,2,4-Trimethylpentane			UJ	0.169	0.934
SV-19_20200221	TO15	2-Hexanone			UJ	0.266	0.820
SV-19_20200221	TO15	Allyl Chloride (3-Chloropropene)			UJ	0.183	0.626
SV-19_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)			UJ	0.173	2.05
SV-19_20200221	TO15	Benzyl Chloride			UJ	0.250	1.04
SV-19_20200221	TO15	Bromodichloromethane			UJ	0.338	1.34
SV-19_20200221	TO15	Bromoform			UJ	0.663	2.07
SV-19_20200221	TO15	Bromomethane			UJ	0.300	0.777
SV-19_20200221	TO15	Chlorobenzene			UJ	0.287	0.921
SV-19_20200221	TO15	Chloroethane			UJ	0.212	0.528
SV-19_20200221	TO15	Chloromethane			UJ	0.142	0.413
SV-19_20200221	TO15	Dibromochloromethane			UJ	0.523	1.70
SV-19_20200221	TO15	Ethyl Acetate			UJ	0.440	1.80
SV-19_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane			UJ	0.503	1.53
SV-19_20200221	TO15	1,2-Dichlorotetrafluoroethane			UJ	0.413	1.40
SV-19_20200221	TO15	Hexachlorobutadiene			UJ	0.564	2.13
SV-19_20200221	TO15	Tert-Butyl Methyl Ether			UJ	0.189	0.721
SV-19_20200221	TO15	Methylene Chloride			UJ	0.466	1.74
SV-19_20200221	TO15	Styrene			UJ	0.185	0.852
SV-19_20200221	TO15	Tetrahydrofuran			UJ	0.168	1.47
SV-19_20200221	TO15	Trichloroethylene (TCE)			UJ	0.271	1.07
SV-19_20200221	TO15	Vinyl Bromide			UJ	0.313	0.874
SV-19_20200221	TO15	Vinyl Chloride			UJ	0.160	0.511
SV-19_20200221	TO15	Cis-1,2-Dichloroethylene			UJ	0.464	0.793
SV-19_20200221	TO15	Cis-1,3-Dichloropropene			UJ	0.186	0.908
SV-19_20200221	TO15	Trans-1,2-Dichloroethene			UJ	0.255	0.793
SV-19_20200221	TO15	Trans-1,3-Dichloropropene			UJ	0.198	0.908
SV-19_20200221	TO15	1,1,1-Trichloroethane (TCA)	1.39	ug/m3	J	0.273	1.09
SV-19_20200221	TO15	1,2,4-Trimethylbenzene	33.3	ug/m3	J	0.181	0.983
SV-19_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	9.73	ug/m3	J	0.332	0.983
SV-19_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	3.80	ug/m3	J	0.142	1.47
SV-19_20200221	TO15	4-Ethyltoluene	3.05	ug/m3	J	0.182	0.983
SV-19_20200221	TO15	Acetone	25.2	ug/m3	J	1.64	2.38
SV-19_20200221	TO15	Benzene	7.92	ug/m3	J	0.156	0.639
SV-19_20200221	TO15	Carbon Disulfide	2.25	ug/m3	J	0.174	0.623
SV-19_20200221	TO15	Carbon Tetrachloride	2.18	ug/m3	J	0.314	1.26
SV-19_20200221	TO15	Chloroform	39.8	ug/m3	J	0.309	0.977
SV-19_20200221	TO15	Cyclohexane	4.30	ug/m3	J	0.127	0.688
SV-19_20200221	TO15	Dichlorodifluoromethane	4.31	ug/m3	J	0.288	0.989
SV-19_20200221	TO15	Ethanol	54.6	ug/m3	J	1.38	9.42

Validation Summary Table
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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-19_20200221	TO15	Ethylbenzene	1.63	ug/m3	J	0.188	0.869
SV-19_20200221	TO15	N-Heptane	57.8	ug/m3	J	0.193	0.820
SV-19_20200221	TO15	Isopropanol	10.8	ug/m3	J	1.17	1.23
SV-19_20200221	TO15	Tert-Butyl Alcohol	33.0	ug/m3	J	0.141	1.52
SV-19_20200221	TO15	Tetrachloroethylene (PCE)	3.72	ug/m3	J	0.444	1.36
SV-19_20200221	TO15	Toluene	8.67	ug/m3	J	0.196	0.754
SV-19_20200221	TO15	Trichlorofluoromethane	87.7	ug/m3	J	0.386	1.12
SV-19_20200221	TO15	N-Hexane	5.08	ug/m3	J	0.128	0.705
SV-19_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	3.14	ug/m3	J	0.197	0.869
SV-19_20200221	TO15	m,p-Xylene	6.08	ug/m3	J	0.395	1.74
SV-20_20200221	TO15	Styrene	0.869	ug/m3	J	0.185	0.852
SV-20_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
SV-20_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
SV-20_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
SV-20_20200221	TO15	1,1-Dichloroethane				0.254	0.809
SV-20_20200221	TO15	1,1-Dichloroethene				0.255	0.793
SV-20_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
SV-20_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
SV-20_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
SV-20_20200221	TO15	1,2-Dichloroethane				0.244	0.809
SV-20_20200221	TO15	1,2-Dichloropropane				0.282	0.924
SV-20_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
SV-20_20200221	TO15	1,3-Butadiene				0.148	0.442
SV-20_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
SV-20_20200221	TO15	1,4-Dichlorobenzene				0.382	1.20
SV-20_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
SV-20_20200221	TO15	2-Hexanone				0.266	0.820
SV-20_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
SV-20_20200221	TO15	Benzyl Chloride				0.250	1.04
SV-20_20200221	TO15	Bromodichloromethane				0.338	1.34
SV-20_20200221	TO15	Bromoform				0.663	2.07
SV-20_20200221	TO15	Bromomethane				0.300	0.777
SV-20_20200221	TO15	Carbon Tetrachloride				0.314	1.26
SV-20_20200221	TO15	Chlorobenzene				0.287	0.921
SV-20_20200221	TO15	Chloroethane				0.212	0.528
SV-20_20200221	TO15	Cis-1,2-Dichloroethylene				0.464	0.793
SV-20_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
SV-20_20200221	TO15	Dibromochloromethane				0.523	1.70
SV-20_20200221	TO15	Ethyl Acetate				0.440	1.80
SV-20_20200221	TO15	Hexachlorobutadiene				0.564	2.13
SV-20_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
SV-20_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
SV-20_20200221	TO15	Tetrachloroethylene (PCE)				0.444	1.36
SV-20_20200221	TO15	Tetrahydrofuran				0.168	1.47
SV-20_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
SV-20_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
SV-20_20200221	TO15	Trichloroethylene (TCE)				0.271	1.07
SV-20_20200221	TO15	Vinyl Bromide				0.313	0.874
SV-20_20200221	TO15	Vinyl Chloride				0.160	0.511
SV-20_20200221	TO15	1,1,1-Trichloroethane (TCA)	1.54	ug/m3		0.273	1.09
SV-20_20200221	TO15	1,2,4-Trimethylbenzene	28.6	ug/m3		0.181	0.983
SV-20_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	9.93	ug/m3		0.332	0.983
SV-20_20200221	TO15	1,4-Dioxane (P-Dioxane)	5.80	ug/m3		0.290	0.721
SV-20_20200221	TO15	4-Ethyltoluene	4.20	ug/m3		0.182	0.983
SV-20_20200221	TO15	Acetone	627	ug/m3		1.64	2.38
SV-20_20200221	TO15	Benzene	11.9	ug/m3		0.156	0.639
SV-20_20200221	TO15	Carbon Disulfide	2.19	ug/m3		0.174	0.623
SV-20_20200221	TO15	Chloroform	20.5	ug/m3		0.309	0.977
SV-20_20200221	TO15	Chloromethane	0.529	ug/m3		0.142	0.413
SV-20_20200221	TO15	Cyclohexane	5.61	ug/m3		0.127	0.688
SV-20_20200221	TO15	Dichlorodifluoromethane	7.12	ug/m3		0.288	0.989
SV-20_20200221	TO15	Ethanol	234	ug/m3		1.38	9.42

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-20_20200221	TO15	Ethylbenzene	2.20	ug/m3		0.188	0.869
SV-20_20200221	TO15	Isopropanol	54.1	ug/m3		1.17	1.23
SV-20_20200221	TO15	m,p-Xylene	7.21	ug/m3		0.395	1.74
SV-20_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	7.64	ug/m3		0.142	1.47
SV-20_20200221	TO15	Methylene Chloride	10.4	ug/m3		0.466	1.74
SV-20_20200221	TO15	N-Heptane	64.3	ug/m3		0.193	0.820
SV-20_20200221	TO15	N-Hexane	4.79	ug/m3		0.128	0.705
SV-20_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	3.67	ug/m3		0.197	0.869
SV-20_20200221	TO15	Tert-Butyl Alcohol	56.4	ug/m3		0.141	1.52
SV-20_20200221	TO15	Toluene	12.6	ug/m3		0.196	0.754
SV-20_20200221	TO15	Trichlorofluoromethane	162	ug/m3		0.386	1.12
SV-21_20200221	TO15	1,1,1-Trichloroethane (TCA)			UJ	0.273	1.09
SV-21_20200221	TO15	1,1,2,2-Tetrachloroethane			UJ	0.422	1.37
SV-21_20200221	TO15	1,1,2-Trichloroethane			UJ	0.366	1.09
SV-21_20200221	TO15	1,1-Dichloroethane			UJ	0.254	0.809
SV-21_20200221	TO15	1,1-Dichloroethene			UJ	0.255	0.793
SV-21_20200221	TO15	1,2,4-Trichlorobenzene			UJ	0.500	1.48
SV-21_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)			UJ	0.431	1.54
SV-21_20200221	TO15	1,2-Dichlorobenzene			UJ	0.378	1.20
SV-21_20200221	TO15	1,2-Dichloroethane			UJ	0.244	0.809
SV-21_20200221	TO15	1,2-Dichloropropane			UJ	0.282	0.924
SV-21_20200221	TO15	1,3-Dichlorobenzene			UJ	0.377	1.20
SV-21_20200221	TO15	1,4-Dichlorobenzene			UJ	0.382	1.20
SV-21_20200221	TO15	2,2,4-Trimethylpentane			UJ	0.169	0.934
SV-21_20200221	TO15	2-Hexanone			UJ	0.266	0.820
SV-21_20200221	TO15	Allyl Chloride (3-Chloropropene)			UJ	0.183	0.626
SV-21_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)			UJ	0.173	2.05
SV-21_20200221	TO15	Benzyl Chloride			UJ	0.250	1.04
SV-21_20200221	TO15	Bromodichloromethane			UJ	0.338	1.34
SV-21_20200221	TO15	Bromoform			UJ	0.663	2.07
SV-21_20200221	TO15	Bromomethane			UJ	0.300	0.777
SV-21_20200221	TO15	Chlorobenzene			UJ	0.287	0.921
SV-21_20200221	TO15	Chloroethane			UJ	0.212	0.528
SV-21_20200221	TO15	Dibromochloromethane			UJ	0.523	1.70
SV-21_20200221	TO15	Ethyl Acetate			UJ	0.440	1.80
SV-21_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane			UJ	0.503	1.53
SV-21_20200221	TO15	1,2-Dichlorotetrafluoroethane			UJ	0.413	1.40
SV-21_20200221	TO15	Hexachlorobutadiene			UJ	0.564	2.13
SV-21_20200221	TO15	Tert-Butyl Methyl Ether			UJ	0.189	0.721
SV-21_20200221	TO15	Styrene			UJ	0.185	0.852
SV-21_20200221	TO15	Tetrahydrofuran			UJ	0.168	1.47
SV-21_20200221	TO15	Trichloroethylene (TCE)			UJ	0.271	1.07
SV-21_20200221	TO15	Vinyl Bromide			UJ	0.313	0.874
SV-21_20200221	TO15	Vinyl Chloride			UJ	0.160	0.511
SV-21_20200221	TO15	Cis-1,2-Dichloroethylene			UJ	0.464	0.793
SV-21_20200221	TO15	Cis-1,3-Dichloropropene			UJ	0.186	0.908
SV-21_20200221	TO15	Trans-1,2-Dichloroethene			UJ	0.255	0.793
SV-21_20200221	TO15	Trans-1,3-Dichloropropene			UJ	0.198	0.908
SV-21_20200221	TO15	1,2,4-Trimethylbenzene	13.7	ug/m3	J	0.181	0.983
SV-21_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	4.12	ug/m3	J	0.332	0.983
SV-21_20200221	TO15	1,3-Butadiene	3.34	ug/m3	J	0.148	0.442
SV-21_20200221	TO15	1,4-Dioxane (P-Dioxane)	1.13	ug/m3	J	0.290	0.721
SV-21_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	6.61	ug/m3	J	0.142	1.47
SV-21_20200221	TO15	4-Ethyltoluene	1.87	ug/m3	J	0.182	0.983
SV-21_20200221	TO15	Acetone	85.0	ug/m3	J	1.64	2.38
SV-21_20200221	TO15	Benzene	8.43	ug/m3	J	0.156	0.639
SV-21_20200221	TO15	Carbon Disulfide	3.92	ug/m3	J	0.174	0.623
SV-21_20200221	TO15	Carbon Tetrachloride	1.96	ug/m3	J	0.314	1.26
SV-21_20200221	TO15	Chloroform	1.15	ug/m3	J	0.309	0.977
SV-21_20200221	TO15	Chloromethane	0.733	ug/m3	J	0.142	0.413
SV-21_20200221	TO15	Cyclohexane	9.67	ug/m3	J	0.127	0.688
SV-21_20200221	TO15	Dichlorodifluoromethane	19.0	ug/m3	J	0.288	0.989

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-21_20200221	TO15	Ethanol	134	ug/m3	J	1.38	9.42
SV-21_20200221	TO15	Ethylbenzene	1.12	ug/m3	J	0.188	0.869
SV-21_20200221	TO15	N-Heptane	77.0	ug/m3	J	0.193	0.820
SV-21_20200221	TO15	Isopropanol	16.3	ug/m3	J	1.17	1.23
SV-21_20200221	TO15	Methylene Chloride	1.98	ug/m3	J	0.466	1.74
SV-21_20200221	TO15	Tert-Butyl Alcohol	26.1	ug/m3	J	0.141	1.52
SV-21_20200221	TO15	Tetrachloroethylene (PCE)	3.95	ug/m3	J	0.444	1.36
SV-21_20200221	TO15	Toluene	6.14	ug/m3	J	0.196	0.754
SV-21_20200221	TO15	Trichlorofluoromethane	202	ug/m3	J	0.386	1.12
SV-21_20200221	TO15	N-Hexane	21.4	ug/m3	J	0.128	0.705
SV-21_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	2.15	ug/m3	J	0.197	0.869
SV-21_20200221	TO15	m,p-Xylene	4.47	ug/m3	J	0.395	1.74
SV-22_20200221	TO15	1,1,1-Trichloroethane (TCA)				0.273	1.09
SV-22_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
SV-22_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
SV-22_20200221	TO15	1,1-Dichloroethane				0.254	0.809
SV-22_20200221	TO15	1,1-Dichloroethene				0.255	0.793
SV-22_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
SV-22_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
SV-22_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
SV-22_20200221	TO15	1,2-Dichloroethane				0.244	0.809
SV-22_20200221	TO15	1,2-Dichloropropane				0.282	0.924
SV-22_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
SV-22_20200221	TO15	1,4-Dichlorobenzene				0.382	1.20
SV-22_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
SV-22_20200221	TO15	2-Hexanone				0.266	0.820
SV-22_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
SV-22_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
SV-22_20200221	TO15	Benzyl Chloride				0.250	1.04
SV-22_20200221	TO15	Bromodichloromethane				0.338	1.34
SV-22_20200221	TO15	Bromoform				0.663	2.07
SV-22_20200221	TO15	Bromomethane				0.300	0.777
SV-22_20200221	TO15	Carbon Tetrachloride				0.314	1.26
SV-22_20200221	TO15	Chlorobenzene				0.287	0.921
SV-22_20200221	TO15	Chloroethane				0.212	0.528
SV-22_20200221	TO15	Chloroform				0.309	0.977
SV-22_20200221	TO15	Dibromochloromethane				0.523	1.70
SV-22_20200221	TO15	Ethyl Acetate				0.440	1.80
SV-22_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
SV-22_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
SV-22_20200221	TO15	Hexachlorobutadiene				0.564	2.13
SV-22_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
SV-22_20200221	TO15	Styrene				0.185	0.852
SV-22_20200221	TO15	Trichloroethylene (TCE)				0.271	1.07
SV-22_20200221	TO15	Vinyl Bromide				0.313	0.874
SV-22_20200221	TO15	Vinyl Chloride				0.160	0.511
SV-22_20200221	TO15	Cis-1,2-Dichloroethylene				0.464	0.793
SV-22_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
SV-22_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
SV-22_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
SV-22_20200221	TO15	1,2,4-Trimethylbenzene	23.8	ug/m3		0.181	0.983
SV-22_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	7.03	ug/m3		0.332	0.983
SV-22_20200221	TO15	1,3-Butadiene	0.553	ug/m3		0.148	0.442
SV-22_20200221	TO15	1,4-Dioxane (P-Dioxane)	1.78	ug/m3		0.290	0.721
SV-22_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	11.7	ug/m3		0.142	1.47
SV-22_20200221	TO15	4-Ethyltoluene	3.03	ug/m3		0.182	0.983
SV-22_20200221	TO15	Acetone	128	ug/m3		1.64	2.38
SV-22_20200221	TO15	Benzene	2.27	ug/m3		0.156	0.639
SV-22_20200221	TO15	Carbon Disulfide	5.57	ug/m3		0.174	0.623
SV-22_20200221	TO15	Chloromethane	0.648	ug/m3		0.142	0.413
SV-22_20200221	TO15	Cyclohexane	1.44	ug/m3		0.127	0.688
SV-22_20200221	TO15	Dichlorodifluoromethane	47.5	ug/m3		0.288	0.989

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-22_20200221	TO15	Ethanol	63.9	ug/m3		1.38	9.42
SV-22_20200221	TO15	Ethylbenzene	1.66	ug/m3		0.188	0.869
SV-22_20200221	TO15	N-Heptane	96.3	ug/m3		0.193	0.820
SV-22_20200221	TO15	Isopropanol	15.4	ug/m3		1.17	1.23
SV-22_20200221	TO15	Methylene Chloride	15.4	ug/m3		0.466	1.74
SV-22_20200221	TO15	Tert-Butyl Alcohol	24.8	ug/m3		0.141	1.52
SV-22_20200221	TO15	Tetrachloroethylene (PCE)	8.75	ug/m3		0.444	1.36
SV-22_20200221	TO15	Tetrahydrofuran	2.65	ug/m3		0.168	1.47
SV-22_20200221	TO15	Toluene	5.54	ug/m3		0.196	0.754
SV-22_20200221	TO15	Trichlorofluoromethane	235	ug/m3		0.386	1.12
SV-22_20200221	TO15	N-Hexane	48.6	ug/m3		0.128	0.705
SV-22_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	2.79	ug/m3		0.197	0.869
SV-22_20200221	TO15	m,p-Xylene	5.73	ug/m3		0.395	1.74
SV-23_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
SV-23_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
SV-23_20200221	TO15	1,1-Dichloroethane				0.254	0.809
SV-23_20200221	TO15	1,1-Dichloroethene				0.255	0.793
SV-23_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
SV-23_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
SV-23_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
SV-23_20200221	TO15	1,2-Dichloroethane				0.244	0.809
SV-23_20200221	TO15	1,2-Dichloropropane				0.282	0.924
SV-23_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
SV-23_20200221	TO15	1,4-Dichlorobenzene				0.382	1.20
SV-23_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
SV-23_20200221	TO15	2-Hexanone				0.266	0.820
SV-23_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
SV-23_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
SV-23_20200221	TO15	Benzyl Chloride				0.250	1.04
SV-23_20200221	TO15	Bromodichloromethane				0.338	1.34
SV-23_20200221	TO15	Bromoform				0.663	2.07
SV-23_20200221	TO15	Bromomethane				0.300	0.777
SV-23_20200221	TO15	Chlorobenzene				0.287	0.921
SV-23_20200221	TO15	Chloroethane				0.212	0.528
SV-23_20200221	TO15	Dibromochloromethane				0.523	1.70
SV-23_20200221	TO15	Ethyl Acetate				0.440	1.80
SV-23_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
SV-23_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
SV-23_20200221	TO15	Hexachlorobutadiene				0.564	2.13
SV-23_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
SV-23_20200221	TO15	Tetrahydrofuran				0.168	1.47
SV-23_20200221	TO15	Vinyl Bromide				0.313	0.874
SV-23_20200221	TO15	Vinyl Chloride				0.160	0.511
SV-23_20200221	TO15	Cis-1,2-Dichloroethylene				0.464	0.793
SV-23_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
SV-23_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
SV-23_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
SV-23_20200221	TO15	1,1,1-Trichloroethane (TCA)	1.16	ug/m3		0.273	1.09
SV-23_20200221	TO15	1,2,4-Trimethylbenzene	28.7	ug/m3		0.181	0.983
SV-23_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	9.05	ug/m3		0.332	0.983
SV-23_20200221	TO15	1,3-Butadiene	2.90	ug/m3		0.148	0.442
SV-23_20200221	TO15	1,4-Dioxane (P-Dioxane)	0.980	ug/m3		0.290	0.721
SV-23_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	13.0	ug/m3		0.142	1.47
SV-23_20200221	TO15	4-Ethyltoluene	3.75	ug/m3		0.182	0.983
SV-23_20200221	TO15	Acetone	146	ug/m3		1.64	2.38
SV-23_20200221	TO15	Benzene	3.45	ug/m3		0.156	0.639
SV-23_20200221	TO15	Carbon Disulfide	7.91	ug/m3		0.174	0.623
SV-23_20200221	TO15	Carbon Tetrachloride	2.93	ug/m3		0.314	1.26
SV-23_20200221	TO15	Chloroform	9.82	ug/m3		0.309	0.977
SV-23_20200221	TO15	Chloromethane	0.679	ug/m3		0.142	0.413
SV-23_20200221	TO15	Cyclohexane	2.52	ug/m3		0.127	0.688
SV-23_20200221	TO15	Dichlorodifluoromethane	10.8	ug/m3		0.288	0.989

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-23_20200221	TO15	Ethanol	110	ug/m3		1.38	9.42
SV-23_20200221	TO15	Ethylbenzene	1.77	ug/m3		0.188	0.869
SV-23_20200221	TO15	N-Heptane	122	ug/m3		0.193	0.820
SV-23_20200221	TO15	Isopropanol	15.2	ug/m3		1.17	1.23
SV-23_20200221	TO15	Methylene Chloride	2.61	ug/m3		0.466	1.74
SV-23_20200221	TO15	Styrene	1.07	ug/m3		0.185	0.852
SV-23_20200221	TO15	Tert-Butyl Alcohol	17.3	ug/m3		0.141	1.52
SV-23_20200221	TO15	Tetrachloroethylene (PCE)	2.56	ug/m3		0.444	1.36
SV-23_20200221	TO15	Toluene	6.10	ug/m3		0.196	0.754
SV-23_20200221	TO15	Trichloroethylene (TCE)	2.70	ug/m3		0.271	1.07
SV-23_20200221	TO15	Trichlorofluoromethane	34.6	ug/m3		0.386	1.12
SV-23_20200221	TO15	N-Hexane	7.30	ug/m3		0.128	0.705
SV-23_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	3.66	ug/m3		0.197	0.869
SV-23_20200221	TO15	m,p-Xylene	7.69	ug/m3		0.395	1.74
SV-24_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
SV-24_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
SV-24_20200221	TO15	1,1-Dichloroethane				0.254	0.809
SV-24_20200221	TO15	1,1-Dichloroethene				0.255	0.793
SV-24_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
SV-24_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
SV-24_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
SV-24_20200221	TO15	1,2-Dichloroethane				0.244	0.809
SV-24_20200221	TO15	1,2-Dichloropropane				0.282	0.924
SV-24_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
SV-24_20200221	TO15	1,4-Dichlorobenzene				0.382	1.20
SV-24_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
SV-24_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
SV-24_20200221	TO15	2-Hexanone				0.266	0.820
SV-24_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
SV-24_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
SV-24_20200221	TO15	Benzyl Chloride				0.250	1.04
SV-24_20200221	TO15	Bromodichloromethane				0.338	1.34
SV-24_20200221	TO15	Bromoform				0.663	2.07
SV-24_20200221	TO15	Bromomethane				0.300	0.777
SV-24_20200221	TO15	Chlorobenzene				0.287	0.921
SV-24_20200221	TO15	Chloroethane				0.212	0.528
SV-24_20200221	TO15	Dibromochloromethane				0.523	1.70
SV-24_20200221	TO15	Ethyl Acetate				0.440	1.80
SV-24_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
SV-24_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
SV-24_20200221	TO15	Hexachlorobutadiene				0.564	2.13
SV-24_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
SV-24_20200221	TO15	Styrene				0.185	0.852
SV-24_20200221	TO15	Tetrahydrofuran				0.168	1.47
SV-24_20200221	TO15	Vinyl Bromide				0.313	0.874
SV-24_20200221	TO15	Vinyl Chloride				0.160	0.511
SV-24_20200221	TO15	Cis-1,2-Dichloroethylene				0.464	0.793
SV-24_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
SV-24_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
SV-24_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
SV-24_20200221	TO15	1,1,1-Trichloroethane (TCA)	2.96	ug/m3		0.273	1.09
SV-24_20200221	TO15	1,2,4-Trimethylbenzene	9.88	ug/m3		0.181	0.983
SV-24_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	3.49	ug/m3		0.332	0.983
SV-24_20200221	TO15	1,3-Butadiene	1.35	ug/m3		0.148	0.442
SV-24_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	4.51	ug/m3		0.142	1.47
SV-24_20200221	TO15	4-Ethyltoluene	1.42	ug/m3		0.182	0.983
SV-24_20200221	TO15	Acetone	58.0	ug/m3		1.64	2.38
SV-24_20200221	TO15	Benzene	8.98	ug/m3		0.156	0.639
SV-24_20200221	TO15	Carbon Disulfide	3.18	ug/m3		0.174	0.623
SV-24_20200221	TO15	Carbon Tetrachloride	11.4	ug/m3		0.314	1.26
SV-24_20200221	TO15	Chloroform	5.03	ug/m3		0.309	0.977
SV-24_20200221	TO15	Chloromethane	0.849	ug/m3		0.142	0.413

Validation Summary Table
Project G6-2420
Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-24_20200221	TO15	Cyclohexane	3.44	ug/m3		0.127	0.688
SV-24_20200221	TO15	Dichlorodifluoromethane	12.0	ug/m3		0.288	0.989
SV-24_20200221	TO15	Ethanol	70.1	ug/m3		1.38	9.42
SV-24_20200221	TO15	Ethylbenzene	1.04	ug/m3		0.188	0.869
SV-24_20200221	TO15	N-Heptane	54.9	ug/m3		0.193	0.820
SV-24_20200221	TO15	Isopropanol	11.3	ug/m3		1.17	1.23
SV-24_20200221	TO15	Methylene Chloride	2.34	ug/m3		0.466	1.74
SV-24_20200221	TO15	Tert-Butyl Alcohol	12.7	ug/m3		0.141	1.52
SV-24_20200221	TO15	Tetrachloroethylene (PCE)	1.61	ug/m3		0.444	1.36
SV-24_20200221	TO15	Toluene	5.35	ug/m3		0.196	0.754
SV-24_20200221	TO15	Trichloroethylene (TCE)	6.40	ug/m3		0.271	1.07
SV-24_20200221	TO15	Trichlorofluoromethane	374	ug/m3		0.386	1.12
SV-24_20200221	TO15	N-Hexane	4.55	ug/m3		0.128	0.705
SV-24_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	1.82	ug/m3		0.197	0.869
SV-24_20200221	TO15	m,p-Xylene	3.80	ug/m3		0.395	1.74
SV-25_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
SV-25_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
SV-25_20200221	TO15	1,1-Dichloroethane				0.254	0.809
SV-25_20200221	TO15	1,1-Dichloroethene				0.255	0.793
SV-25_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
SV-25_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
SV-25_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
SV-25_20200221	TO15	1,2-Dichloroethane				0.244	0.809
SV-25_20200221	TO15	1,2-Dichloropropane				0.282	0.924
SV-25_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
SV-25_20200221	TO15	1,4-Dichlorobenzene				0.382	1.20
SV-25_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
SV-25_20200221	TO15	2-Hexanone				0.266	0.820
SV-25_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
SV-25_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
SV-25_20200221	TO15	Benzyl Chloride				0.250	1.04
SV-25_20200221	TO15	Bromodichloromethane				0.338	1.34
SV-25_20200221	TO15	Bromoform				0.663	2.07
SV-25_20200221	TO15	Bromomethane				0.300	0.777
SV-25_20200221	TO15	Chlorobenzene				0.287	0.921
SV-25_20200221	TO15	Chloromethane				0.142	0.413
SV-25_20200221	TO15	Dibromochloromethane				0.523	1.70
SV-25_20200221	TO15	Ethyl Acetate				0.440	1.80
SV-25_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
SV-25_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
SV-25_20200221	TO15	Hexachlorobutadiene				0.564	2.13
SV-25_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
SV-25_20200221	TO15	Methylene Chloride				0.466	1.74
SV-25_20200221	TO15	Styrene				0.185	0.852
SV-25_20200221	TO15	Tetrahydrofuran				0.168	1.47
SV-25_20200221	TO15	Vinyl Bromide				0.313	0.874
SV-25_20200221	TO15	Vinyl Chloride				0.160	0.511
SV-25_20200221	TO15	Cis-1,2-Dichloroethylene				0.464	0.793
SV-25_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
SV-25_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
SV-25_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
SV-25_20200221	TO15	1,1,1-Trichloroethane (TCA)	6.98	ug/m3		0.273	1.09
SV-25_20200221	TO15	1,2,4-Trimethylbenzene	26.2	ug/m3		0.181	0.983
SV-25_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	9.39	ug/m3		0.332	0.983
SV-25_20200221	TO15	1,3-Butadiene	0.513	ug/m3		0.148	0.442
SV-25_20200221	TO15	1,4-Dioxane (P-Dioxane)	0.843	ug/m3		0.290	0.721
SV-25_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	15.8	ug/m3		0.142	1.47
SV-25_20200221	TO15	4-Ethyltoluene	4.27	ug/m3		0.182	0.983
SV-25_20200221	TO15	Acetone	195	ug/m3		1.64	2.38
SV-25_20200221	TO15	Benzene	15.7	ug/m3		0.156	0.639
SV-25_20200221	TO15	Carbon Disulfide	15.3	ug/m3		0.174	0.623
SV-25_20200221	TO15	Carbon Tetrachloride	10.4	ug/m3		0.314	1.26

Validation Summary Table
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Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-25_20200221	TO15	Chloroethane	1.68	ug/m3		0.212	0.528
SV-25_20200221	TO15	Chloroform	27.9	ug/m3		0.309	0.977
SV-25_20200221	TO15	Cyclohexane	7.85	ug/m3		0.127	0.688
SV-25_20200221	TO15	Dichlorodifluoromethane	276	ug/m3		0.288	0.989
SV-25_20200221	TO15	Ethanol	863	ug/m3		1.38	9.42
SV-25_20200221	TO15	Ethylbenzene	2.13	ug/m3		0.188	0.869
SV-25_20200221	TO15	N-Heptane	66.8	ug/m3		0.193	0.820
SV-25_20200221	TO15	Isopropanol	81.1	ug/m3		1.17	1.23
SV-25_20200221	TO15	Tert-Butyl Alcohol	18.4	ug/m3		0.141	1.52
SV-25_20200221	TO15	Tetrachloroethylene (PCE)	22.8	ug/m3		0.444	1.36
SV-25_20200221	TO15	Toluene	7.57	ug/m3		0.196	0.754
SV-25_20200221	TO15	Trichloroethylene (TCE)	15.5	ug/m3		0.271	1.07
SV-25_20200221	TO15	Trichlorofluoromethane	41.4	ug/m3		0.386	1.12
SV-25_20200221	TO15	N-Hexane	31.3	ug/m3		0.128	0.705
SV-25_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	5.73	ug/m3		0.197	0.869
SV-25_20200221	TO15	m,p-Xylene	7.34	ug/m3		0.395	1.74
SV-26_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
SV-26_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
SV-26_20200221	TO15	1,1-Dichloroethane				0.254	0.809
SV-26_20200221	TO15	1,1-Dichloroethene				0.255	0.793
SV-26_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
SV-26_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
SV-26_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
SV-26_20200221	TO15	1,2-Dichloroethane				0.244	0.809
SV-26_20200221	TO15	1,2-Dichloropropane				0.282	0.924
SV-26_20200221	TO15	1,3-Butadiene				0.148	0.442
SV-26_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
SV-26_20200221	TO15	1,4-Dichlorobenzene				0.382	1.20
SV-26_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
SV-26_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
SV-26_20200221	TO15	2-Hexanone				0.266	0.820
SV-26_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
SV-26_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
SV-26_20200221	TO15	Benzyl Chloride				0.250	1.04
SV-26_20200221	TO15	Bromodichloromethane				0.338	1.34
SV-26_20200221	TO15	Bromoform				0.663	2.07
SV-26_20200221	TO15	Bromomethane				0.300	0.777
SV-26_20200221	TO15	Chlorobenzene				0.287	0.921
SV-26_20200221	TO15	Chloroethane				0.212	0.528
SV-26_20200221	TO15	Chloromethane				0.142	0.413
SV-26_20200221	TO15	Dibromochloromethane				0.523	1.70
SV-26_20200221	TO15	Ethyl Acetate				0.440	1.80
SV-26_20200221	TO15	Ethylbenzene				0.188	0.869
SV-26_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
SV-26_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
SV-26_20200221	TO15	Hexachlorobutadiene				0.564	2.13
SV-26_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
SV-26_20200221	TO15	Methylene Chloride				0.466	1.74
SV-26_20200221	TO15	Styrene				0.185	0.852
SV-26_20200221	TO15	Trichloroethylene (TCE)				0.271	1.07
SV-26_20200221	TO15	Vinyl Bromide				0.313	0.874
SV-26_20200221	TO15	Vinyl Chloride				0.160	0.511
SV-26_20200221	TO15	Cis-1,2-Dichloroethylene				0.464	0.793
SV-26_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
SV-26_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
SV-26_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
SV-26_20200221	TO15	1,1,1-Trichloroethane (TCA)	2.50	ug/m3		0.273	1.09
SV-26_20200221	TO15	1,2,4-Trimethylbenzene	15.6	ug/m3		0.181	0.983
SV-26_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	4.32	ug/m3		0.332	0.983
SV-26_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	3.36	ug/m3		0.142	1.47
SV-26_20200221	TO15	4-Ethyltoluene	1.74	ug/m3		0.182	0.983
SV-26_20200221	TO15	Acetone	46.1	ug/m3		1.64	2.38

Validation Summary Table
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Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-26_20200221	TO15	Benzene	7.03	ug/m3		0.156	0.639
SV-26_20200221	TO15	Carbon Disulfide	1.57	ug/m3		0.174	0.623
SV-26_20200221	TO15	Carbon Tetrachloride	3.87	ug/m3		0.314	1.26
SV-26_20200221	TO15	Chloroform	14.0	ug/m3		0.309	0.977
SV-26_20200221	TO15	Cyclohexane	2.86	ug/m3		0.127	0.688
SV-26_20200221	TO15	Dichlorodifluoromethane	12.3	ug/m3		0.288	0.989
SV-26_20200221	TO15	Ethanol	137	ug/m3		1.38	9.42
SV-26_20200221	TO15	N-Heptane	22.1	ug/m3		0.193	0.820
SV-26_20200221	TO15	Isopropanol	13.4	ug/m3		1.17	1.23
SV-26_20200221	TO15	Tert-Butyl Alcohol	19.6	ug/m3		0.141	1.52
SV-26_20200221	TO15	Tetrachloroethylene (PCE)	1.67	ug/m3		0.444	1.36
SV-26_20200221	TO15	Tetrahydrofuran	1.56	ug/m3		0.168	1.47
SV-26_20200221	TO15	Toluene	2.61	ug/m3		0.196	0.754
SV-26_20200221	TO15	Trichlorofluoromethane	79.2	ug/m3		0.386	1.12
SV-26_20200221	TO15	N-Hexane	2.07	ug/m3		0.128	0.705
SV-26_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	1.71	ug/m3		0.197	0.869
SV-26_20200221	TO15	m,p-Xylene	3.24	ug/m3		0.395	1.74
SV-27_20200221	TO15	1,1,2,2-Tetrachloroethane				0.422	1.37
SV-27_20200221	TO15	1,1,2-Trichloroethane				0.366	1.09
SV-27_20200221	TO15	1,1-Dichloroethane				0.254	0.809
SV-27_20200221	TO15	1,1-Dichloroethene				0.255	0.793
SV-27_20200221	TO15	1,2,4-Trichlorobenzene				0.500	1.48
SV-27_20200221	TO15	1,2-Dibromoethane (Ethylene Dibromide)				0.431	1.54
SV-27_20200221	TO15	1,2-Dichlorobenzene				0.378	1.20
SV-27_20200221	TO15	1,2-Dichloroethane				0.244	0.809
SV-27_20200221	TO15	1,2-Dichloropropane				0.282	0.924
SV-27_20200221	TO15	1,3-Butadiene				0.148	0.442
SV-27_20200221	TO15	1,3-Dichlorobenzene				0.377	1.20
SV-27_20200221	TO15	1,4-Dichlorobenzene				0.382	1.20
SV-27_20200221	TO15	1,4-Dioxane (P-Dioxane)				0.290	0.721
SV-27_20200221	TO15	2,2,4-Trimethylpentane				0.169	0.934
SV-27_20200221	TO15	2-Hexanone				0.266	0.820
SV-27_20200221	TO15	Allyl Chloride (3-Chloropropene)				0.183	0.626
SV-27_20200221	TO15	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)				0.173	2.05
SV-27_20200221	TO15	Benzyl Chloride				0.250	1.04
SV-27_20200221	TO15	Bromodichloromethane				0.338	1.34
SV-27_20200221	TO15	Bromoform				0.663	2.07
SV-27_20200221	TO15	Bromomethane				0.300	0.777
SV-27_20200221	TO15	Chlorobenzene				0.287	0.921
SV-27_20200221	TO15	Chloroethane				0.212	0.528
SV-27_20200221	TO15	Chloromethane				0.142	0.413
SV-27_20200221	TO15	Dibromochloromethane				0.523	1.70
SV-27_20200221	TO15	Ethyl Acetate				0.440	1.80
SV-27_20200221	TO15	1,1,2-Trichloro-1,2,2-Trifluoroethane				0.503	1.53
SV-27_20200221	TO15	1,2-Dichlorotetrafluoroethane				0.413	1.40
SV-27_20200221	TO15	Hexachlorobutadiene				0.564	2.13
SV-27_20200221	TO15	Tert-Butyl Methyl Ether				0.189	0.721
SV-27_20200221	TO15	Methylene Chloride				0.466	1.74
SV-27_20200221	TO15	Vinyl Bromide				0.313	0.874
SV-27_20200221	TO15	Vinyl Chloride				0.160	0.511
SV-27_20200221	TO15	Cis-1,2-Dichloroethylene				0.464	0.793
SV-27_20200221	TO15	Cis-1,3-Dichloropropene				0.186	0.908
SV-27_20200221	TO15	Trans-1,2-Dichloroethene				0.255	0.793
SV-27_20200221	TO15	Trans-1,3-Dichloropropene				0.198	0.908
SV-27_20200221	TO15	1,1,1-Trichloroethane (TCA)	1.40	ug/m3		0.273	1.09
SV-27_20200221	TO15	1,2,4-Trimethylbenzene	30.3	ug/m3		0.181	0.983
SV-27_20200221	TO15	1,3,5-Trimethylbenzene (Mesitylene)	8.65	ug/m3		0.332	0.983
SV-27_20200221	TO15	Methyl Ethyl Ketone (2-Butanone)	4.10	ug/m3		0.142	1.47
SV-27_20200221	TO15	4-Ethyltoluene	4.10	ug/m3		0.182	0.983
SV-27_20200221	TO15	Acetone	27.1	ug/m3		1.64	2.38
SV-27_20200221	TO15	Benzene	3.39	ug/m3		0.156	0.639
SV-27_20200221	TO15	Carbon Disulfide	3.80	ug/m3		0.174	0.623

Validation Summary Table
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Air

Sample ID	Method	Analyte	Result	Units	Validation Qualifier	MDL	RDL
SV-27_20200221	TO15	Carbon Tetrachloride	20.3	ug/m3		0.314	1.26
SV-27_20200221	TO15	Chloroform	8.94	ug/m3		0.309	0.977
SV-27_20200221	TO15	Cyclohexane	2.87	ug/m3		0.127	0.688
SV-27_20200221	TO15	Dichlorodifluoromethane	63.8	ug/m3		0.288	0.989
SV-27_20200221	TO15	Ethanol	116	ug/m3		1.38	9.42
SV-27_20200221	TO15	Ethylbenzene	1.64	ug/m3		0.188	0.869
SV-27_20200221	TO15	N-Heptane	43.0	ug/m3		0.193	0.820
SV-27_20200221	TO15	Isopropanol	8.65	ug/m3		1.17	1.23
SV-27_20200221	TO15	Styrene	1.03	ug/m3		0.185	0.852
SV-27_20200221	TO15	Tert-Butyl Alcohol	35.8	ug/m3		0.141	1.52
SV-27_20200221	TO15	Tetrachloroethylene (PCE)	4.97	ug/m3		0.444	1.36
SV-27_20200221	TO15	Tetrahydrofuran	1.98	ug/m3		0.168	1.47
SV-27_20200221	TO15	Toluene	5.58	ug/m3		0.196	0.754
SV-27_20200221	TO15	Trichloroethylene (TCE)	1.29	ug/m3		0.271	1.07
SV-27_20200221	TO15	Trichlorofluoromethane	52.4	ug/m3		0.386	1.12
SV-27_20200221	TO15	N-Hexane	1.56	ug/m3		0.128	0.705
SV-27_20200221	TO15	O-Xylene (1,2-Dimethylbenzene)	3.34	ug/m3		0.197	0.869
SV-27_20200221	TO15	m,p-Xylene	6.43	ug/m3		0.395	1.74

EPA Qualifier Definitions

U	**The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.**
J	**The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.**
J+	**The result is an estimated quantity, but the result may be biased high.**
J-	**The result is an estimated quantity, but the result may be biased low.**
NJ	**The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.**
UJ	**The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.**
R	**The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.**

ATTACHMENT B

CHAIN OF CUSTODY RECORD
Laboratory Job No. L2007789

AIR ANALYSIS

ALPHA ANALYTICAL — CHAIN OF CUSTODY

PAGE 1 OF 2

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 2/22/20

ALPHA Job #: L2007789

Client Information

Client: Hillmann Consulting
Address: 1600 Rt. 22 East
Union, NJ 07083
Phone: (908) 688-7900
Fax:
Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: G6-2420
Project Location: NY
Project #: G6-2420
Project Manager: K. Powell
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)

Date Due: 5 Day Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #: G6-2420

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH (Subject Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
07729-01	IA-19	2-20-20	1140	1140	-30.53	-6.96	AA	RKP	6L	2728	0846	X	X				
02	SV-19		1140	1140	-30.27	-0.46	SV			2649	0366	X					
03	IA-20		1170	1170	-30.49	0.00	AA			3284	01183	X	X				
04	SV-20		1170	1170	-30.35	-4.73	SV			3332	0985	X					
05	IA-21		1015	1045	-30.37	-7.84	AA			3013	01682	X	X				
06	SV-21		1015	0705	-26.02	-4.09	SV			3052	01385	X					
07	IA-22		1005	1030	-30.08	-7.10	AA			2944	01683	X	X				
08	SV-22		1005	0700	-22.47	-1.18	SV			1832	0168	X					
09	IA-23		0945	1045	-30.37	-6.45	AA			3256	01293	X	X				
10	SV-23		0945	1045	-30.49	-7.49	SV			2626	01407	X					

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
[signature]	2-21-20 925	[signature]	2-21-20 925
[signature]	2/21/20 1300	[signature]	2/21/20 2200
[signature]	2/22/20 0350	[signature]	2/22/20 03:50

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Form No: 101-02 Rev: (25-Sep-15)

AIR ANALYSIS

PAGE 2 OF 2

Date Rec'd in Lab: 2/22/20

ALPHA Job #: L2007789

ALPHA ANALYTICAL

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Hillmann Consulting

Address:

Phone:

Fax:

Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: GG-2420

Project Location: NY

Project #: GG-2420

Project Manager:

ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)

Date Due: 5 Day Time:

Report Information - Data Deliverables

☐ FAX

☒ ADEx

Criteria Checker:

(Default based on Regulatory Criteria Indicated)

Other Formats:

☒ EMAIL (standard pdf report)

☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #: GG-2420

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subject Non-Jeanneau HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15			Sample Comments (i.e. PID)
11	IA-24	~~2-20-20~~ 2-20-20	1035	1135	-30.37	-18.86	AA	RKP	6L	764	0935	X	X						
12	SV-24	2-20-20	1035	1135	-30.36	-14.51	SV			2652	01287	X							
13	IA-25		1245	1200	-30.50	-5.68	AA			2126	01178	X	X						
14	SV-25		1245	1245	-30.42	-8.37	SV			2937	0298	X							
15	IA-26		1320	1100	-30.79	0.00	AA			2894	0679	X	X						
16	SV-26		1320	1320	-30.91	-8.22	SV			2063	0207	X							
17	IA-27		1325	1325	-30.30	-6.96	AA			806	01731	X	X						
18	SV-27		1325	1325	-30.25	-8.85	SV			3367	01401	X							

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:	Date/Time	Received By:	Date/Time:
R K Pell 2-21-20	9:25	R S Crawford 2-21-20	925
R S Crawford 2-21-20	1300	[illegible] AC 2/21/20	2207
[illegible] AC 2/22/20	0350	[illegible] AAL 2/22/20	0350

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Form No: 101-02 Rev: (25-Sep-15)

ATTACHMENT C

SELECTED PAGES FROM DATA PACKAGE -
QC EXCEEDANCES AND VALIDATION ISSUES
Laboratory Job No. L2007789

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2007789-01	IA-19	0846	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.5	6
L2007789-01	IA-19	2728	6.0L Can	02/18/20	313693	L2006465-05	Pass	-29.6	-5.4	-	-	-	-
L2007789-02	SV-19	0366	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.3	0
L2007789-02	SV-19	2649	6.0L Can	02/18/20	313693	L2006465-03	Pass	-29.6	0.0	-	-	-	-
L2007789-03	IA-20	01183	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	5.2	45
L2007789-03	IA-20	3284	6.0L Can	02/18/20	313693	L2006218-03	Pass	-29.6	1.3	-	-	-	-
L2007789-04	SV-20	0985	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.3	0
L2007789-04	SV-20	3332	6.0L Can	02/18/20	313693	L2006465-09	Pass	-29.7	-3.7	-	-	-	-
L2007789-05	IA-21	01682	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.3	0
L2007789-05	IA-21	3013	6.0L Can	02/18/20	313693	L2006218-03	Pass	-29.7	-6.4	-	-	-	-
L2007789-06	SV-21	01395	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.2	3
L2007789-06	SV-21	3052	6.0L Can	02/18/20	313693	L2006465-05	Pass	-29.7	-5.2	-	-	-	-
L2007789-07	IA-22	01683	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.3	0
L2007789-07	IA-22	2944	6.0L Can	02/18/20	313693	L2006465-04	Pass	-29.5	-5.4	-	-	-	-
L2007789-08	SV-22	0168	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.4	3

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2007789-08	SV-22	1832	6.0L Can	02/18/20	313693	L2006465-04	Pass	-28.9	0.0	-	-	-	-
L2007789-09	IA-23	01293	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.2	3
L2007789-09	IA-23	3256	6.0L Can	02/18/20	313693	L2006465-04	Pass	-29.7	-5.0	-	-	-	-
L2007789-10	SV-23	01407	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.1	6
L2007789-10	SV-23	2626	6.0L Can	02/18/20	313693	L2006465-04	Pass	-29.8	-6.0	-	-	-	-
L2007789-11	IA-24	0935	Flow 2	02/18/20	313693		-	-	-	Pass	3.3	2.8	16
L2007789-11	IA-24	764	6.0L Can	02/18/20	313693	L2006465-05	Pass	-29.6	-17.3	-	-	-	-
L2007789-12	SV-24	01287	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.0	10
L2007789-12	SV-24	2652	6.0L Can	02/18/20	313693	L2006465-08	Pass	-29.7	-13.7	-	-	-	-
L2007789-13	IA-25	01178	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.2	3
L2007789-13	IA-25	2126	6.0L Can	02/18/20	313693	L2006465-05	Pass	-29.7	-3.9	-	-	-	-
L2007789-14	SV-25	0298	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	2.6	24
L2007789-14	SV-25	2937	6.0L Can	02/18/20	313693	L2006465-03	Pass	-29.7	-7.0	-	-	-	-
L2007789-15	IA-26	0679	Flow 4	02/18/20	313693		-	-	-	Pass	3.3	2.7	20
L2007789-15	IA-26	2894	6.0L Can	02/18/20	313693	L2006218-03	Pass	-29.7	1.4	-	-	-	-

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2007789-16	SV-26	0207	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.2	3
L2007789-16	SV-26	2063	6.0L Can	02/18/20	313693	L2006465-03	Pass	-29.7	-7.2	-	-	-	-
L2007789-17	IA-27	01731	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.4	3
L2007789-17	IA-27	806	6.0L Can	02/18/20	313693	L2006218-03	Pass	-29.6	-5.5	-	-	-	-
L2007789-18	SV-27	01401	Flow 5	02/18/20	313693		-	-	-	Pass	3.3	3.2	3
L2007789-18	SV-27	3367	6.0L Can	02/18/20	313693	L2006465-05	Pass	-29.7	-8.2	-	-	-	-

Lab Duplicate Sample Summary
Form 3
Air Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2007789
Project Name	: G6-2420	**Project Number**	: G6-2420
Client Sample ID	: SV-20	**Matrix**	: SOIL_VAPOR
Lab Sample ID	: L2007789-04	**Analysis Date**	: 02/28/20 00:55
Lab File ID	: R48281	**DUP File ID**	: r48282
Dup Sample ID	: WG1345104-5	**DUP Analysis Date**	: 02/28/20 01:35

Parameter	Sample Concentration (ppbV)	Duplicate Concentration (ppbV)	RPD	RPD Limit
Dichlorodifluoromethane	1.44	1.47	2	25
Chloromethane	0.256	0.263	3	25
Freon-114	ND	ND	NC	25
Vinyl chloride	ND	ND	NC	25
1,3-Butadiene	ND	ND	NC	25
Bromomethane	ND	ND	NC	25
Chloroethane	ND	ND	NC	25
Ethanol	124	122	2	25
Vinyl bromide	ND	ND	NC	25
Acetone	264	270	2	25
Trichlorofluoromethane	28.8	28.7	0	25
Isopropanol	22.0	22.6	3	25
1,1-Dichloroethene	ND	ND	NC	25
Tertiary butyl Alcohol	18.6	18.6	0	25
Methylene chloride	2.99	3.02	1	25
3-Chloropropene	ND	ND	NC	25
Carbon disulfide	0.704	0.702	0	25
Freon-113	ND	ND	NC	25
trans-1,2-Dichloroethene	ND	ND	NC	25
1,1-Dichloroethane	ND	ND	NC	25
Methyl tert butyl ether	ND	ND	NC	25
2-Butanone	2.59	2.63	2	25
cis-1,2-Dichloroethene	ND	ND	NC	25
Ethyl Acetate	ND	ND	NC	25
Chloroform	4.20	4.28	2	25

Lab Duplicate Sample Summary
Form 3
Air Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2007789
Project Name	: G6-2420	**Project Number**	: G6-2420
Client Sample ID	: SV-20	**Matrix**	: SOIL_VAPOR
Lab Sample ID	: L2007789-04	**Analysis Date**	: 02/28/20 00:55
Lab File ID	: R48281	**DUP File ID**	: r48282
Dup Sample ID	: WG1345104-5	**DUP Analysis Date**	: 02/28/20 01:35

Parameter	Sample Concentration (ppbV)	Duplicate Concentration (ppbV)	RPD	RPD Limit
Tetrahydrofuran	ND	ND	NC	25
1,2-Dichloroethane	ND	ND	NC	25
n-Hexane	1.36	1.37	1	25
1,1,1-Trichloroethane	0.282	0.274	3	25
Benzene	3.74	3.76	1	25
Carbon tetrachloride	ND	ND	NC	25
Cyclohexane	1.63	1.64	1	25
1,2-Dichloropropane	ND	ND	NC	25
Bromodichloromethane	ND	ND	NC	25
1,4-Dioxane	1.61	1.60	1	25
Trichloroethene	ND	ND	NC	25
2,2,4-Trimethylpentane	ND	ND	NC	25
Heptane	15.7	15.9	1	25
cis-1,3-Dichloropropene	ND	ND	NC	25
4-Methyl-2-pentanone	ND	ND	NC	25
trans-1,3-Dichloropropene	ND	ND	NC	25
1,1,2-Trichloroethane	ND	ND	NC	25
Toluene	3.35	3.38	1	25
2-Hexanone	ND	ND	NC	25
Dibromochloromethane	ND	ND	NC	25
1,2-Dibromoethane	ND	ND	NC	25
Tetrachloroethene	ND	ND	NC	25
Chlorobenzene	ND	ND	NC	25
Ethylbenzene	0.506	0.513	1	25
p/m-Xylene	1.66	1.71	3	25

Lab Duplicate Sample Summary
Form 3
Air Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2007789
Project Name	: G6-2420	**Project Number**	: G6-2420
Client Sample ID	: SV-20	**Matrix**	: SOIL_VAPOR
Lab Sample ID	: L2007789-04	**Analysis Date**	: 02/28/20 00:55
Lab File ID	: R48281	**DUP File ID**	: r48282
Dup Sample ID	: WG1345104-5	**DUP Analysis Date**	: 02/28/20 01:35

Parameter	Sample Concentration (ppbV)	Duplicate Concentration (ppbV)	RPD	RPD Limit
Bromoform	ND	ND	NC	25
Styrene	0.204	ND	NC	25
1,1,2,2-Tetrachloroethane	ND	ND	NC	25
o-Xylene	0.845	0.845	0	25
4-Ethyltoluene	0.854	0.854	0	25
1,3,5-Trimethylbenzene	2.02	1.99	1	25
1,2,4-Trimethylbenzene	5.82	5.83	0	25
Benzyl chloride	ND	ND	NC	25
1,3-Dichlorobenzene	ND	ND	NC	25
1,4-Dichlorobenzene	ND	ND	NC	25
1,2-Dichlorobenzene	ND	ND	NC	25
1,2,4-Trichlorobenzene	ND	ND	NC	25
Hexachlorobutadiene	ND	ND	NC	25

April 17, 2020

Mr. Chris Hirschmann, CHMM
Hillmann Consulting, LLC
1600 Route 22 East
Union, N.J. 07083

Re: Data Usability Summary Report – Alpha Analytical – Groundwater Samples

Dear Mr. Hirschman:

The evaluation of analytical data for volatile organics, semivolatile organics, per- and polyfluoroalkyl substances (PFAS), polychlorinated biphenyls (PCBs), pesticides, metals, and cyanide analysis by Alpha Analytical for three groundwaters, one field blank, and one trip blank reported under SDGs L2012391 and L2014361, have been completed. The data packages were received by ddms, inc. (ddms) for review, and the following samples were reported:

MW-7	MW-1A	MW-6
FIELD BLANK	TRIP BLANK	

Analyses were performed in accordance with Methods 8260C (volatile organics), 8270D (semivolatile organics), 8270D-SIM (selected ion monitoring for semivolatile organics), modified Method 537 (PFAS), 8082A (PCBs as Aroclors), 8081B (pesticides), 6020 (metals), 7470A (mercury), and 9012B (cyanide). ddms' review was performed, to the extent possible, in accordance with the analytical methods and "DER-10/Technical Guidance for Site Investigation and Remediation". Professional judgment was applied as necessary and appropriate. Qualifiers consistent with those defined by EPA Region 2 were applied as necessary and appropriate.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	No – See Following Sections
4.	Have all of the data been generated using established and agreed upon analytical protocols?	No – See Documentation Section
5.	Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6.	Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7.	Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes

Based on the data review effort, the results for 1,4-dioxane in MW-7, MW-1A, MW-6 and FIELD BLANK by Method 8270 SIM Isotope Dilution were rejected (R) because the samples were extracted out of hold time and 1,4-dioxane was not detected in the samples. The remaining sample results are usable, with the following qualifications:

Volatile Organics:

- The result for bromomethane in FIELD BLANK was qualified as not detected (U) at the reporting limit due to method blank contamination.

- Sample results were qualified as estimated (UJ) due to an unacceptable percent difference (%D) in a second source initial calibration verification (ICV) standard and due to low response in the continuing calibration (CC) standard, as detailed in Section A.2.

- Sample results were qualified as estimated (UJ) due to low recoveries in the laboratory control sample (LCS) and/or LCS duplicate (LCSD) and high LCS/LCSD relative percent difference (RPD) as detailed in Section A.3.

Semi-Volatile Organics (Full Scan Analysis):

- The result for di-n-butyl phthalate in MW-7 was qualified as not detected (U) at the reporting limit due to method blank contamination.

- A 'B' qualifier was applied to the reported tentatively identified compounds (TICs) detailed in Section B.1 because the same TICs were present in the laboratory method blank.

- The results for all base neutral and acid extractable compounds in MW-7, MW-6 and FIELD BLANK were qualified as estimated (J-, UJ) due to low surrogate recoveries.

- The results for all base neutral compounds and all acid extractable compounds except 4,6-dinitro-o-cresol in MW-1A were qualified as estimated (UJ) due low surrogate recoveries.

- Sample results were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries and/or high LCS/LCSD RPD as detailed in Section B.3.

Semi-Volatile Organics (Selected Ion Monitoring [SIM]):

- The result for benzo(b)fluoranthene in MW-1A was qualified as not detected (U) at the reporting limit due to field blank contamination.

- The results for acenaphthene, 2-chloronaphthene, fluoranthene, acenaphthylene, anthracene, fluorene, phenanthrene and hexachlorobenzene in MW-6 were qualified as estimated (J-, UJ) due to low surrogated recovery.

- Sample results were qualified as estimated (UJ) due to unacceptable LCS and/or LCSD recoveries and/or RPD, as detailed in Section C.3.

Pesticides:

- The results for all pesticide compounds in MW-6 were qualified as estimated (UJ) due to low surrogate recoveries.

- The results for 4,4'-DDE in MW-7, chlordane in MW-1A and endrin aldehyde in FIELD BLANK were qualified as estimated (J-, UJ) due to low surrogate recovery.

PCBs:

- The results for all Aroclors in MW-7 and FIELD BLANK were qualified as estimated (J-, UJ) due to low surrogate recoveries.

- The result for Aroclor 1248 in MW-1A was qualified as estimated (J-) due to low surrogate recovery.

Per- and Polyfluoroalkyl substances (PFAS):

- The results for perfluorohexanesulfonic acid (PFHxS) and perfluorooctanesulfonic acid (PFOS) in MW-7, MW_1A, and MW-6 were qualified as estimated (UJ) due to low recoveries of branched-PFHxS and branched-PFOS in an associated continuing calibration (CC) standard.

- The result for perfluorohexanoic acid (PFHxA) in FIELD BLANK was qualified as not detected (U) at the reporting limit because the sample concentration is less than five times the concentration in the field blank.

- The results for perfluorooctanesulfonamide (FOSA) in MW-7 and MW-1A were qualified as estimated (UJ) due to low recovery in the corresponding labeled analog.

Metals:

- Sample results were qualified as not detected (U) at the reporting limit or reported value, whichever is greater due to blank contamination, as detailed in Section H.1.

- The results for iron (total) and manganese (total) in MW-7, MW-1A and MW-6 were qualified as estimated (J+) due to high matrix spike (MS) recoveries.

All qualifiers applied as a result of the validation process are reflected on the table included as Attachment A to this report. Only the samples documenting qualification of data have been included in this table. Qualifier definitions are also provided in the attachment. Copies of the chain of custody records are provided in Attachment B. Pages from the data package illustrating the exceedances and issues described in this validation report are included as Attachment C.

The following components were reviewed, where applicable:

- Chain of Custody
- Receiving conditions
- Holding times
- Preservation

- Analyte lists
- Reporting limits
- Requested methods
- Units
- Sample related quality control data:
    - Method blanks
    - Field blank
    - Surrogate recoveries
    - LCS/LCSD recoveries
    - MS/MSD recoveries
    - Internal standard areas
    - Duplicates
    - Total vs dissolved (metals)
    - Retention times
- Instrument related quality control data:
    - Instrument tunes
    - Calibration summaries
    - Degradation checks

In the remaining sections of this report, only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed.

When a sample result is qualified estimated 'J' in addition to estimated 'J+' or 'J-', the 'J' qualifier takes precedence and the bias is indeterminate. When a sample result is rejected (R), the 'R' qualifier takes precedence over any previous qualification.

Documentation: A completeness review of the data package was performed, and the data package was determined to be a complete Category B data package. Issues observed during the review are detailed below:

- The COC record indicates that the samples were received at the laboratory on March 19, 2020, and requests for PFAS analyses are recorded on the COC record. However, the laboratory case narrative indicates that the sample containers for PFAS were not received until March 20, 2020. On request, the laboratory provided an additional copy of the COC record that was used to document custody and transfers of the PFAS sample containers. A copy of this COC record is included in Attachment B.

- The samples were analyzed for PFAS using a laboratory modified Method 537.

- The compound names and abbreviations reported on the summary forms for some compounds are slightly different than those in the electronic data deliverable (EDD). An example follows:

    - Perfluorotridecanoic Acid (PFTrDA) – summary form in data package
    - Perfluorotridecanoic Acid (PFTriA) - EDD

At the discretion of the data user, the laboratory may be contacted to address these discrepancies.

Holding Times, Preservation, Sample Integrity:

A copy of the applicable chain of custody (COC) record was included in the data packages, documenting a collection date of March 18, 2020. According to the laboratory case narrative, the sample containers for PFAS analyses were received by the laboratory on March 20, 2020. All other sample containers were received by the laboratory on March 19, 2020. All samples were prepared and/or analyzed within the specified hold times with the exception of 1,4-dioxane (Method 8270 SIM Isotope Dilution). The samples were extracted 16 days outside the seven day hold time. The results for 1,4-dioxane by Method 8270 SIM Isotope Dilution were rejected (R) because the samples were extracted out of hold time and 1,4-dioxane was not detected in the samples.

A. Volatile Organics

1. Blanks

Bromomethane (1.3 ug/L) was detected in the method blank. The result for bromomethane in FIELD BLANK was qualified as not detected (U) at the reporting limit because the sample concentration is less than five times the concentration in the method blank.

2. Calibration

Two initial calibration (ICs) were performed in support of sample analyses. All relative response factors (RRFs) and relative standard deviations (RSDs) or correlation coefficients (r2) were acceptable. One second source ICV standard was analyzed following each IC and %Ds were acceptable (<20%D) with the following exception:

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
GONZO	Dichlorodifluoromethane	39.7	MW-6 FIELD BLANK TRIP BLANK	

Sample results were qualified as indicated above due to unacceptable %D in the ICV.

Two CC standards were analyzed in support of sample analyses. All RRFs and %Ds were acceptable with the exceptions noted below:

Instrument	Compound	%D	Affected Samples	Qualifiers Applied
GONZO 3/23/2020	Dichlorodifluoromethane	43.7	MW-6 FIELD BLANK TRIP BLANK	UJ
	Chloromethane	28.4		
	Bromomethane	46.4		
	2-Hexanone	22.7		
	trans-1,4-Dichloro-2-butene	33.0		
	1,2,3-Trichlorobenzene	22.4		
VOA105 3/25/2020	Dichlorodifluoromethane	39.3	MW-7 MW-1A	UJ
	Chloromethane	23.9		
	Bromomethane	33.3		

In all instances the high percent difference represents a decrease in instrument sensitivity. Sample results were qualified as indicated above due to low response in the CC standards. Where the response in the CC was high and the sample results were non-detect, no qualification of sample results was warranted and are not detailed above.

3. Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)

Two LCS/LCSD pairs were analyzed in support of sample analyses. All percent recoveries and RPDs were acceptable (70-130%R, RPD<20) with the exceptions noted below:

LCS/LCSD WG1354504-3&4					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Chloromethane	a	68	a	TRIP BLANK FIELD BLANK MW-6	UJ
Bromomethane	54	a	52		
Dichlorodifluoromethane	56	56	a		
trans-1,4-Dichloro-2-butene	67	a	a		

a-acceptable

LCS/LCSD WG1354921-3&4					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Bromomethane	67	a	a	MW-7 MW-1A	UJ
Dichlorodifluoromethane	61	64	a		

Sample results were qualified as estimated (UJ) due to low LCS and/or LCSD recoveries and/or high LCS/LCSD RPD.

B. Semi-Volatile Organics (Full Scan Analysis)

1. Blanks

Di-n-butyl phthalate (2.1 ug/L) was detected in the method blank. The result for di-n-butyl phthalate in MW-7 was qualified as not detected (U) at the reporting limit because the sample concentration is less than five times the concentration in the method blank.

A 'B' qualifier was added to the TIC results as follows:

Sample	TIC Retention Time (RT)
MW-7	1.88
	1.96
	1.99
	10.08
	12.37

Sample	TIC Retention Time (RT)
	12.69
	13.29
	14.00
	14.18
	15.02
MW-1A	1.86
	1.93
	1.99
	2.35
	6.99
	12.69
	13.29
	14.18
	14.82
	15.02
MW-6	(All reported TICs)
FIELD BLANK	(All reported TICs)

The TICs at the RTs identified above were also present in the method blank. The laboratory did not report the TIC results with a 'B' qualifier to indicate their presence in the blank. The 'B' qualifier was added by the validator. The data user is advised that these TICs may not be true sample components because they were detected in the method blank.

2. Surrogates:

Six surrogates (fluorophenol-d_5 [2FP], phenol-d_5 [PHL], nitrobenzene-d_5 [NBZ], 2-fluorobiphenyl [FBP], 2,4,6-tribromophenol [TBP], and terphenyl-d_{14} [TPHL]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate					
	2-Fluoro-phenol	Phenol-d^5	Nitro-benzene-d_5	2-Fluorobiphenyl	2,4,6-TBP	Terphenyl-d_{14}
MW-7	a	61	60	56	a	68
MW-1A	a	57	54	55	a	a
MW-6	65	53	46	52	a	59
FIELD BLANK	67	57	53	52	64	64

a-acceptable

The results for all base neutral and acid extractable compounds in MW-7, MW-6 and FIELD BLANK were qualified as estimated (J-, UJ) because two or more surrogates from each fraction (base neutral and acid extractable) exhibited low recoveries. The results for all base neutral compounds and all acid extractable compounds except 4,6-dinitro-o-cresol in MW-1A were

qualified as estimated (J-, UJ) based on low surrogate recoveries exhibited by two base neutral surrogates and low recovery of phenol-d_5 surrogate.

3. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

Results for one LCS/LCSD pair associated with the sample analyses were reported in the data package. Percent recoveries and RPDs were acceptable (70-130%R, RPD<20) with the exceptions below:

LCS/LCSD WG1353987-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
1,2,4-Trichlorobenzene	54	a	31	MW-7 MW-1A MW-6 FIELD BLANK	UJ
Bis(2-chloroethyl)ether	59	a	25		
1,2-Dichlorobenzene	61	a	22		
1,3-Dichlorobenzene	57	a	26		
1,4-Dichlorobenzene	55	a	28		
3,3'-Dichlorobenzidine	57	a	25		
Bis(2-chloroisopropyl)ether	47	63	29		
Bis(2-chloroethoxy)methane	57	a	34		
Isophorone	58	a	31		
Nitrobenzene	52	65	22		
Biphenyl	62	a	22		
4-Chloroaniline	47	62	28		
2-Nitroaniline	a	a	30		
3-Nitroaniline	65	a	22		
n-Nitrosodi-n-propylamine	56	a	26		
Acetophenone	56	a	30		
p-Chloro-m-cresol	68	a	22		
2-Chlorophenol	63	a	20		
2,4-Dichlorophenol	65	a	28		
2,4-Dimethylphenol	42	55	27		
2-Nitrophenol	64	a	35		
Phenol	44	59	29		
2-Methylphenol	60	a	31		
3-Methylphenol/4-Methylphenol	63	a	32		
2,4,5-Trichlorophenol	69	a	21		
Benzyl Alcohol	49	68	32		
Dibenzofuran	67	a	a	MW-7 MW-1A MW-6 FIELD BLANK	J-, UJ
1,2,4,5-Tetrachlorobenzene	59	a	a		
2,4,6-Trichlorophenol	66	a	a		
4-Nitrophenol	63	a	a		
4,6-Dinitro-o-cresol	85	a	a		

LCS/LCSD WG1353987-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Benzoic Acid	40	38	a		
4-Chlorophenyl phenyl ether	67	a	a		
Hexachlorocyclopentadiene	52	62	a		
Naphthalene	62	a	a		
Dimethyl phthalate	64	a	a		

a-acceptable

Sample results were qualified as indicated above due to unacceptable LCS and/or LCSD recoveries and/or RPD.

C. Semi-Volatile Organics [Selected Ion Monitoring (SIM) Analysis]

1. Blanks

Benzo(b)fluoranthene (0.01 ug/L) was detected in the field blank. The result for benzo(b)fluoranthene in MW-1A was qualified as not detected (U) at the reporting limit because the sample concentration is less than five times the concentration in the field blank.

2. Surrogates:

Six surrogates (fluorophenol-d_5 [2FP], phenol-d_5 [PHL], nitrobenzene-d_5 [NBZ], 2-fluorobiphenyl [FBP], 2,4,6-tribromophenol [TBP], and terphenyl-d_{14} [TPHL]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate					
	2-Fluoro-phenol	Phenol-d^5	Nitro-benzene-d_5	2-Fluorobiphenyl	2,4,6-TBP	Terphenyl-d_{14}
MW-7	68	57	a	a	a	a
MW-1A	65	54	a	a	a	a
MW-6	59	52	a	69	a	a
FIELD BLANK	62	54	a	a	a	a

a-acceptable

The results for the following compounds in MW-6 were qualified as estimated (J-, UJ) because 2-fluorobiphenyl surrogate exhibited low recovery:

Acenaphthene	2-Chloronaphthene	Fluoranthene
Acenaphthylene	Anthracene	Fluorene
Phenanthrene	Hexachlorobenzene	

No qualification was made based on low recoveries on of 2-fluorophenol and phenol-d_5 because pentachlorophenol is the only acid extractable compound reported and this compound is associated with 2,4,6-tribromophenol which exhibited acceptable recoveries.

3. Laboratory Control Sample (LCS)/LCS Duplicate (LCSD):

Results for one LCS/LCSD pair associated with the sample analyses were reported in the data package. Percent recoveries and RPDs were acceptable (70-130%R, RPD<20) with the exceptions below:

LCS/LCSD WG1353991-2&3					
Parameter	LCS %R	LCSD %R	RPD	Samples Affected	Qualifiers Applied
Acenaphthene	55	a	29	MW-7 MW-1A MW-6 FIELD BLANK	J, UJ
2-Chloronaphthalene	51	69	30		
Fluoranthene	65	a	29		
Hexachlorobutadiene	50	63	23		
Naphthalene	52	68	27		
Benzo(a)anthracene	65	a	26		
Benzo(a)pyrene	69	a	25		
Benzo(b)fluoranthene	66	a	27		
Benzo(k)fluoranthene	68	a	26		
Chrysene	64	a	28		
Acenaphthylene	50	66	28		
Anthracene	59	a	29		
Benzo(ghi)perylene	69	a	23		
Fluorene	56	a	32		
Phenanthrene	59	a	28		
Dibenzo(a,h)anthracene	a	a	23		
Indeno(1,2,3-cd)pyrene	a	a	25		
Pyrene	66	a	29		
2-Methylnaphthalene	51	68	29		
Pentachlorophenol	38	50	27		
Hexachlorobenzene	60	a	29		
Hexachloroethane	49	62	23		

a-acceptable

Sample results were qualified as indicated above due to unacceptable LCS and/or LCSD recoveries and/or RPD.

D. 1,4-Dioxane [Selected Ion Monitoring (SIM) Isotope Dilution Analysis]

1. Holding Time

The result for 1,4-dioxane by Method 8270 SIM Isotope Dilution were rejected (R) because the samples were extracted out of hold time and 1,4-dioxane was not detected in the samples.

E. Pesticides

1. Surrogates

Two surrogates (2,4,5,6-Tetrachloro-m-xylene [TCX] and Decachlorobiphenyl [DCB]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate / Column			
	TCX/1	TCX/2	DCB/1	DCB/2
MW-7	a	a	a	69
MW-1A	a	63	a	61
MW-6	67	64	a	61
FIELD BLANK	a	a	a	61

The results for all pesticide compounds in MW-6 were qualified as estimated (UJ) because both surrogates on both analytical columns exhibited low recoveries. The results for 4,4'-DDE in MW-7, chlordane in MW-1A and endrin aldehyde in FIELD BLANK were qualified as estimated (J-, UJ) due to low surrogate recovery on column 2 (only those target compounds were reported from column 2).

F. PCBs

1. Surrogates

Two surrogates (2,4,5,6-Tetrachloro-m-xylene [TCX] and Decachlorobiphenyl [DCB]) were used. The laboratory's acceptance limits are excessively wide and low; therefore, recoveries were assessed against validation criteria of 70-130%. Exceedances are detailed below:

Sample	Surrogate / Column			
	TCX/1	TCX/2	DCB/1	DCB/2
MW-7	57	63	a	a
MW-1A	a	a	a	65
FIELD BLANK	a	a	58	58

The results for all Aroclors in MW-7 and FIELD BLANK were qualified as estimated (J-, UJ) because both surrogates on both analytical columns exhibited low recoveries. The result for Aroclor 1248 in MW-1A was qualified as estimated (J-) due to low surrogate recovery on column 2 (Aroclor 1248 result was only target compound reported from column 2).

G. Per- and Polyfluoroalkyl substances (PFAS)

1. Calibration:

One IC was performed in support of sample analyses. All RRFs and RSDs or correlation coefficients were acceptable. An ICV standard was analyzed after the IC, and recoveries of the target PFAS were acceptable (QC 70-130%). One mid-range CC standard and three low level CC standards were analyzed, and percent recoveries were acceptable with the exception of perfluorohexanesulfonic acid-branched (br-PFHxS) and perfluorooctanesulfonic acid-branched (br-PFOS) in the CC standard run on March 24, 2020 at 03:55 (42%R and 31%R, respectively;

QC 50-150%). Since PFHxS is reported as the sum of the branched and linear PFHxS and PFOS is reported as the sum of the branched and linear PFOS, the results for PFHxS and PFOS in MW-7, MW-1A, and MW-6 were qualified as estimated (UJ) due to low recoveries of br-PFHxS and br-PFOS in an associated CC standard.

Where the percent recovery was biased high and the compound was not detected in the samples, no qualification of sample results was warranted and is not discussed further.

2. Blanks

One method blank was prepared and analyzed in support of sample analyses. One field blank was submitted with this sample set. PFHxA [0.396 ng/L] was detected in the method blank. The result for PFHxA in FIELD BLANK was qualified as not detected (U) at the reporting limit because the sample concentration is less than five times the concentration in the field blank. Following qualification based on the method blank, no targets were detected in the field blank.

3. Surrogates (Extracted Internal Standards/ Labeled Analogs):

All surrogate recoveries were acceptable (50-150%R) with the following exceptions:

Sample	**Labeled Analog**	**%R**
MW-7	Perfluoro[13c8]octanesulfonamide (M8FOSA)	37
MW-1A	M8FOSA	33

The results for FOSA in MW-7 and MW-1A were qualified as estimated (UJ) due to low recovery in the corresponding labeled analog.

H. Metals

The table below summarized the maximum blank contamination that impacted sample results:

Blank	Analyte	Conc. (mg/L)	Samples Affected
CCB 3/25/2020 11:22	Antimony (total)	0.000535	MW-7 MW-1A
Method	Calcium (total)	0.0527	FIELD BLANK
CCB 3/25/2020 10:28	Manganese (total)	0.0000909	FIELD BLANK
	Sodium (total)	0.114	FIELD BLANK
ICB	Thallium (total)	0.000708	MW-7 MW-6
Method	Aluminum (dissolved)	0.00500	MW-1A MW-6 FIELD BLANK
	Antimony (dissolved)	0.00067	MW-7 MW-1A
	Calcium (dissolved)	0.0563	FIELD BLANK
	Chromium (dissolved)	0.00092	MW-7 MW-1A

Blank	Analyte	Conc. (mg/L)	Samples Affected
			MW-6 FIELD BLANK
	Iron (dissolved)	0.0234	MW-1A
CCB	Sodium (dissolved)	0.114	FIELD BLANK
ICB	Thallium (dissolved)	0.000708	MW-7 MW-1A FIELD BLANK
Field Blank	Copper (dissolved)	0.00203	MW-7 MW-6

CCB-continuing calibration blank
ICB-initial calibration blank

Sample results were qualified as not detected (U) at the reporting limit or reported value, whichever is greater because the sample concentration was less than five times the concentration in the associated blank.

2. Matrix Spike (MS)

MS and post spike (PS) analyses were performed on MW-7. All %R and RPDs were acceptable with the exception of total iron (127%R) and manganese (146 %R) in the MS. The results for iron (total) and manganese (total) in MW-7, MW-1A and MW-6 were qualified as estimated (J+) due to high MS recoveries.

I. Cyanide

The results for cyanide were determined to be valid as reported.

No other qualifications to sample results were made.

Please feel free to contact me at (908) 370-3431 or jrossi@ddmsinc.com if you have any questions regarding this data package review report or need further information.

Sincerely,

de maximis Data Management Solutions, Inc.

Jeri L Rossi, CEAC
Sr. Environmental Chemist

Elizabeth K. Dickinson
Sr. Environmental Chemist

ATTACHMENT A

Qualification Summary Table
Laboratory Job No. L2012391, L2014361

Validation SUmmary Table
Project G6-2420
Groundwaters

Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
TRIP BLANK	1,2,3-Trichlorobenzene			UJ	0.70	2.5
TRIP BLANK	2-Hexanone			UJ	1.0	5.0
TRIP BLANK	Bromomethane			UJ	0.70	2.5
TRIP BLANK	Chloromethane			UJ	0.70	2.5
TRIP BLANK	Dichlorodifluoromethane			UJ	1.0	5.0
TRIP BLANK	Trans-1,3-Dichloropropene			UJ	0.16	0.50
TRIP BLANK	Trans-1,4-Dichloro-2-Butene			UJ	0.70	2.5
MW-7_20200416	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
MW-7_20200416	1,2,4-Trichlorobenzene			UJ	0.50	5.0
MW-7_20200416	1,2-Dichlorobenzene			UJ	0.45	2.0
MW-7_20200416	1,3-Dichlorobenzene			UJ	0.40	2.0
MW-7_20200416	1,4-Dichlorobenzene			UJ	0.43	2.0
MW-7_20200416	2,4,5-Trichlorophenol			UJ	0.77	5.0
MW-7_20200416	2,4,6-Trichlorophenol			UJ	0.61	5.0
MW-7_20200416	2,4-Dichlorophenol			UJ	0.41	5.0
MW-7_20200416	2,4-Dimethylphenol			UJ	1.8	5.0
MW-7_20200416	2,4-Dinitrophenol			UJ	6.6	20
MW-7_20200416	2,4-Dinitrotoluene			UJ	1.2	5.0
MW-7_20200416	2,6-Dinitrotoluene			UJ	0.93	5.0
MW-7_20200416	2-Chloronaphthalene			UJ	0.02	0.20
MW-7_20200416	2-Chlorophenol			UJ	0.48	2.0
MW-7_20200416	2-Methylnaphthalene			UJ	0.02	0.10
MW-7_20200416	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
MW-7_20200416	2-Nitroaniline			UJ	0.50	5.0
MW-7_20200416	2-Nitrophenol			UJ	0.85	10
MW-7_20200416	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
MW-7_20200416	3,3'-Dichlorobenzidine			UJ	1.6	5.0
MW-7_20200416	3-Nitroaniline			UJ	0.81	5.0
MW-7_20200416	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
MW-7_20200416	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
MW-7_20200416	4-Chloro-3-Methylphenol			UJ	0.35	2.0
MW-7_20200416	4-Chloroaniline			UJ	1.1	5.0
MW-7_20200416	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
MW-7_20200416	4-Nitroaniline			UJ	0.80	5.0
MW-7_20200416	4-Nitrophenol			UJ	0.67	10
MW-7_20200416	Acenaphthene			UJ	0.01	0.10
MW-7_20200416	Acenaphthylene			UJ	0.01	0.10
MW-7_20200416	Acetophenone			UJ	0.53	5.0
MW-7_20200416	Anthracene			UJ	0.01	0.10
MW-7_20200416	Antimony			U	0.00042	0.00400
MW-7_20200416	Antimony			U	0.00042	0.00400
MW-7_20200416	Benzo(A)Anthracene			UJ	0.02	0.10
MW-7_20200416	Benzo(A)Pyrene			UJ	0.02	0.10
MW-7_20200416	Benzo(B)Fluoranthene			UJ	0.01	0.10
MW-7_20200416	Benzo(G,H,I)Perylene			UJ	0.01	0.10
MW-7_20200416	Benzo(K)Fluoranthene			UJ	0.01	0.10
MW-7_20200416	Benzoic Acid			UJ	2.6	50
MW-7_20200416	Benzyl Alcohol			UJ	0.59	2.0
MW-7_20200416	Benzyl Butyl Phthalate			UJ	1.2	5.0
MW-7_20200416	Biphenyl (Diphenyl)			UJ	0.46	2.0
MW-7_20200416	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
MW-7_20200416	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
MW-7_20200416	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
MW-7_20200416	Bis(2-Ethylhexyl) Phthalate			UJ	1.5	3.0
MW-7_20200416	Bromomethane			UJ	3.5	12
MW-7_20200416	Carbazole			UJ	0.49	2.0

Validation SUmmary Table
Project G6-2420
Groundwaters

Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-7_20200416	Chloromethane			UJ	3.5	12
MW-7_20200416	Chromium, Total			U	0.00017	0.00100
MW-7_20200416	Chrysene			UJ	0.01	0.10
MW-7_20200416	Copper			U	0.00038	0.00100
MW-7_20200416	Dibenz(A,H)Anthracene			UJ	0.01	0.10
MW-7_20200416	Dibenzofuran			UJ	0.50	2.0
MW-7_20200416	Dichlorodifluoromethane			UJ	5.0	25
MW-7_20200416	Diethyl Phthalate			UJ	0.38	5.0
MW-7_20200416	Dimethyl Phthalate			UJ	1.8	5.0
MW-7_20200416	Di-N-Butyl Phthalate		ug/l	UJ	0.39	5.0
MW-7_20200416	Di-N-Octylphthalate			UJ	1.3	5.0
MW-7_20200416	Fluoranthene			UJ	0.02	0.10
MW-7_20200416	Fluorene			UJ	0.01	0.10
MW-7_20200416	Hexachlorobenzene			UJ	0.01	0.80
MW-7_20200416	Hexachlorobutadiene			UJ	0.05	0.50
MW-7_20200416	Hexachlorocyclopentadiene			UJ	0.69	20
MW-7_20200416	Hexachloroethane			UJ	0.06	0.80
MW-7_20200416	Indeno(1,2,3-C,D)Pyrene			UJ	0.01	0.10
MW-7_20200416	Iron	0.360	mg/l	J+	0.0191	0.0500
MW-7_20200416	Isophorone			UJ	1.2	5.0
MW-7_20200416	Manganese	1.299	mg/l	J+	0.00044	0.00100
MW-7_20200416	Naphthalene	0.06	ug/l	J	0.05	0.10
MW-7_20200416	Nitrobenzene			UJ	0.77	2.0
MW-7_20200416	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
MW-7_20200416	N-Nitrosodiphenylamine			UJ	0.42	2.0
MW-7_20200416	P,P'-DDE	0.003	ug/l	J-	0.003	0.029
MW-7_20200416	PCB-1016 (Aroclor 1016)			UJ	0.034	0.083
MW-7_20200416	PCB-1221 (Aroclor 1221)			UJ	0.067	0.083
MW-7_20200416	PCB-1232 (Aroclor 1232)			UJ	0.046	0.083
MW-7_20200416	PCB-1242 (Aroclor 1242)			UJ	0.039	0.083
MW-7_20200416	PCB-1248 (Aroclor 1248)	0.062	ug/l	J-	0.049	0.083
MW-7_20200416	PCB-1254 (Aroclor 1254)			UJ	0.039	0.083
MW-7_20200416	PCB-1260 (Aroclor 1260)			UJ	0.032	0.083
MW-7_20200416	PCB-1262 (Aroclor 1262)			UJ	0.035	0.083
MW-7_20200416	PCB-1268 (Aroclor 1268)			UJ	0.034	0.083
MW-7_20200416	Pentachlorophenol			UJ	0.01	0.80
MW-7_20200416	Perfluorohexanesulfonic acid (PFHxS)	4.18	ng/l	UJ	0.351	1.86
MW-7_20200416	Perfluorooctane Sulfonamide (FOSA)			UJ	0.541	1.86
MW-7_20200416	Perfluorooctanesulfonic acid (PFOS)	15.7	ng/l	UJ	0.470	1.86
MW-7_20200416	Phenanthrene	0.03	ug/l	J	0.02	0.10
MW-7_20200416	Phenol			UJ	0.57	5.0
MW-7_20200416	Polychlorinated Biphenyl (PCBs)	0.062	ug/l	J-	0.032	0.083
MW-7_20200416	Pyrene			UJ	0.02	0.10
MW-7_20200416	Thallium			U	0.00014	0.00100
MW-7_20200416	Thallium			U	0.00014	0.00100
MW-7_20200416	Unknown Semivolatile With 10th Highest Conc.	1.93	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 12th Highest Conc.	1.71	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 13th Highest Conc.	1.67	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 1st Highest Conc.	3.09	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 2nd Highest Conc.	2.80	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 3rd Highest Conc.	2.69	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 5th Highest Conc.	2.62	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 6th Highest Conc.	2.51	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 7th Highest Conc.	2.14	ug/l	B		
MW-7_20200416	Unknown Semivolatile With 9th Highest Conc.	2.07	ug/l	B		
MW-6_20200416	1,2,3-Trichlorobenzene			UJ	0.70	2.5

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Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-6_20200416	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
MW-6_20200416	1,2,4-Trichlorobenzene			UJ	0.50	5.0
MW-6_20200416	1,2-Dichlorobenzene			UJ	0.45	2.0
MW-6_20200416	1,3-Dichlorobenzene			UJ	0.40	2.0
MW-6_20200416	1,4-Dichlorobenzene			UJ	0.43	2.0
MW-6_20200416	2,4,5-Trichlorophenol			UJ	0.77	5.0
MW-6_20200416	2,4,6-Trichlorophenol			UJ	0.61	5.0
MW-6_20200416	2,4-Dichlorophenol			UJ	0.41	5.0
MW-6_20200416	2,4-Dimethylphenol			UJ	1.8	5.0
MW-6_20200416	2,4-Dinitrophenol			UJ	6.6	20
MW-6_20200416	2,4-Dinitrotoluene			UJ	1.2	5.0
MW-6_20200416	2,6-Dinitrotoluene			UJ	0.93	5.0
MW-6_20200416	2-Chloronaphthalene			UJ	0.02	0.20
MW-6_20200416	2-Chlorophenol			UJ	0.48	2.0
MW-6_20200416	2-Hexanone			UJ	1.0	5.0
MW-6_20200416	2-Methylnaphthalene			UJ	0.02	0.10
MW-6_20200416	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
MW-6_20200416	2-Nitroaniline			UJ	0.50	5.0
MW-6_20200416	2-Nitrophenol			UJ	0.85	10
MW-6_20200416	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
MW-6_20200416	3,3'-Dichlorobenzidine			UJ	1.6	5.0
MW-6_20200416	3-Nitroaniline			UJ	0.81	5.0
MW-6_20200416	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
MW-6_20200416	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
MW-6_20200416	4-Chloro-3-Methylphenol			UJ	0.35	2.0
MW-6_20200416	4-Chloroaniline			UJ	1.1	5.0
MW-6_20200416	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
MW-6_20200416	4-Nitroaniline			UJ	0.80	5.0
MW-6_20200416	4-Nitrophenol			UJ	0.67	10
MW-6_20200416	Acenaphthene			UJ	0.01	0.10
MW-6_20200416	Acenaphthylene			UJ	0.01	0.10
MW-6_20200416	Acetophenone			UJ	0.53	5.0
MW-6_20200416	Aldrin			UJ	0.002	0.014
MW-6_20200416	Alpha Bhc (Alpha Hexachlorocyclohexane)			UJ	0.003	0.014
MW-6_20200416	Alpha Endosulfan			UJ	0.002	0.014
MW-6_20200416	Aluminum			U	0.00327	0.0100
MW-6_20200416	Anthracene	0.05	ug/l	J	0.01	0.10
MW-6_20200416	Benzo(A)Anthracene			UJ	0.02	0.10
MW-6_20200416	Benzo(A)Pyrene			UJ	0.02	0.10
MW-6_20200416	Benzo(B)Fluoranthene			UJ	0.01	0.10
MW-6_20200416	Benzo(G,H,I)Perylene			UJ	0.01	0.10
MW-6_20200416	Benzo(K)Fluoranthene			UJ	0.01	0.10
MW-6_20200416	Benzoic Acid			UJ	2.6	50
MW-6_20200416	Benzyl Alcohol			UJ	0.59	2.0
MW-6_20200416	Benzyl Butyl Phthalate			UJ	1.2	5.0
MW-6_20200416	Beta Bhc (Beta Hexachlorocyclohexane)			UJ	0.004	0.014
MW-6_20200416	Beta Endosulfan			UJ	0.004	0.029
MW-6_20200416	Biphenyl (Diphenyl)			UJ	0.46	2.0
MW-6_20200416	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
MW-6_20200416	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
MW-6_20200416	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
MW-6_20200416	Bis(2-Ethylhexyl) Phthalate	1.5	ug/l	J-	1.5	3.0
MW-6_20200416	Bromomethane			UJ	0.70	2.5
MW-6_20200416	Carbazole			UJ	0.49	2.0
MW-6_20200416	Chlordane			UJ	0.033	0.143
MW-6_20200416	Chloromethane			UJ	0.70	2.5

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Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-6_20200416	Chromium, Total			U	0.00017	0.00100
MW-6_20200416	Chrysene			UJ	0.01	0.10
MW-6_20200416	cis-Chlordane			UJ	0.005	0.014
MW-6_20200416	Copper			U	0.00038	0.00100
MW-6_20200416	Delta BHC (Delta Hexachlorocyclohexane)			UJ	0.003	0.014
MW-6_20200416	Dibenz(A,H)Anthracene			UJ	0.01	0.10
MW-6_20200416	Dibenzofuran			UJ	0.50	2.0
MW-6_20200416	Dichlorodifluoromethane			UJ	1.0	5.0
MW-6_20200416	Dieldrin			UJ	0.003	0.029
MW-6_20200416	Diethyl Phthalate			UJ	0.38	5.0
MW-6_20200416	Dimethyl Phthalate			UJ	1.8	5.0
MW-6_20200416	Di-N-Butyl Phthalate			UJ	0.39	5.0
MW-6_20200416	Di-N-Octylphthalate			UJ	1.3	5.0
MW-6_20200416	Endosulfan Sulfate			UJ	0.003	0.029
MW-6_20200416	Endrin			UJ	0.003	0.029
MW-6_20200416	Endrin Ketone			UJ	0.003	0.029
MW-6_20200416	Fluoranthene			UJ	0.02	0.10
MW-6_20200416	Fluorene			UJ	0.01	0.10
MW-6_20200416	Gamma Bhc (Lindane)			UJ	0.003	0.014
MW-6_20200416	Heptachlor			UJ	0.002	0.014
MW-6_20200416	Heptachlor Epoxide			UJ	0.003	0.014
MW-6_20200416	Hexachlorobenzene			UJ	0.01	0.80
MW-6_20200416	Hexachlorobutadiene			UJ	0.05	0.50
MW-6_20200416	Hexachlorocyclopentadiene			UJ	0.69	20
MW-6_20200416	Hexachloroethane			UJ	0.06	0.80
MW-6_20200416	Indeno(1,2,3-C,D)Pyrene			UJ	0.01	0.10
MW-6_20200416	Iron	2.94	mg/l	J+	0.0191	0.0500
MW-6_20200416	Isophorone			UJ	1.2	5.0
MW-6_20200416	Manganese	2.453	mg/l	J+	0.00044	0.00100
MW-6_20200416	Methoxychlor			UJ	0.005	0.143
MW-6_20200416	Naphthalene			UJ	0.05	0.10
MW-6_20200416	Nitrobenzene			UJ	0.77	2.0
MW-6_20200416	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
MW-6_20200416	N-Nitrosodiphenylamine			UJ	0.42	2.0
MW-6_20200416	P,P'-DDD	0.179	ug/l	J-	0.003	0.029
MW-6_20200416	P,P'-DDE	0.003	ug/l	J-	0.003	0.029
MW-6_20200416	P,P'-DDT	0.034	ug/l	J-	0.003	0.029
MW-6_20200416	Pentachlorophenol			UJ	0.01	0.80
MW-6_20200416	Perfluorohexanesulfonic acid (PFHxS)	3.01	ng/l	UJ	0.320	1.70
MW-6_20200416	Perfluorooctanesulfonic acid (PFOS)	34.3	ng/l	UJ	0.428	1.70
MW-6_20200416	Phenanthrene			UJ	0.02	0.10
MW-6_20200416	Phenol			UJ	0.57	5.0
MW-6_20200416	Pyrene			UJ	0.02	0.10
MW-6_20200416	Thallium			U	0.00014	0.00100
MW-6_20200416	Toxaphene			UJ	0.045	0.143
MW-6_20200416	Trans-1,3-Dichloropropene			UJ	0.16	0.50
MW-6_20200416	Trans-1,4-Dichloro-2-Butene			UJ	0.70	2.5
MW-6_20200416	trans-Chlordane			UJ	0.004	0.014
MW-6_20200416	Total Tic, Semi-Volatile	30.2	ug/l	B		
MW-6_20200416	Unknown Organic Acid 1st With Highest Conc.	4.25	ug/l	B		
MW-6_20200416	Unknown Semivolatile With 1st Highest Conc.	4.94	ug/l	B		
MW-6_20200416	Unknown Semivolatile With 2nd Highest Conc.	4.62	ug/l	B		
MW-6_20200416	Unknown Semivolatile With 3rd Highest Conc.	3.93	ug/l	B		
MW-6_20200416	Unknown Semivolatile With 4th Highest Conc.	2.65	ug/l	B		
MW-6_20200416	Unknown Semivolatile With 5th Highest Conc.	2.58	ug/l	B		
MW-6_20200416	Unknown Semivolatile With 6th Highest Conc.	2.00	ug/l	B		

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Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-6_20200416	Unknown Semivolatile With 7th Highest Conc.	1.89	ug/l	B		
MW-6_20200416	Unknown Semivolatile With 8th Highest Conc.	1.71	ug/l	B		
MW-6_20200416	Unknown Semivolatile With 9th Highest Conc.	1.64	ug/l	B		
MW-1A_20200416	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
MW-1A_20200416	1,2,4-Trichlorobenzene			UJ	0.50	5.0
MW-1A_20200416	1,2-Dichlorobenzene			UJ	0.45	2.0
MW-1A_20200416	1,3-Dichlorobenzene			UJ	0.40	2.0
MW-1A_20200416	1,4-Dichlorobenzene			UJ	0.43	2.0
MW-1A_20200416	2,4,5-Trichlorophenol			UJ	0.77	5.0
MW-1A_20200416	2,4,6-Trichlorophenol			UJ	0.61	5.0
MW-1A_20200416	2,4-Dichlorophenol			UJ	0.41	5.0
MW-1A_20200416	2,4-Dimethylphenol			UJ	1.8	5.0
MW-1A_20200416	2,4-Dinitrophenol			UJ	6.6	20
MW-1A_20200416	2,4-Dinitrotoluene			UJ	1.2	5.0
MW-1A_20200416	2,6-Dinitrotoluene			UJ	0.93	5.0
MW-1A_20200416	2-Chloronaphthalene	0.23	ug/l	J	0.02	0.20
MW-1A_20200416	2-Chlorophenol			UJ	0.48	2.0
MW-1A_20200416	2-Methylnaphthalene			UJ	0.02	0.10
MW-1A_20200416	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
MW-1A_20200416	2-Nitroaniline			UJ	0.50	5.0
MW-1A_20200416	2-Nitrophenol			UJ	0.85	10
MW-1A_20200416	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
MW-1A_20200416	3,3'-Dichlorobenzidine			UJ	1.6	5.0
MW-1A_20200416	3-Nitroaniline			UJ	0.81	5.0
MW-1A_20200416	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
MW-1A_20200416	4-Chloro-3-Methylphenol			UJ	0.35	2.0
MW-1A_20200416	4-Chloroaniline			UJ	1.1	5.0
MW-1A_20200416	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
MW-1A_20200416	4-Nitroaniline			UJ	0.80	5.0
MW-1A_20200416	4-Nitrophenol			UJ	0.67	10
MW-1A_20200416	Acenaphthene			UJ	0.01	0.10
MW-1A_20200416	Acenaphthylene			UJ	0.01	0.10
MW-1A_20200416	Acetophenone			UJ	0.53	5.0
MW-1A_20200416	Aluminum			U	0.00327	0.0100
MW-1A_20200416	Anthracene	0.01	ug/l	J	0.01	0.10
MW-1A_20200416	Antimony			U	0.00042	0.00400
MW-1A_20200416	Antimony			U	0.00042	0.00400
MW-1A_20200416	Benzo(A)Anthracene	0.02	ug/l	J	0.02	0.10
MW-1A_20200416	Benzo(A)Pyrene			UJ	0.02	0.10
MW-1A_20200416	Benzo(B)Fluoranthene	0.02	ug/l	J	0.01	0.10
MW-1A_20200416	Benzo(G,H,I)Perylene			UJ	0.01	0.10
MW-1A_20200416	Benzo(K)Fluoranthene			UJ	0.01	0.10
MW-1A_20200416	Benzoic Acid			UJ	2.6	50
MW-1A_20200416	Benzyl Alcohol			UJ	0.59	2.0
MW-1A_20200416	Benzyl Butyl Phthalate			UJ	1.2	5.0
MW-1A_20200416	Biphenyl (Diphenyl)			UJ	0.46	2.0
MW-1A_20200416	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
MW-1A_20200416	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
MW-1A_20200416	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
MW-1A_20200416	Bis(2-Ethylhexyl) Phthalate	2.1	ug/l	J-	1.5	3.0
MW-1A_20200416	Bromomethane			UJ	0.70	2.5
MW-1A_20200416	Carbazole			UJ	0.49	2.0
MW-1A_20200416	Chlordane			UJ	0.033	0.143
MW-1A_20200416	Chloromethane			UJ	0.70	2.5
MW-1A_20200416	Chromium, Total			U	0.00017	0.00100
MW-1A_20200416	Chrysene	0.01	ug/l	J	0.01	0.10

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Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
MW-1A_20200416	Dibenz(A,H)Anthracene			UJ	0.01	0.10
MW-1A_20200416	Dibenzofuran			UJ	0.50	2.0
MW-1A_20200416	Dichlorodifluoromethane			UJ	1.0	5.0
MW-1A_20200416	Diethyl Phthalate	7.9	ug/l	J-	0.38	5.0
MW-1A_20200416	Dimethyl Phthalate			UJ	1.8	5.0
MW-1A_20200416	Di-N-Butyl Phthalate			UJ	0.39	5.0
MW-1A_20200416	Di-N-Octylphthalate			UJ	1.3	5.0
MW-1A_20200416	Fluoranthene	0.03	ug/l	J	0.02	0.10
MW-1A_20200416	Fluorene			UJ	0.01	0.10
MW-1A_20200416	Hexachlorobenzene			UJ	0.01	0.80
MW-1A_20200416	Hexachlorobutadiene			UJ	0.05	0.50
MW-1A_20200416	Hexachlorocyclopentadiene			UJ	0.69	20
MW-1A_20200416	Hexachloroethane			UJ	0.06	0.80
MW-1A_20200416	Indeno(1,2,3-C,D)Pyrene			UJ	0.01	0.10
MW-1A_20200416	Iron			U	0.0191	0.0500
MW-1A_20200416	Iron	1.22	mg/l	J+	0.0191	0.0500
MW-1A_20200416	Isophorone			UJ	1.2	5.0
MW-1A_20200416	Manganese	3.933	mg/l	J+	0.00044	0.00100
MW-1A_20200416	Naphthalene	0.05	ug/l	J	0.05	0.10
MW-1A_20200416	Nitrobenzene			UJ	0.77	2.0
MW-1A_20200416	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
MW-1A_20200416	N-Nitrosodiphenylamine			UJ	0.42	2.0
MW-1A_20200416	PCB-1248 (Aroclor 1248)	0.054	ug/l	J-	0.049	0.083
MW-1A_20200416	Pentachlorophenol			UJ	0.01	0.80
MW-1A_20200416	Perfluorohexanesulfonic acid (PFHxS)	4.82	ng/l	UJ	0.362	1.92
MW-1A_20200416	Perfluorooctane Sulfonamide (FOSA)			UJ	0.558	1.92
MW-1A_20200416	Perfluorooctanesulfonic acid (PFOS)	11.5	ng/l	UJ	0.485	1.92
MW-1A_20200416	Phenanthrene	0.03	ug/l	J	0.02	0.10
MW-1A_20200416	Phenol			UJ	0.57	5.0
MW-1A_20200416	Pyrene	0.06	ug/l	J	0.02	0.10
MW-1A_20200416	Thallium			U	0.00014	0.00100
MW-1A_20200416	Cycloalkane With 1st Highest Conc.	4.33	ug/l	B		
MW-1A_20200416	Unknown Alkane With 1st Highest Conc.	4.00	ug/l	B		
MW-1A_20200416	Unknown Semivolatile With 10th Highest Conc.	4.84	ug/l	B		
MW-1A_20200416	Unknown Semivolatile With 11th Highest Conc.	4.14	ug/l	B		
MW-1A_20200416	Unknown Semivolatile With 4th Highest Conc.	8.04	ug/l	B		
MW-1A_20200416	Unknown Semivolatile With 5th Highest Conc.	6.69	ug/l	B		
MW-1A_20200416	Unknown Semivolatile With 7th Highest Conc.	5.74	ug/l	B		
MW-1A_20200416	Unknown Semivolatile With 8th Highest Conc.	5.56	ug/l	B		
MW-1A_20200416	Unknown Semivolatile With 9th Highest Conc.	5.31	ug/l	B		
FIELD BLANK	1,2,3-Trichlorobenzene			UJ	0.70	2.5
FIELD BLANK	1,2,4,5-Tetrachlorobenzene			UJ	0.44	10
FIELD BLANK	1,2,4-Trichlorobenzene			UJ	0.50	5.0
FIELD BLANK	1,2-Dichlorobenzene			UJ	0.45	2.0
FIELD BLANK	1,3-Dichlorobenzene			UJ	0.40	2.0
FIELD BLANK	1,4-Dichlorobenzene			UJ	0.43	2.0
FIELD BLANK	Unknown Semivolatile With 5th Highest Conc.	3.16	ug/l	B		
FIELD BLANK	2,4,5-Trichlorophenol			UJ	0.77	5.0
FIELD BLANK	2,4,6-Trichlorophenol			UJ	0.61	5.0
FIELD BLANK	2,4-Dichlorophenol			UJ	0.41	5.0
FIELD BLANK	Unknown Semivolatile With 6th Highest Conc.	2.98	ug/l	B		
FIELD BLANK	Unknown Semivolatile With 7th Highest Conc.	2.14	ug/l	B		
FIELD BLANK	2,4-Dimethylphenol			UJ	1.8	5.0
FIELD BLANK	2,4-Dinitrophenol			UJ	6.6	20
FIELD BLANK	2,4-Dinitrotoluene			UJ	1.2	5.0
FIELD BLANK	2,6-Dinitrotoluene			UJ	0.93	5.0

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Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
FIELD BLANK	2-Chloronaphthalene			UJ	0.02	0.20
FIELD BLANK	2-Chlorophenol			UJ	0.48	2.0
FIELD BLANK	2-Hexanone			UJ	1.0	5.0
FIELD BLANK	2-Methylnaphthalene			UJ	0.02	0.10
FIELD BLANK	2-Methylphenol (O-Cresol)			UJ	0.49	5.0
FIELD BLANK	2-Nitroaniline			UJ	0.50	5.0
FIELD BLANK	2-Nitrophenol			UJ	0.85	10
FIELD BLANK	3- And 4- Methylphenol (Total)			UJ	0.48	5.0
FIELD BLANK	3,3'-Dichlorobenzidine			UJ	1.6	5.0
FIELD BLANK	Unknown Semivolatile With 8th Highest Conc.	1.45	ug/l	B		
FIELD BLANK	Unknown Semivolatile With 9th Highest Conc.	1.60	ug/l	B		
FIELD BLANK	3-Nitroaniline			UJ	0.81	5.0
FIELD BLANK	4,6-Dinitro-2-Methylphenol			UJ	1.8	10
FIELD BLANK	4-Bromophenyl Phenyl Ether			UJ	0.38	2.0
FIELD BLANK	4-Chloro-3-Methylphenol			UJ	0.35	2.0
FIELD BLANK	4-Chloroaniline			UJ	1.1	5.0
FIELD BLANK	4-Chlorophenyl Phenyl Ether			UJ	0.49	2.0
FIELD BLANK	4-Nitroaniline			UJ	0.80	5.0
FIELD BLANK	4-Nitrophenol			UJ	0.67	10
FIELD BLANK	Acenaphthene			UJ	0.01	0.10
FIELD BLANK	Acenaphthylene			UJ	0.01	0.10
FIELD BLANK	Acetophenone			UJ	0.53	5.0
FIELD BLANK	Aluminum			U	0.00327	0.0100
FIELD BLANK	Anthracene			UJ	0.01	0.10
FIELD BLANK	Benzo(A)Anthracene			UJ	0.02	0.10
FIELD BLANK	Benzo(A)Pyrene			UJ	0.02	0.10
FIELD BLANK	Benzo(B)Fluoranthene			UJ	0.01	0.10
FIELD BLANK	Benzo(G,H,I)Perylene			UJ	0.01	0.10
FIELD BLANK	Benzo(K)Fluoranthene			UJ	0.01	0.10
FIELD BLANK	Benzoic Acid			UJ	2.6	50
FIELD BLANK	Benzyl Alcohol			UJ	0.59	2.0
FIELD BLANK	Benzyl Butyl Phthalate			UJ	1.2	5.0
FIELD BLANK	Biphenyl (Diphenyl)			UJ	0.46	2.0
FIELD BLANK	Bis(2-Chloroethoxy) Methane			UJ	0.50	5.0
FIELD BLANK	Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)			UJ	0.50	2.0
FIELD BLANK	Bis(2-Chloroisopropyl) Ether			UJ	0.53	2.0
FIELD BLANK	Bis(2-Ethylhexyl) Phthalate			UJ	1.5	3.0
FIELD BLANK	Bromomethane			UJ	0.70	2.5
FIELD BLANK	Calcium			U	0.0394	0.100
FIELD BLANK	Calcium			U	0.0394	0.100
FIELD BLANK	Carbazole			UJ	0.49	2.0
FIELD BLANK	Chloromethane			UJ	0.70	2.5
FIELD BLANK	Chromium, Total			U	0.00017	0.00100
FIELD BLANK	Chrysene			UJ	0.01	0.10
FIELD BLANK	Dibenz(A,H)Anthracene			UJ	0.01	0.10
FIELD BLANK	Dibenzofuran			UJ	0.50	2.0
FIELD BLANK	Dichlorodifluoromethane			UJ	1.0	5.0
FIELD BLANK	Diethyl Phthalate			UJ	0.38	5.0
FIELD BLANK	Dimethyl Phthalate			UJ	1.8	5.0
FIELD BLANK	Di-N-Butyl Phthalate			UJ	0.39	5.0
FIELD BLANK	Di-N-Octylphthalate			UJ	1.3	5.0
FIELD BLANK	Endrin			UJ	0.003	0.029
FIELD BLANK	Endrin Aldehyde			UJ	0.006	0.029
FIELD BLANK	Fluoranthene			UJ	0.02	0.10
FIELD BLANK	Fluorene			UJ	0.01	0.10
FIELD BLANK	Hexachlorobenzene			UJ	0.01	0.80

Validation SUmmary Table
Project G6-2420
Groundwaters

Sample ID	Parameter	Result	Units	Validation Qualifier	MDL	RL
FIELD BLANK	Hexachlorobutadiene			UJ	0.05	0.50
FIELD BLANK	Hexachlorocyclopentadiene			UJ	0.69	20
FIELD BLANK	Hexachloroethane			UJ	0.06	0.80
FIELD BLANK	Indeno(1,2,3-C,D)Pyrene			UJ	0.01	0.10
FIELD BLANK	Isophorone			UJ	1.2	5.0
FIELD BLANK	Manganese			U	0.00044	0.00100
FIELD BLANK	Naphthalene			UJ	0.05	0.10
FIELD BLANK	Nitrobenzene			UJ	0.77	2.0
FIELD BLANK	N-Nitrosodi-N-Propylamine			UJ	0.64	5.0
FIELD BLANK	N-Nitrosodiphenylamine			UJ	0.42	2.0
FIELD BLANK	PCB-1016 (Aroclor 1016)			UJ	0.034	0.083
FIELD BLANK	PCB-1221 (Aroclor 1221)			UJ	0.067	0.083
FIELD BLANK	PCB-1232 (Aroclor 1232)			UJ	0.046	0.083
FIELD BLANK	PCB-1242 (Aroclor 1242)			UJ	0.039	0.083
FIELD BLANK	PCB-1248 (Aroclor 1248)			UJ	0.049	0.083
FIELD BLANK	PCB-1254 (Aroclor 1254)			UJ	0.039	0.083
FIELD BLANK	PCB-1260 (Aroclor 1260)			UJ	0.032	0.083
FIELD BLANK	PCB-1262 (Aroclor 1262)			UJ	0.035	0.083
FIELD BLANK	PCB-1268 (Aroclor 1268)			UJ	0.034	0.083
FIELD BLANK	Pentachlorophenol			UJ	0.01	0.80
FIELD BLANK	Perfluorohexanoic acid (PFHxA)			U	0.322	1.96
FIELD BLANK	Phenanthrene			UJ	0.02	0.10
FIELD BLANK	Phenol			UJ	0.57	5.0
FIELD BLANK	Polychlorinated Biphenyl (PCBs)			UJ	0.032	0.083
FIELD BLANK	Pyrene			UJ	0.02	0.10
FIELD BLANK	Sodium			U	0.0293	0.100
FIELD BLANK	Sodium			U	0.0293	0.100
FIELD BLANK	Thallium			U	0.00014	0.00100
FIELD BLANK	Trans-1,3-Dichloropropene			UJ	0.16	0.50
FIELD BLANK	Trans-1,4-Dichloro-2-Butene			UJ	0.70	2.5

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Parameter	Result	Units	Validaton Qualifier	MDL	RL
MW-7_20200318	1,4-Dioxane (P-Dioxane)			R		
MW-1A_20200318	1,4-Dioxane (P-Dioxane)			R		
MW-6_20200318	1,4-Dioxane (P-Dioxane)			R		
FIELD BLANK_20200318	1,4-Dioxane (P-Dioxane)			R		

EPA Qualifier Definitions

U	**The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.**
J	**The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.**
J+	**The result is an estimated quantity, but the result may be biased high.**
J-	**The result is an estimated quantity, but the result may be biased low.**
NJ	**The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.**
UJ	**The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.**
R	**The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.**

ATTACHMENT B

CHAIN OF CUSTODY RECORDS
Laboratory Job No. L2012391, L2014361

ALPHA

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 3/19/20

ALPHA Job #: L2012391

Project Information
Project Name: G6-2420
Project Location: NY
Project #: G6-2420
(Use Project name as Project #) ☒
Project Manager: C. Hirschmann
ALPHAQuote #:

Client Information
Client: Hillmann
Address: 1600 Rt. 22 East
Union, NJ 07083
Phone: (908) 688-7800
Fax:
Email:

Turn-Around Time
Standard ☐
Rush (only if pre approved) ☒
Due Date: 5 Day
# of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☒ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☒ Same as Client Info
PO # G6-2420

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL/TCL+30	PFAS	VOCs 8260						Sample Specific Comments	Total Bottles
012391.01	MW-7	3-18-20	1130	GW	RKP	x	x								
.02	MW-1A	↓	1240	↓	↓	x	x								
.03	MW-6	↓	1550	↓	↓	x	x								
.04	Field Blank	↓	~~1550~~ 1420	FB	↓	x	x								
.05	Trip Blank	↓	1550	TB				X							

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
R. K. Kaill		[signature] AAL	3/19/20 11:00
[signature] AAL	3/19/20 12:40	[signature]	3/19/20 1640
[signature]	3/19/20 2116	[signature]	3/19/20 2116

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Copy of COC

3/21/20 L2012711

NEW YORK CHAIN OF CUSTODY

Page 1 of 1

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Client Information
Client: Hillmann
Address: 1600 Rt. 22 East
Union, NJ 07083
Phone: (908) 688-7806
Fax:
Email:

Project Information
Project Name: G6-2420
Project Location: NY
Project #: G6-2420
(Use Project name as Project #) ☒
Project Manager: C. Hirschmann
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date: 5 Day
Rush (only if pre approved) ☒ # of Days:

These samples have been previously analyzed by Alpha ☐
Other project specific requirements/comments:

Please specify Metals or TAL.

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☒ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☒ Same as Client Info
PO # G6-2420

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ANALYSIS

Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL/TCL+30	PFAS	VOCs 8260	Sample Specific Comments
MW-7	3-19-20	1130	GW	RKP	x	x		
MW-1A	↓	1240	↓	↓	x	x		
MW-6	↓	1550	↓	↓	x	x		
Field Blank	↓	~~1550~~ 1430	FB	↓	x	x		
Trip Blank	↓	1550	TB				X	

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Enviro
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
R.K. Kaelle		[signature] AAL	3/19/20 1130

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 20-Sept-2013)

R.CV: P.S. AAC 3/20/20 17:0
RL: P.S. AAC 3/20/20 20:5
Rec'd By: [signature] 3/20/20 0050

AAC - AAL 3/21/20 0600

Scanned with CamScanner

ALPHA

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 3/19/20

ALPHA Job #: L2012391

Project Information
Project Name: G6-2420
Project Location: NY
Project #: G6-2420
(Use Project name as Project #) ☒
Project Manager: C. Hirschmann
ALPHAQuote #:

Client Information
Client: Hillmann
Address: 1600 Rt. 22 East
Union, NJ 07083
Phone: (908) 688-7806
Fax:
Email:

Turn-Around Time
Standard ☐ Due Date: 5 Day
Rush (only if pre approved) ☒ # of Days:

Deliverables
☐ ASP-A ☒ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information
☒ Same as Client Info
PO # G6-2420

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☒ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL/TCL 130	PFAS	VOCs 8260		1,4 DIOXANE				Sample Specific Comments	Total Bottles
012391.01	MW-7	3-18-20	1130	GW	RKP	X	X			X					
.02	MW-1A	↓	1240	↓	↓	X	X			X					
14361- .03	MW-6	↓	1550	↓	↓	X	X			X					
.04	Field Blank	↓	~~1550~~ 1420	FB	↓	X	X			X					
.05	Trip Blank	↓	1550	TB				X							

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
R. K. [illegible]		[illegible] AAZ	3/19/20 11:00
[illegible] AAZ	3/19/20 12:40	[illegible]	3/19/20 1640
[illegible]	3/19/20 2116	[illegible]	3/19/20 2116

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ATTACHMENT C

SELECTED PAGES FROM DATA PACKAGE -
QC EXCEEDANCES AND VALIDATION ISSUES
Laboratory Job No. L2012391, L2014361

Results Summary
Form 1
Volatile Organics by GC/MS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: WG1354504-5	**Date Collected**	: NA
Client ID	: WG1354504-5BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 03/23/20 10:38
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,8260C	**Analyst**	: PD
Lab File ID	: VG200323A05	**Instrument ID**	: GONZO
Sample Amount	: 10 ml	**GC Column**	: RTX-502.2
Level	: LOW	**%Solids**	: N/A
Extract Volume (MeOH)	: N/A	**Injection Volume**	: N/A

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
75-09-2	Methylene chloride	ND	2.5	0.70	U
75-34-3	1,1-Dichloroethane	ND	2.5	0.70	U
67-66-3	Chloroform	ND	2.5	0.70	U
56-23-5	Carbon tetrachloride	ND	0.50	0.13	U
78-87-5	1,2-Dichloropropane	ND	1.0	0.14	U
124-48-1	Dibromochloromethane	ND	0.50	0.15	U
79-00-5	1,1,2-Trichloroethane	ND	1.5	0.50	U
127-18-4	Tetrachloroethene	ND	0.50	0.18	U
108-90-7	Chlorobenzene	ND	2.5	0.70	U
75-69-4	Trichlorofluoromethane	ND	2.5	0.70	U
107-06-2	1,2-Dichloroethane	ND	0.50	0.13	U
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.70	U
75-27-4	Bromodichloromethane	ND	0.50	0.19	U
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.16	U
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.14	U
542-75-6	1,3-Dichloropropene, Total	ND	0.50	0.14	U
563-58-6	1,1-Dichloropropene	ND	2.5	0.70	U
75-25-2	Bromoform	ND	2.0	0.65	U
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.17	U
71-43-2	Benzene	ND	0.50	0.16	U
108-88-3	Toluene	ND	2.5	0.70	U
100-41-4	Ethylbenzene	ND	2.5	0.70	U
74-87-3	Chloromethane	ND	2.5	0.70	U
74-83-9	Bromomethane	1.3	2.5	0.70	J
75-01-4	Vinyl chloride	ND	1.0	0.07	U

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1354504-3	**Analysis Date** : 03/23/20 08:56	**File ID** : VG200323A01
LCSD Sample ID	: WG1354504-4	**Analysis Date** : 03/23/20 09:21	**File ID** : VG200323A02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Methylene chloride	10	9.7	97	10	9.5	95	2	70-130	20
1,1-Dichloroethane	10	11	110	10	11	110	0	70-130	20
Chloroform	10	10	100	10	9.9	99	1	70-130	20
Carbon tetrachloride	10	11	110	10	10	100	10	63-132	20
1,2-Dichloropropane	10	10	100	10	11	110	10	70-130	20
Dibromochloromethane	10	9.6	96	10	9.9	99	3	63-130	20
1,1,2-Trichloroethane	10	8.6	86	10	8.9	89	3	70-130	20
Tetrachloroethene	10	9.3	93	10	9.4	94	1	70-130	20
Chlorobenzene	10	9.6	96	10	9.9	99	3	75-130	20
Trichlorofluoromethane	10	9.1	91	10	9.3	93	2	62-150	20
1,2-Dichloroethane	10	10	100	10	10	100	0	70-130	20
1,1,1-Trichloroethane	10	10	100	10	10	100	0	67-130	20
Bromodichloromethane	10	10	100	10	10	100	0	67-130	20
trans-1,3-Dichloropropene	10	9.7	97	10	9.9	99	2	70-130	20
cis-1,3-Dichloropropene	10	10	100	10	10	100	0	70-130	20
1,1-Dichloropropene	10	11	110	10	10	100	10	70-130	20
Bromoform	10	9.2	92	10	9.5	95	3	54-136	20
1,1,2,2-Tetrachloroethane	10	8.3	83	10	8.8	88	6	67-130	20
Benzene	10	9.7	97	10	9.6	96	1	70-130	20
Toluene	10	9.4	94	10	9.9	99	5	70-130	20
Ethylbenzene	10	9.4	94	10	10	100	6	70-130	20
Chloromethane	10	7.2	72	10	6.8	68	6	64-130	20
Bromomethane	10	5.4	54	10	9.2	92	52 Q	39-139	20
Vinyl chloride	10	9.8	98	10	9.0	90	9	55-140	20
Chloroethane	10	11	110	10	10	100	10	55-138	20
1,1-Dichloroethene	10	9.8	98	10	9.8	98	0	61-145	20

Laboratory Control Sample Summary
Form 3
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1354504-3	**Analysis Date** : 03/23/20 08:56	**File ID** : VG200323A01
LCSD Sample ID	: WG1354504-4	**Analysis Date** : 03/23/20 09:21	**File ID** : VG200323A02

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
trans-1,2-Dichloroethene	10	9.9	99	10	10	100	1	70-130	20
Trichloroethene	10	10	100	10	9.9	99	1	70-130	20
1,2-Dichlorobenzene	10	9.3	93	10	10	100	7	70-130	20
1,3-Dichlorobenzene	10	9.2	92	10	10	100	8	70-130	20
1,4-Dichlorobenzene	10	9.6	96	10	10	100	4	70-130	20
Methyl tert butyl ether	10	9.5	95	10	9.6	96	1	63-130	20
p/m-Xylene	20	20	100	20	21	105	5	70-130	20
o-Xylene	20	20	100	20	20	100	0	70-130	20
cis-1,2-Dichloroethene	10	10	100	10	10	100	0	70-130	20
Dibromomethane	10	9.6	96	10	9.5	95	1	70-130	20
1,2,3-Trichloropropane	10	8.6	86	10	9.0	90	5	64-130	20
Acrylonitrile	10	9.8	98	10	9.2	92	6	70-130	20
Styrene	20	20	100	20	20	100	0	70-130	20
Dichlorodifluoromethane	10	5.6	56	10	5.6	56	0	36-147	20
Acetone	10	9.1	91	10	8.8	88	3	58-148	20
Carbon disulfide	10	8.8	88	10	9.0	90	2	51-130	20
2-Butanone	10	8.6	86	10	8.7	87	1	63-138	20
Vinyl acetate	10	8.9	89	10	8.8	88	1	70-130	20
4-Methyl-2-pentanone	10	9.4	94	10	9.3	93	1	59-130	20
2-Hexanone	10	7.7	77	10	8.2	82	6	57-130	20
Bromochloromethane	10	11	110	10	11	110	0	70-130	20
2,2-Dichloropropane	10	11	110	10	12	120	9	63-133	20
1,2-Dibromoethane	10	9.2	92	10	9.4	94	2	70-130	20
1,3-Dichloropropane	10	8.8	88	10	9.1	91	3	70-130	20
1,1,1,2-Tetrachloroethane	10	9.7	97	10	10	100	3	64-130	20
Bromobenzene	10	9.7	97	10	10	100	3	70-130	20

Evaluate Continuing Calibration Report

Data Path : I:\VOLATILES\Gonzo\2020\200226N\
Data File : VG2002226N18.D
Acq On : 27 Feb 2020 6:01 am
Operator : GONZO:PD
Sample : CSTDL10PPB
Misc : WG1345060,ICAL
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Feb 27 13:17:09 2020
Quant Method : I:\VOLATILES\Gonzo\2020\200226N\G_200226N_8260.m
Quant Title : VOLATILES BY GC/MS
QLast Update : Thu Feb 27 13:12:02 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorobenzene	1.000	1.000	0.0	104	0.00
2	TP	Dichlorodifluoromethane	0.247	0.149	39.7#	59	0.00
3	TP	Chloromethane	0.415	0.328	21.0#	78	0.00
4	TC	Vinyl chloride	0.305	0.250	18.0	85	0.00
5	TP	Bromomethane	* 10.000	7.943	20.6#	95	0.00
6	TP	Chloroethane	0.181	0.168	7.2	84	0.00
7	TP	Trichlorofluoromethane	0.415	0.371	10.6	87	0.00
8	TP	Ethyl ether	0.139	0.148	-6.5	107	0.00
10	TC	1,1-Dichloroethene	0.229	0.200	12.7	85	0.00
11	TP	Carbon disulfide	0.697	0.688	1.3	101	0.00
12	TP	Freon-113	0.229	0.227	0.9	95	0.00
14	TP	Acrolein	0.049	0.045	8.2	100	0.00
15	TP	Methylene chloride	0.275	0.247	10.2	93	0.00
17	TP	Acetone	0.081	0.076	6.2	103	0.00
18	TP	trans-1,2-Dichloroethene	0.245	0.230	6.1	95	0.00
19	TP	Methyl acetate	0.220	0.216	1.8	108	0.00
20	TP	Methyl tert-butyl ether	0.732	0.735	-0.4	105	0.00
21	TP	tert-Butyl alcohol	0.022	0.024	-9.1	109	0.00
22	TP	Diisopropyl ether	1.330	1.350	-1.5	102	0.00
23	TP	1,1-Dichloroethane	0.596	0.540	9.4	92	0.00
24	TP	Halothane	0.199	0.188	5.5	94	0.00
25	TP	Acrylonitrile	0.102	0.112	-9.8	107	0.00
26	TP	Ethyl tert-butyl ether	1.053	1.083	-2.8	105	0.00
27	TP	Vinyl acetate	0.851	0.787	7.5	94	0.00
28	TP	cis-1,2-Dichloroethene	0.302	0.261	13.6	87	0.00
29	TP	2,2-Dichloropropane	0.363	0.286	21.2#	79	0.00
30	TP	Bromochloromethane	0.125	0.125	0.0	96	0.00
31	TP	Cyclohexane	0.581	0.555	4.5	91	0.00
32	TC	Chloroform	0.492	0.431	12.4	87	0.00
33	TP	Ethyl acetate	0.290	0.298	-2.8	107	0.00
34	TP	Carbon tetrachloride	0.370	0.314	15.1	86	0.00
35	TP	Tetrahydrofuran	0.096	0.092	4.2	105	0.00
36	S	Dibromofluoromethane	0.256	0.263	-2.7	109	0.00
37	TP	1,1,1-Trichloroethane	0.430	0.390	9.3	89	0.00
39	TP	2-Butanone	0.130	0.115	11.5	94	0.00
40	TP	1,1-Dichloropropene	0.371	0.339	8.6	88	0.00
41	TP	Benzene	1.148	1.057	7.9	90	0.00
42	TP	tert-Amyl methyl ether	0.760	0.764	-0.5	104	0.00
43	S	1,2-Dichloroethane-d4	0.316	0.300	5.1	100	0.00

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: GONZO	**Calibration Date**	: 03/23/20 08:56		
Lab File ID	: VG200323A01	**Init. Calib. Date(s)**	: 02/26/20	02/27/20	
Sample No	: WG1354504-2	**Init. Calib. Times**	: 23:38	03:27	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	117	-.01
Dichlorodifluoromethane	0.247	0.139	-	43.7*	20	62	0
Chloromethane	0.415	0.297	-	28.4*	20	79	0
Vinyl chloride	0.305	0.298	-	2.3	20	114	0
Bromomethane	10	5.362	-	46.4*	20	68	0
Chloroethane	0.181	0.197	-	-8.8	20	111	0
Trichlorofluoromethane	0.415	0.379	-	8.7	20	99	0
Ethyl ether	0.139	0.127	-	8.6	20	104	0
1,1-Dichloroethene	0.229	0.226	-	1.3	20	108	0
Carbon disulfide	0.697	0.61	-	12.5	20	100	0
Freon-113	0.229	0.224	-	2.2	20	105	0
Acrolein	0.049	0.04	-	18.4	20	100	0
Methylene chloride	0.275	0.267	-	2.9	20	113	0
Acetone	0.081	0.073	-	9.9	20	110	-.01
trans-1,2-Dichloroethene	0.245	0.242	-	1.2	20	112	0
Methyl acetate	0.22	0.181	-	17.7	20	102	0
Methyl tert-butyl ether	0.732	0.697	-	4.8	20	112	0
tert-Butyl alcohol	0.022	0.028	-	-27.3*	20	145	0
Diisopropyl ether	1.33	1.157	-	13	20	98	-.01
1,1-Dichloroethane	0.596	0.642	-	-7.7	20	122	0
Halothane	0.199	0.213	-	-7	20	119	0
Acrylonitrile	0.102	0.1	-	2	20	107	0
Ethyl tert-butyl ether	1.053	1.132	-	-7.5	20	123	0
Vinyl acetate	0.851	0.757	-	11	20	102	-.01
cis-1,2-Dichloroethene	0.302	0.316	-	-4.6	20	118	0
2,2-Dichloropropane	0.363	0.406	-	-11.8	20	126	0
Bromochloromethane	0.125	0.135	-	-8	20	117	0
Cyclohexane	0.581	0.603	-	-3.8	20	111	0
Chloroform	0.492	0.511	-	-3.9	20	115	0
Ethyl acetate	0.29	0.247	-	14.8	20	100	0
Carbon tetrachloride	0.37	0.399	-	-7.8	20	122	0
Tetrahydrofuran	0.096	0.073	-	24*	20	94	-.01
Dibromofluoromethane	0.256	0.263	-	-2.7	20	123	0
1,1,1-Trichloroethane	0.43	0.45	-	-4.7	20	115	-.01
2-Butanone	0.13	0.113	-	13.1	20	104	0
1,1-Dichloropropene	0.371	0.399	-	-7.5	20	116	0
Benzene	1.148	1.118	-	2.6	20	107	0
tert-Amyl methyl ether	0.76	0.755	-	0.7	20	115	0
1,2-Dichloroethane-d4	0.316	0.318	-	-0.6	20	119	-.01
1,2-Dichloroethane	0.427	0.438	-	-2.6	20	118	0
Methyl cyclohexane	0.407	0.407	-	0	20	110	-.01
Trichloroethene	0.289	0.296	-	-2.4	20	117	-.01
Dibromomethane	0.157	0.15	-	4.5	20	110	0

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC		**Lab Number**	: L2012391	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: GONZO		**Calibration Date**	: 03/23/20 08:56	
Lab File ID	: VG200323A01		**Init. Calib. Date(s)**	: 02/26/20	02/27/20
Sample No	: WG1354504-2		**Init. Calib. Times**	: 23:38	03:27
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichloropropane	0.337	0.352	-	-4.5	20	115	0
2-Chloroethyl vinyl ether	0.171	0.165	-	3.5	20	112	-.01
Bromodichloromethane	0.384	0.386	-	-0.5	20	114	-.01
1,4-Dioxane	0.00198	0.00198	-	0	20	116	-.01
cis-1,3-Dichloropropene	0.459	0.466	-	-1.5	20	116	0
Chlorobenzene-d5	1	1	-	0	20	126	0
Toluene-d8	1.329	1.272	-	4.3	20	119	-.01
Toluene	0.949	0.895	-	5.7	20	111	-.01
4-Methyl-2-pentanone	0.141	0.133	-	5.7	20	118	-.01
Tetrachloroethene	0.418	0.391	-	6.5	20	111	-.01
trans-1,3-Dichloropropene	0.552	0.536	-	2.9	20	121	-.01
Ethyl methacrylate	0.411	0.352	-	14.4	20	107	-.01
1,1,2-Trichloroethane	0.26	0.223	-	14.2	20	103	-.01
Chlorodibromomethane	0.349	0.334	-	4.3	20	119	-.01
1,3-Dichloropropane	0.549	0.481	-	12.4	20	105	-.01
1,2-Dibromoethane	0.306	0.283	-	7.5	20	113	0
2-Hexanone	0.251	0.194	-	22.7*	20	95	0
Chlorobenzene	1.05	1.013	-	3.5	20	117	-.01
Ethylbenzene	1.8	1.701	-	5.5	20	111	-.01
1,1,1,2-Tetrachloroethane	0.373	0.361	-	3.2	20	118	-.01
p/m Xylene	0.685	0.683	-	0.3	20	115	0
o Xylene	0.661	0.646	-	2.3	20	115	-.01
Styrene	1.125	1.103	-	2	20	115	-.01
1,4-Dichlorobenzene-d4	1	1	-	0	20	127	0
Bromoform	0.453	0.414	-	8.6	20	113	0
Isopropylbenzene	3.427	3.303	-	3.6	20	112	0
4-Bromofluorobenzene	0.987	0.953	-	3.4	20	122	-.01
Bromobenzene	0.892	0.869	-	2.6	20	116	0
n-Propylbenzene	3.932	3.703	-	5.8	20	109	0
1,4-Dichlorobutane	1.354	1.265	-	6.6	20	114	-.01
1,1,2,2-Tetrachloroethane	0.685	0.568	-	17.1	20	103	0
4-Ethyltoluene	3.242	3.222	-	0.6	20	115	-.01
2-Chlorotoluene	2.483	2.247	-	9.5	20	107	0
1,3,5-Trimethylbenzene	2.906	2.818	-	3	20	113	0
1,2,3-Trichloropropane	0.605	0.519	-	14.2	20	112	-.01
trans-1,4-Dichloro-2-buten	0.2	0.134	-	33*	20	86	0
4-Chlorotoluene	2.538	2.399	-	5.5	20	114	-.01
tert-Butylbenzene	2.716	2.246	-	17.3	20	99	0
1,2,4-Trimethylbenzene	2.902	2.762	-	4.8	20	112	-.01
sec-Butylbenzene	3.225	3.103	-	3.8	20	112	-.01
p-Isopropyltoluene	2.833	2.824	-	0.3	20	115	-.01
1,3-Dichlorobenzene	1.639	1.502	-	8.4	20	108	-.01
1,4-Dichlorobenzene	1.676	1.604	-	4.3	20	118	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC		**Lab Number**	: L2012391	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: GONZO		**Calibration Date**	: 03/23/20 08:56	
Lab File ID	: VG200323A01		**Init. Calib. Date(s)**	: 02/26/20	02/27/20
Sample No	: WG1354504-2		**Init. Calib. Times**	: 23:38	03:27
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
p-Diethylbenzene	1.628	1.607	-	1.3	20	116	0
n-Butylbenzene	2.493	2.312	-	7.3	20	108	0
1,2-Dichlorobenzene	1.482	1.381	-	6.8	20	110	-.01
1,2,4,5-Tetramethylbenzene	2.517	2.387	-	5.2	20	113	-.01
1,2-Dibromo-3-chloropropan	10	8.098	-	19	20	113	0
1,3,5-Trichlorobenzene	1.115	1.002	-	10.1	20	111	-.01
Hexachlorobutadiene	0.437	0.357	-	18.3	20	98	-.01
1,2,4-Trichlorobenzene	0.994	0.831	-	16.4	20	105	0
Naphthalene	1.768	1.477	-	16.5	20	106	-.01
1,2,3-Trichlorobenzene	0.857	0.665	-	22.4*	20	100	-.01

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: VOA105	**Calibration Date**	: 03/25/20 07:08		
Lab File ID	: V05200325A01	**Init. Calib. Date(s)**	: 03/13/20	03/14/20	
Sample No	: WG1354921-2	**Init. Calib. Times**	: 20:45	00:13	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	71	-.02
Dichlorodifluoromethane	0.211	0.128	-	39.3*	20	42	0
Chloromethane	0.205	0.156	-	23.9*	20	54	-.01
Vinyl chloride	0.257	0.246	-	4.3	20	68	0
Bromomethane	0.141	0.094*	-	33.3*	20	53	0
Chloroethane	0.127	0.15	-	-18.1	20	80	-.01
Trichlorofluoromethane	0.369	0.405	-	-9.8	20	75	-.01
Ethyl ether	0.099	0.11	-	-11.1	20	81	0
1,1-Dichloroethene	0.191	0.185	-	3.1	20	71	-.01
Carbon disulfide	0.524	0.455	-	13.2	20	65	0
Freon-113	0.189	0.202	-	-6.9	20	74	0
Iodomethane	0.288	0.04*	-	86.1*	20	10	-.02
Acrolein	0.017	0.016*	-	5.9	20	77	0
Methylene chloride	0.211	0.214	-	-1.4	20	76	0
Acetone	10	11.679	-	-16.8	20	82	-.01
trans-1,2-Dichloroethene	0.215	0.206	-	4.2	20	70	-.01
Methyl acetate	0.084	0.084*	-	0	20	79	0
Methyl tert-butyl ether	0.463	0.421	-	9.1	20	66	-.01
tert-Butyl alcohol	0.00816	0.00754*	-	7.6	20	67	-.02
Diisopropyl ether	0.578	0.637	-	-10.2	20	80	-.02
1,1-Dichloroethane	0.379	0.416	-	-9.8	20	79	-.01
Halothane	0.166	0.16	-	3.6	20	69	-.01
Acrylonitrile	0.036	0.038*	-	-5.6	20	79	-.02
Ethyl tert-butyl ether	0.531	0.519	-	2.3	20	71	0
Vinyl acetate	0.3	0.389	-	-29.7*	20	102	0
cis-1,2-Dichloroethene	0.233	0.258	-	-10.7	20	81	0
2,2-Dichloropropane	0.333	0.318	-	4.5	20	68	-.02
Bromochloromethane	0.105	0.102	-	2.9	20	69	-.02
Cyclohexane	0.334	0.387	-	-15.9	20	80	0
Chloroform	0.383	0.411	-	-7.3	20	76	-.02
Ethyl acetate	0.104	0.115	-	-10.6	20	81	-.01
Carbon tetrachloride	0.344	0.322	-	6.4	20	68	-.01
Tetrahydrofuran	10	11.485	-	-14.8	20	81	-.02
Dibromofluoromethane	0.268	0.259	-	3.4	20	69	0
1,1,1-Trichloroethane	0.367	0.38	-	-3.5	20	72	-.02
2-Butanone	0.044	0.056*	-	-27.3*	20	91	-.02
1,1-Dichloropropene	0.305	0.334	-	-9.5	20	78	0
Benzene	0.87	0.918	-	-5.5	20	75	-.01
tert-Amyl methyl ether	0.49	0.418	-	14.7	20	62	0
1,2-Dichloroethane-d4	0.287	0.324	-	-12.9	20	78	-.02
1,2-Dichloroethane	0.258	0.29	-	-12.4	20	80	-.02
Methyl cyclohexane	0.382	0.412	-	-7.9	20	75	0
Trichloroethene	0.247	0.242	-	2	20	76	-.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391		
Project Name	: G6-2420	**Project Number**	: G6-2420		
Instrument ID	: VOA105	**Calibration Date**	: 03/25/20 07:08		
Lab File ID	: V05200325A01	**Init. Calib. Date(s)**	: 03/13/20	03/14/20	
Sample No	: WG1354921-2	**Init. Calib. Times**	: 20:45	00:13	
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Dibromomethane	0.118	0.119	-	-0.8	20	73	-.02
1,2-Dichloropropane	0.206	0.223	-	-8.3	20	77	-.02
2-Chloroethyl vinyl ether	0.103	0.092	-	10.7	20	63	-.02
Bromodichloromethane	0.289	0.28	-	3.1	20	71	0
1,4-Dioxane	0.00105	0.0011*	-	-4.8	20	71	-.01
cis-1,3-Dichloropropene	0.341	0.328	-	3.8	20	70	-.02
Chlorobenzene-d5	1	1	-	0	20	69	-.01
Toluene-d8	1.265	1.34	-	-5.9	20	71	-.02
Toluene	0.72	0.792	-	-10	20	74	-.02
4-Methyl-2-pentanone	0.053	0.054*	-	-1.9	20	69	0
Tetrachloroethene	0.343	0.354	-	-3.2	20	69	0
trans-1,3-Dichloropropene	0.35	0.364	-	-4	20	71	0
Ethyl methacrylate	0.249	0.245	-	1.6	20	67	0
1,1,2-Trichloroethane	0.164	0.191	-	-16.5	20	77	0
Chlorodibromomethane	0.262	0.237	-	9.5	20	63	-.02
1,3-Dichloropropane	0.367	0.438	-	-19.3	20	78	0
1,2-Dibromoethane	0.192	0.205	-	-6.8	20	70	-.01
2-Hexanone	0.09	0.088*	-	2.2	20	68	-.01
Chlorobenzene	0.771	0.811	-	-5.2	20	72	-.02
Ethylbenzene	1.362	1.526	-	-12	20	75	-.02
1,1,1,2-Tetrachloroethane	0.261	0.261	-	0	20	66	0
p/m Xylene	0.537	0.584	-	-8.8	20	73	-.02
o Xylene	0.517	0.544	-	-5.2	20	71	-.02
Styrene	0.803	0.881	-	-9.7	20	71	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	66	-.01
Bromoform	0.26	0.218	-	16.2	20	56	0
Isopropylbenzene	2.657	2.966	-	-11.6	20	73	-.01
4-Bromofluorobenzene	0.941	0.962	-	-2.2	20	69	-.01
Bromobenzene	0.638	0.628	-	1.6	20	67	0
n-Propylbenzene	3.034	3.5	-	-15.4	20	75	-.01
1,4-Dichlorobutane	0.528	0.633	-	-19.9	20	79	0
1,1,2,2-Tetrachloroethane	0.395	0.44	-	-11.4	20	77	0
4-Ethyltoluene	2.528	2.75	-	-8.8	20	71	0
2-Chlorotoluene	1.718	2.003	-	-16.6	20	75	0
1,3,5-Trimethylbenzene	2.115	2.376	-	-12.3	20	74	0
1,2,3-Trichloropropane	0.333	0.383	-	-15	20	78	0
trans-1,4-Dichloro-2-buten	0.091	0.083	-	8.8	20	66	0
4-Chlorotoluene	1.81	2.021	-	-11.7	20	74	0
tert-Butylbenzene	1.874	1.988	-	-6.1	20	70	0
1,2,4-Trimethylbenzene	2.07	2.273	-	-9.8	20	72	0
sec-Butylbenzene	2.64	2.809	-	-6.4	20	69	0
p-Isopropyltoluene	2.273	2.435	-	-7.1	20	70	0
1,3-Dichlorobenzene	1.168	1.186	-	-1.5	20	67	-.02

*** Value outside of QC limits.**

Calibration Verification Summary
Form 7
Volatiles

Client	: Hillmann Consulting, LLC		**Lab Number**	: L2012391	
Project Name	: G6-2420		**Project Number**	: G6-2420	
Instrument ID	: VOA105		**Calibration Date**	: 03/25/20 07:08	
Lab File ID	: V05200325A01		**Init. Calib. Date(s)**	: 03/13/20	03/14/20
Sample No	: WG1354921-2		**Init. Calib. Times**	: 20:45	00:13
Channel	:				

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,4-Dichlorobenzene	1.174	1.218	-	-3.7	20	69	0
p-Diethylbenzene	1.32	1.333	-	-1	20	68	0
n-Butylbenzene	1.933	2.226	-	-15.2	20	76	0
1,2-Dichlorobenzene	1.031	1.044	-	-1.3	20	67	0
1,2,4,5-Tetramethylbenzene	1.906	1.818	-	4.6	20	64	-.01
1,2-Dibromo-3-chloropropan	0.052	0.042*	-	19.2	20	57	0
1,3,5-Trichlorobenzene	0.776	0.717	-	7.6	20	63	-.01
Hexachlorobutadiene	0.308	0.268	-	13	20	61	0
1,2,4-Trichlorobenzene	0.642	0.568	-	11.5	20	62	0
Naphthalene	1.064	0.971	-	8.7	20	64	0
1,2,3-Trichlorobenzene	0.49	0.429	-	12.4	20	62	0

*** Value outside of QC limits.**

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L2012391
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-7 (L2012391-01)	68	57	83	78	99	102	0
MW-1A (L2012391-02)	65	54	81	76	104	106	0
MW-6 (L2012391-03)	59	52	71	69	90	86	0
FIELD BLANK (L2012391-04)	62	54	76	73	96	90	0
WG1353991-1BLANK	50	41	71	69	90	94	0
WG1353991-2LCS	45	37	56	52	69	73	0
WG1353991-3LCSD	62	53	72	69	90	98	0

QC LIMITS

(21-120)	2FP = 2-FLUOROPHENOL
(10-120)	PHL = PHENOL-D6
(23-120)	NBZ = NITROBENZENE-D5
(15-120)	FBP = 2-FLUOROBIPHENYL
(10-120)	TBP = 2,4,6-TRIBROMOPHENOL
(41-149)	TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1353991-2	**Analysis Date** : 03/24/20 21:24	**File ID** : 353991-2
LCSD Sample ID	: WG1353991-3	**Analysis Date** : 03/24/20 21:41	**File ID** : 353991-3

	Laboratory Control Sample				Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R		True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Acenaphthene	3.6	2.0	55		3.6	2.7	74	29	40-140	40
2-Chloronaphthalene	3.6	1.9	51		3.6	2.5	69	30	40-140	40
Fluoranthene	3.6	2.4	65		3.6	3.2	87	29	40-140	40
Hexachlorobutadiene	3.6	1.8	50		3.6	2.3	63	23	40-140	40
Naphthalene	3.6	1.9	52		3.6	2.5	68	27	40-140	40
Benzo(a)anthracene	3.6	2.4	65		3.6	3.0	84	26	40-140	40
Benzo(a)pyrene	3.6	2.5	69		3.6	3.2	89	25	40-140	40
Benzo(b)fluoranthene	3.6	2.4	66		3.6	3.2	87	27	40-140	40
Benzo(k)fluoranthene	3.6	2.5	68		3.6	3.2	88	26	40-140	40
Chrysene	3.6	2.3	64		3.6	3.1	85	28	40-140	40
Acenaphthylene	3.6	1.8	50		3.6	2.4	66	28	40-140	40
Anthracene	3.6	2.1	59		3.6	2.9	79	29	40-140	40
Benzo(ghi)perylene	3.6	2.5	69		3.6	3.2	87	23	40-140	40
Fluorene	3.6	2.0	56		3.6	2.8	77	32	40-140	40
Phenanthrene	3.6	2.1	59		3.6	2.8	78	28	40-140	40
Dibenzo(a,h)anthracene	3.6	2.6	72		3.6	3.3	91	23	40-140	40
Indeno(1,2,3-cd)pyrene	3.6	2.6	73		3.6	3.4	94	25	40-140	40
Pyrene	3.6	2.4	66		3.6	3.2	88	29	40-140	40
2-Methylnaphthalene	3.6	1.8	51		3.6	2.4	68	29	40-140	40
Pentachlorophenol	3.6	1.4	38	Q	3.6	1.8	50	27	40-140	40
Hexachlorobenzene	3.6	2.2	60		3.6	2.9	80	29	40-140	40
Hexachloroethane	3.6	1.8	49		3.6	2.2	62	23	40-140	40

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1353987-2	**Analysis Date** : 03/25/20 13:58	**File ID** : 353987-2
LCSD Sample ID	: WG1353987-3	**Analysis Date** : 03/25/20 14:25	**File ID** : 353987-3

	Laboratory Control Sample			Laboratory Control Duplicate						
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD		Recovery Limits	RPD Limit
Acenaphthene	18	13.	70	18	15.	81	15		37-111	30
1,2,4-Trichlorobenzene	18	9.8	54	18	13.	74	31	Q	39-98	30
Hexachlorobenzene	18	13.	74	18	15.	84	13		40-140	30
Bis(2-chloroethyl)ether	18	11.	59	18	14.	76	25		40-140	30
2-Chloronaphthalene	18	11.	61	18	14.	76	22		40-140	30
1,2-Dichlorobenzene	18	11.	61	18	14.	76	22		40-140	30
1,3-Dichlorobenzene	18	10.	57	18	14.	74	26		40-140	30
1,4-Dichlorobenzene	18	10.	55	18	13.	73	28		36-97	30
3,3'-Dichlorobenzidine	18	10.	57	18	13.	73	25		40-140	30
2,4-Dinitrotoluene	18	15.	80	18	16.	89	11		48-143	30
2,6-Dinitrotoluene	18	13.	72	18	16.	87	19		40-140	30
Fluoranthene	18	13.	72	18	16.	85	17		40-140	30
4-Chlorophenyl phenyl ether	18	12.	67	18	14.	78	15		40-140	30
4-Bromophenyl phenyl ether	18	13.	72	18	15.	84	15		40-140	30
Bis(2-chloroisopropyl)ether	18	8.6	47	18	11.	63	29		40-140	30
Bis(2-chloroethoxy)methane	18	10.	57	18	14.	80	34	Q	40-140	30
Hexachlorobutadiene	18	9.9	54	18	11.	61	12		40-140	30
Hexachlorocyclopentadiene	18	9.5	52	18	11.	62	18		40-140	30
Hexachloroethane	18	9.0	50	18	12.	69	32	Q	40-140	30
Isophorone	18	11.	58	18	14.	79	31	Q	40-140	30
Naphthalene	18	11.	62	18	14.	74	18		40-140	30
Nitrobenzene	18	9.5	52	18	12.	65	22		40-140	30
NDPA/DPA	18	14.	78	18	15.	84	7		40-140	30
n-Nitrosodi-n-propylamine	18	10.	56	18	13.	73	26		29-132	30
Bis(2-ethylhexyl)phthalate	18	13.	70	18	15.	83	17		40-140	30
Butyl benzyl phthalate	18	13.	72	18	15.	85	17		40-140	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1353987-2	**Analysis Date** : 03/25/20 13:58	**File ID** : 353987-2
LCSD Sample ID	: WG1353987-3	**Analysis Date** : 03/25/20 14:25	**File ID** : 353987-3

	Laboratory Control Sample			Laboratory Control Duplicate					
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD	Recovery Limits	RPD Limit
Di-n-butylphthalate	18	13.	70	18	15.	80	13	40-140	30
Di-n-octylphthalate	18	14.	77	18	17.	92	18	40-140	30
Diethyl phthalate	18	13.	71	18	14.	77	8	40-140	30
Dimethyl phthalate	18	12.	64	18	14.	76	17	40-140	30
Benzo(a)anthracene	18	14.	76	18	16.	89	16	40-140	30
Benzo(a)pyrene	18	13.	72	18	15.	85	17	40-140	30
Benzo(b)fluoranthene	18	14.	77	18	17.	92	18	40-140	30
Benzo(k)fluoranthene	18	14.	80	18	18.	98	20	40-140	30
Chrysene	18	12.	66	18	14.	79	18	40-140	30
Acenaphthylene	18	12.	66	18	14.	78	17	45-123	30
Anthracene	18	12.	69	18	15.	82	17	40-140	30
Benzo(ghi)perylene	18	14.	76	18	17.	94	21	40-140	30
Fluorene	18	13.	74	18	15.	84	13	40-140	30
Phenanthrene	18	12.	65	18	14.	80	21	40-140	30
Dibenzo(a,h)anthracene	18	13.	71	18	17.	92	26	40-140	30
Indeno(1,2,3-cd)pyrene	18	14.	75	18	17.	92	20	40-140	30
Pyrene	18	12.	68	18	15.	81	17	26-127	30
Biphenyl	18	11.	62	18	14.	77	22	40-140	30
4-Chloroaniline	18	8.6	47	18	11.	62	28	40-140	30
2-Nitroaniline	18	13.	71	18	17.	96	30	52-143	30
3-Nitroaniline	18	12.	65	18	15.	81	22	25-145	30
4-Nitroaniline	18	13.	72	18	15.	84	15	51-143	30
Dibenzofuran	18	12.	67	18	14.	78	15	40-140	30
2-Methylnaphthalene	18	12.	64	18	14.	78	20	40-140	30
1,2,4,5-Tetrachlorobenzene	18	11.	59	18	13.	70	17	2-134	30
Acetophenone	18	10.	56	18	14.	76	30	39-129	30

Laboratory Control Sample Summary
Form 3
Semivolatiles

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Matrix	: WATER		
LCS Sample ID	: WG1353987-2	**Analysis Date** : 03/25/20 13:58	**File ID** : 353987-2
LCSD Sample ID	: WG1353987-3	**Analysis Date** : 03/25/20 14:25	**File ID** : 353987-3

	Laboratory Control Sample			Laboratory Control Duplicate						
Parameter	True (ug/l)	Found (ug/l)	%R	True (ug/l)	Found (ug/l)	%R	RPD		Recovery Limits	RPD Limit
2,4,6-Trichlorophenol	18	12.	66	18	14.	80	19		30-130	30
p-Chloro-m-cresol	18	12.	68	18	15.	85	22		23-97	30
2-Chlorophenol	18	12.	63	18	14.	77	20		27-123	30
2,4-Dichlorophenol	18	12.	65	18	16.	86	28		30-130	30
2,4-Dimethylphenol	18	7.6	42	18	10.	55	27		30-130	30
2-Nitrophenol	18	12.	64	18	16.	91	35	Q	30-130	30
4-Nitrophenol	18	11.	63	18	13.	73	15		10-80	30
2,4-Dinitrophenol	18	13.	73	18	14.	78	7		20-130	30
4,6-Dinitro-o-cresol	18	15.	85	18	17.	92	8		20-164	30
Pentachlorophenol	18	14.	78	18	16.	86	10		9-103	30
Phenol	18	8.0	44	18	11.	59	29		12-110	30
2-Methylphenol	18	11.	60	18	15.	82	31	Q	30-130	30
3-Methylphenol/4-Methylphenol	18	11.	63	18	16.	87	32	Q	30-130	30
2,4,5-Trichlorophenol	18	13.	69	18	16.	85	21		30-130	30
Benzoic Acid	18	7.4	40	18	6.9	38	5		10-164	30
Benzyl Alcohol	18	8.9	49	18	12.	68	32	Q	26-116	30
Carbazole	18	13.	73	18	15.	83	13		55-144	30

Surrogate Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L2012391
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S1 (2FP)	S2 (PHL)	S3 (NBZ)	S4 (FBP)	S5 (TBP)	S6 (TPH)	TOT OUT
MW-7 (L2012391-01)	76	61	60	56	95	68	0
MW-1A (L2012391-02)	71	57	54	55	95	74	0
MW-6 (L2012391-03)	65	53	46	52	83	59	0
FIELD BLANK (L2012391-04)	67	57	53	52	81	64	0
WG1353987-1BLANK	53	43	48	50	91	65	0
WG1353987-2LCS	56	44	41	44	85	58	0
WG1353987-3LCSD	70	56	55	54	95	69	0

QC LIMITS

(21-120) 2FP = 2-FLUOROPHENOL
(10-120) PHL = PHENOL-D6
(23-120) NBZ = NITROBENZENE-D5
(15-120) FBP = 2-FLUOROBIPHENYL
(10-120) TBP = 2,4,6-TRIBROMOPHENOL
(41-149) TPH = 4-TERPHENYL-D14

*** Values outside of QC limits**

Tentatively Identified Compounds
Form 1
Semivolatile Organics by GC/MS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: L2012391-01	**Date Collected**	: 03/18/20 11:30
Client ID	: MW-7	**Date Received**	: 03/19/20
Sample Location	: NY	**Date Analyzed**	: 03/25/20 15:45
Sample Matrix	: WATER	**Date Extracted**	: 03/23/20
Analytical Method	: 1,8270D	**Dilution Factor**	: 1
Lab File ID	: 12391-01	**Analyst**	: WR
Sample Amount	: 275 ml	**Instrument ID**	: SV107
Extraction Method	: EPA 3510C	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

Number TICS found: 16 **Concentration Units: ug/L**

CAS Number	Compound Name	RT	EST. CONC.	Qualifier
	Unknown	1.88	2.07	J
	Unknown	1.96	2.14	J
	Unknown	1.99	2.51	J
000127-18-4	Tetrachloroethylene	2.04	146	NJ
	Unknown Ketone	2.70	2.07	J
	Unknown	3.50	2.62	J
	Unknown Organic Acid	4.61	4.84	J
	Unknown	5.99	1.85	J
	Unknown	10.08	1.93	J
	Unknown	12.37	1.67	J
	Unknown	12.69	3.09	J
	Unknown	13.29	2.8	J
	Unknown	14.00	1.71	J
	Unknown	14.18	2.69	J
	Unknown	15.02	2.62	J
	Total TIC Compounds		181J	J

Tentatively Identified Compounds
Form 1
Semivolatile Organics by GC/MS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: L2012391-02	**Date Collected**	: 03/18/20 12:40
Client ID	: MW-1A	**Date Received**	: 03/19/20
Sample Location	: NY	**Date Analyzed**	: 03/25/20 16:12
Sample Matrix	: WATER	**Date Extracted**	: 03/23/20
Analytical Method	: 1,8270D	**Dilution Factor**	: 1
Lab File ID	: 12391-02	**Analyst**	: WR
Sample Amount	: 275 ml	**Instrument ID**	: SV107
Extraction Method	: EPA 3510C	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

Number TICS found: 16 **Concentration Units: ug/L**

CAS Number	Compound Name	RT	EST. CONC.	Qualifier
	Unknown Cycloalkane	1.86	4.33	J
	Unknown	1.93	8.04	J
	Unknown	1.99	4.84	J
	Unknown	2.35	5.74	J
	Unknown Ketone	2.69	10.4	J
	Unknown	3.49	9.02	J
	Unknown	6.99	4.14	J
	Unknown Organic Acid	11.13	8.65	J
	Unknown Organic Acid	11.89	5.6	J
	Unknown	12.69	5.56	J
	Unknown	13.29	5.31	J
	Unknown Ketone	13.99	24.2	J
	Unknown	14.18	6.69	J
	Unknown	14.82	6	J
	Unknown Alkane	15.02	4	J
	Total TIC Compounds		113J	J

Tentatively Identified Compounds
Form 1
Semivolatile Organics by GC/MS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: L2012391-03	**Date Collected**	: 03/18/20 15:50
Client ID	: MW-6	**Date Received**	: 03/19/20
Sample Location	: NY	**Date Analyzed**	: 03/25/20 16:38
Sample Matrix	: WATER	**Date Extracted**	: 03/23/20
Analytical Method	: 1,8270D	**Dilution Factor**	: 1
Lab File ID	: 12391-03	**Analyst**	: WR
Sample Amount	: 275 ml	**Instrument ID**	: SV107
Extraction Method	: EPA 3510C	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

Number TICS found: 11 **Concentration Units: ug/L**

CAS Number	Compound Name	RT	EST. CONC.	Qualifier
	Unknown Alcohol	1.99	1.89	J
	Unknown	12.37	1.64	J
	Unknown Organic Acid	12.69	4.25	J
	Unknown	13.29	3.93	J
	Unknown	13.41	1.71	J
	Unknown	13.96	2.58	J
	Unknown	14.18	4.62	J
	Unknown Alcohol	14.82	2.65	J
	Unknown	15.02	4.94	J
	Unknown	15.62	2	J
	Total TIC Compounds		30.2J	J

Tentatively Identified Compounds
Form 1
Semivolatile Organics by GC/MS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: L2012391-04	**Date Collected**	: 03/18/20 14:30
Client ID	: FIELD BLANK	**Date Received**	: 03/19/20
Sample Location	: NY	**Date Analyzed**	: 03/25/20 17:59
Sample Matrix	: WATER	**Date Extracted**	: 03/23/20
Analytical Method	: 1,8270D	**Dilution Factor**	: 1
Lab File ID	: 12391-04	**Analyst**	: WR
Sample Amount	: 275 ml	**Instrument ID**	: SV107
Extraction Method	: EPA 3510C	**GC Column**	:
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

Number TICS found: 12 **Concentration Units: ug/L**

CAS Number	Compound Name	RT	EST. CONC.	Qualifier
	Unknown	1.93	3.16	J
	Unknown	1.99	2.14	J
	Unknown	2.35	3.24	J
	Unknown	2.55	22.8	J
	Unknown Organic Acid	12.69	3.71	J
	Unknown	13.29	2.98	J
	Unknown	13.96	1.45	J
	Unknown	14.17	3.85	J
	Unknown	14.82	1.56	J
	Unknown	15.02	3.27	J
	Unknown	15.62	1.6	J
	Total TIC Compounds		49.8J	J

Tentatively Identified Compounds
Form 1
Semivolatile Organics by GC/MS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: WG1353987-1	**Date Collected**	: NA
Client ID	: WG1353987-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 03/25/20 17:32
Sample Matrix	: WATER	**Date Extracted**	: 03/23/20
Analytical Method	: 1,8270D	**Dilution Factor**	: 1
Lab File ID	: 53987-1	**Analyst**	: WR
Sample Amount	: 275 ml	**Instrument ID**	: SV107
Extraction Method	: EPA 3510C	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

Number TICS found: 12 **Concentration Units: ug/L**

CAS Number	Compound Name	RT	EST. CONC.	Qualifier
	Unknown Alkene	1.93	1.56	J
	Unknown	1.99	1.74	J
	Unknown Siloxane	5.55	2.98	J
	Unknown Siloxane	6.97	1.49	J
	Unknown Organic Acid	12.69	4.11	J
	Unknown	13.29	2.73	J
	Unknown	13.95	1.56	J
	Unknown	14.17	4.04	J
	Unknown	14.82	1.93	J
	Unknown	15.02	4.54	J
	Unknown	15.62	2.11	J
	Total TIC Compounds		28.8J	J

Results Summary
Form 1
Semivolatile Organics by GC/MS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: WG1353987-1	**Date Collected**	: NA
Client ID	: WG1353987-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 03/25/20 17:32
Sample Matrix	: WATER	**Date Extracted**	: 03/23/20
Analytical Method	: 1,8270D	**Dilution Factor**	: 1
Lab File ID	: 53987-1	**Analyst**	: WR
Sample Amount	: 275 ml	**Instrument ID**	: SV107
Extraction Method	: EPA 3510C	**GC Column**	: RTX5-MS
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 1 uL

		ug/L			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
86-30-6	NDPA/DPA	ND	2.0	0.42	U
621-64-7	n-Nitrosodi-n-propylamine	ND	5.0	0.64	U
117-81-7	Bis(2-ethylhexyl)phthalate	ND	3.0	1.5	U
85-68-7	Butyl benzyl phthalate	ND	5.0	1.2	U
84-74-2	Di-n-butylphthalate	2.1	5.0	0.39	J
117-84-0	Di-n-octylphthalate	ND	5.0	1.3	U
84-66-2	Diethyl phthalate	ND	5.0	0.38	U
131-11-3	Dimethyl phthalate	ND	5.0	1.8	U
56-55-3	Benzo(a)anthracene	ND	2.0	0.32	U
50-32-8	Benzo(a)pyrene	ND	2.0	0.41	U
205-99-2	Benzo(b)fluoranthene	ND	2.0	0.35	U
207-08-9	Benzo(k)fluoranthene	ND	2.0	0.37	U
218-01-9	Chrysene	ND	2.0	0.34	U
208-96-8	Acenaphthylene	ND	2.0	0.46	U
120-12-7	Anthracene	ND	2.0	0.33	U
191-24-2	Benzo(ghi)perylene	ND	2.0	0.30	U
86-73-7	Fluorene	ND	2.0	0.41	U
85-01-8	Phenanthrene	ND	2.0	0.33	U
53-70-3	Dibenzo(a,h)anthracene	ND	2.0	0.32	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	2.0	0.40	U
129-00-0	Pyrene	ND	2.0	0.28	U
92-52-4	Biphenyl	ND	2.0	0.46	U

Surrogate Recovery Summary
Form 2
PCBs

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L2012391
Project Number: G6-2420
Matrix: Water

GC Column 1: CLP-Pesticide
GC Column 2: CLP-PesticideII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
MW-7 (L2012391-01)	57	63	78	71			0
MW-1A (L2012391-02)	71	75	73	65			0
MW-6 (L2012391-03)	77	77	81	72			0
FIELD BLANK (L2012391-04)	71	76	58	58			0
WG1353746-1BLANK	63	70	76	76			0
WG1353746-2LCS	78	71	85	82			0
WG1353746-3LCSD	63	61	65	56			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

Surrogate Recovery Summary
Form 2
Pesticides

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L2012391
Project Number: G6-2420
Matrix: Water

GC Column 1: CLPPesticides
GC Column 2: CLPPesticidesII

CLIENT ID (LAB SAMPLE NO.)	TCX 1 %REC	TCX 2 %REC	DCB 1 %REC	DCB 2 %REC	OTHER (1)	OTHER (2)	TOT OUT
MW-7 (L2012391-01)	80	73	110	69			0
MW-1A (L2012391-02)	81	63	89	61			0
MW-6 (L2012391-03)	67	64	91	61			0
FIELD BLANK (L2012391-04)	73	71	89	61			0
WG1353816-1BLANK	87	86	78	85			0
WG1353816-2LCS	86	81	88	86			0
WG1353816-3LCSD	87	82	77	98			0

QC LIMITS
(30-150) TCX = 2,4,5,6-TETRACHLORO-M-XYLENE
(30-150) DCBP = DECACHLOROBIPHENYL

*** Values outside of QC limits**

FORM II NYTCL-8081

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2020\200323_537ISO.PRO\Data\wg1354031d.qld
Last Altered: Tuesday, March 24, 2020 09:37:03 Eastern Daylight Time
Printed: Tuesday, March 24, 2020 09:48:41 Eastern Daylight Time

Method: C:\MassLynx\Data\2020\200323_537ISO.PRO\MethDB\537ISO_Q_191118_DOD_RT.mdb 07 Feb 2020 15:55:12
Calibration: C:\MassLynx\Data\2020\200323_537ISO.PRO\CurveDB\191118_ISO_ICAL.cdb 18 Nov 2019 14:41:42

ID: WG1354031-5,537ILOW
Name: I21088
Date: 24-Mar-2020
Time: 03:55:06
Description: WG1354031,WG1353276,ICAL16305,537ILOW
Instrument: XEVO-TQSmicro#QEB0050
User: LCMS02:JW
Inlet Method Name: C:\MassLynx\Data\2020\200323_537ISO.PRO\ACQUDB\LCMS_537_ISO_B
Tune Method Name: C:\MassLynx\Data\2020\200323_537ISO.PRO\ACQUDB\181009_TUNE.IPR
MS Method Name: C:\MassLynx\Data\2020\200323_537ISO.PRO\ACQUDB\537ISO28_M_SPAN_DOD.EXP

	Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Ratio Flag	%Rec
1	PFBA	375-22-4	2.19	212.926 > 169.111	2291		0.483		na	96.6
2	M3PFBA	INT STD	2.18	215.926 > 172.122	51077		11.023		na	110.2
3	MPFBA	INT STD	2.18	216.926 > 172.137	56789		10.216		na	102.2
4	PFPeA	2706-90-3	5.06	262.926 > 219.002	4471		0.535		na	107.0
5	M5PFPEA	INT STD	5.06	267.989 > 223.081	86509		10.973		na	109.7
6	PFBS	375-73-5	5.70	298.926 > 79.923	722		0.408	1.92	NO	92.3
7	M3PFBS	INT STD	5.69	301.989 > 80.254	12044		9.302		na	93.0
8	4:2FTS	757124-72-4	6.83	326.926 > 306.957	219		0.401	2.72	NO	85.8
9	M2-4:2FTS	INT STD	6.83	329.117 > 309.079	4926		5.860		na	58.6
10	PFHxA	307-24-4	6.90	312.989 > 269.028	5498		0.590	18.84	NO	118.0
11	M5PFHxA	INT STD	6.90	317.989 > 273.045	101206		10.558		na	105.6
12	PFPeS	2706-91-4	7.20	348.926 > 80.251	475		0.359	1.62	NO	76.4
13	PFHpA	375-85-9	8.11	362.926 > 319.014	6133		0.496	6.36	NO	99.2
14	M4PFHpA	INT STD	8.11	366.926 > 321.979	137128		10.740		na	107.4
15	br-PFHxS	355-46-4	8.04	398.926 > 80.295	34	m5	0.036	4.25	NO	42.4
16	L-PFHxS	355-46-4	8.27	398.926 > 80.295	316		0.320	1.04	NO	86.4
17	PFHxS	355-46-4		398.926 > 80.295	350		0.356		na	
18	M3PFHxS	INT STD	8.26	401.926 > 80.317	7898		10.568		na	105.7
19	br-PFOA	335-67-1		412.989 > 368.9			ND		YES	
20	L-PFOA	335-67-1	9.03	412.989 > 368.9	5691		0.479	9.60	NO	95.7
21	PFOA	335-67-1		412.989 > 368.9	5691		0.479		na	
22	M8PFOA	INT STD	9.03	420.989 > 375.979	129511		10.570		na	105.7
23	M2PFOA	INT STD	9.03	415.032 > 369.968	125217		11.845		na	118.4
24	6:2FTS	27619-97-2	8.99	426.989 > 406.921	231		0.520		YES	109.5
25	M2-6:2FTS	INT STD	8.99	428.989 > 408.917	5483		6.674		na	66.7
26	PFHpS	375-92-8	9.13	448.926 > 80.257	260		0.407	0.73	NO	85.8
27	PFNA	375-95-1	9.78	462.989 > 418.931	5468		0.510	4.89	NO	101.9
28	M9PFNA	INT STD	9.78	472.053 > 426.947	130961		10.863		na	108.6
29	br-PFOS	1763-23-1	9.56	498.989 > 80.294	39	m5	0.031	5.77	NO	30.9
30	L-PFOS	1763-23-1	9.84	498.989 > 80.294	248		0.260	1.60	YES	71.4
31	PFOS	1763-23-1		498.989 > 80.294	287		0.291		na	
32	M4PFOS	INT STD	9.83	503.032 > 80.306	9250		13.245		na	132.4
33	M8PFOS	INT STD	9.83	507.053 > 80.294	9689		10.208		na	102.1
34	PFDA	335-76-2	10.41	513.053 > 468.906	4942		0.491	7.93	NO	98.1
35	M2PFDA	INT STD	10.41	515.053 > 469.934	108134		12.247		na	122.5
36	M6PFDA	INT STD	10.41	519.053 > 473.931	117451		10.509		na	105.1
37	8:2FTS	39108-34-4	10.40	526.926 > 506.818	196		0.558		na	116.3
38	M2-8:2FTS	INT STD	10.40	529.053 > 508.945	3229		6.701		na	67.0
39	PFNS	68259-12-1	10.44	548.989 > 80.249	440		0.488	2.02	YES	101.6

all concentration units in (ng/mL)

Alpha Analytical Inc.
Dataset: C:\MassLynx\Data\2020\200323_537ISO.PRO\Data\wg1354031d.qld
Last Altered: Tuesday, March 24, 2020 09:37:03 Eastern Daylight Time
Printed: Tuesday, March 24, 2020 09:48:41 Eastern Daylight Time

ID: WG1354031-5,537ILOW
Name: I21088
Date: 24-Mar-2020
Time: 03:55:06
Description: WG1354031,WG1353276,ICAL16305,537ILOW
Instrument: XEVO-TQSmicro#QEB0050
User: LCMS02:JW
Inlet Method Name: C:\MassLynx\Data\2020\200323_537ISO.PRO\ACQUDB\LCMS_537_ISO_B
Tune Method Name: C:\MassLynx\Data\2020\200323_537ISO.PRO\ACQUDB\181009_TUNE.IPR
MS Method Name: C:\MassLynx\Data\2020\200323_537ISO.PRO\ACQUDB\537ISO28_M_SPAN_DOD.EXP

	Name	CAS	RT	Trace	Area	M Flag	Conc (ng/mL)	Ion Ratio	Ratio Flag	%Rec
40	d3-NMeFOSAA	INT STD	10.80	573.096 > 418.987	9046		7.107		na	71.1
41	br-NMeFOSAA	2355-31-9		570.053 > 418.917			ND		YES	
42	L-NMeFOSAA	2355-31-9	10.80	570.053 > 418.917	498		0.591	4.82	YES	118.2
43	NMeFOSAA	2355-31-9		570.053 > 418.917	498		0.591		na	
44	PFUnA	2058-94-8	10.96	562.989 > 518.903	4460		0.444	8.14	NO	88.7
45	M7-PFUDA	INT STD	10.95	570.053 > 524.923	105134		10.604		na	106.0
46	PFDS	335-77-3	10.97	598.926 > 80.314	292		0.454	1.39	NO	94.1
47	FOSA	754-91-6	10.84	497.989 > 78.245	1403		0.482		YES	96.5
48	M8FOSA	INT STD	10.84	506.053 > 78.286	27385		10.364		na	103.6
49	d5-NEtFOSAA	INT STD	11.09	589.117 > 418.929	7854		6.986		na	69.9
50	br-NEtFOSAA	2991-50-6		583.989 > 418.927			ND		YES	
51	L-NEtFOSAA	2991-50-6	11.10	583.989 > 418.927	357		0.482	2.65	NO	96.4
52	NEtFOSAA	2991-50-6		583.989 > 418.927	357		0.482		na	
53	PFDoA	307-55-1	11.45	612.989 > 568.967	4224		0.496	32.57	YES	99.1
54	MPFDOA	INT STD	11.45	614.989 > 569.92	100636		9.048		na	90.5
55	PFTrDA	72629-94-8	11.88	663.053 > 618.969	3944		0.575	16.36	YES	115.0
56	PFTA	376-06-7	12.26	713.053 > 668.976	3429		0.550	10.23	NO	110.0
57	M2PFTEDA	INT STD	12.26	715.053 > 669.945	77813		8.808		na	88.1
58	ADONA	958445-44-8	8.29	376.926 > 251.005	7925		0.465		na	98.4
59	PFHxDA		12.74	813.053 > 769.005	3436		1.050		na	209.9
60	M2PFHxDA		12.74	815.372 > 770.158	8907		4.736		na	47.4

all concentration units in (ng/mL)

Surrogate (Extracted Internal Standard) Recovery Summary
Form 2
Semivolatiles

Client: Hillmann Consulting, LLC
Project Name: G6-2420

Lab Number: L2012391
Project Number: G6-2420
Matrix: Water

CLIENT ID (LAB SAMPLE NO.)	S15 ()	S16 ()	S17 ()	S18 ()	S19 ()	S20 ()	S21 ()	TOT OUT
MW-7 (L2012391-01)	37	52	70	70	--	--	--	0
MW-1A (L2012391-02)	33	75	80	98	--	--	--	0
MW-6 (L2012391-03)	51	67	75	63	--	--	--	0
FIELD BLANK (L2012391-04)	60	66	91	80	--	--	--	0
WG1353862-1BLANK	64	76	94	85	--	--	--	0
WG1353862-2LCS	60	74	90	83	--	--	--	0
WG1353862-3LCSD	66	69	85	54	--	--	--	0

QC LIMITS

(1-87) **S15 = PERFLUORO[13C8]OCTANESULFONAMIDE (M8FOSA)**
(23-146) **S16 = N-DEUTERIOETHYLPERFLUORO-1-OCTANESULFONAMIDOACETIC ACID (D5-NETFOSAA)**
(24-161) **S17 = PERFLUORO[1,2-13C2]DODECANOIC ACID (MPFDOA)**
(33-143) **S18 = PERFLUORO[1,2-13C2]TETRADECANOIC ACID (M2PFTEDA)**

*** Values outside of QC limits**

FORM II A2-NY-537-ISOTOPE (Continued)

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: WG1353862-1	**Date Collected**	: NA
Client ID	: WG1353862-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 03/23/20 20:48
Sample Matrix	: WATER	**Date Extracted**	: 03/22/20
Analytical Method	: 134,LCMSMS-ID	**Dilution Factor**	: 1
Lab File ID	: I21063	**Analyst**	: JW
Sample Amount	: 250 g	**Instrument ID**	: LCMS02
Extraction Method	: ALPHA 23528	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
375-22-4	Perfluorobutanoic Acid (PFBA)	ND	2.00	0.408	U
2706-90-3	Perfluoropentanoic Acid (PFPeA)	ND	2.00	0.396	U
375-73-5	Perfluorobutanesulfonic Acid (PFBS)	ND	2.00	0.238	U
307-24-4	Perfluorohexanoic Acid (PFHxA)	0.396	2.00	0.328	J
375-85-9	Perfluoroheptanoic Acid (PFHpA)	ND	2.00	0.225	U
355-46-4	Perfluorohexanesulfonic Acid (PFHxS)	ND	2.00	0.376	U
335-67-1	Perfluorooctanoic Acid (PFOA)	ND	2.00	0.236	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	2.00	1.33	U
375-92-8	Perfluoroheptanesulfonic Acid (PFHpS)	ND	2.00	0.688	U
375-95-1	Perfluorononanoic Acid (PFNA)	ND	2.00	0.312	U
1763-23-1	Perfluorooctanesulfonic Acid (PFOS)	ND	2.00	0.504	U
335-76-2	Perfluorodecanoic Acid (PFDA)	ND	2.00	0.304	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	2.00	1.21	U
2355-31-9	N-Methyl Perfluorooctanesulfonamidoaceti c Acid (NMeFOSAA)	ND	2.00	0.648	U
2058-94-8	Perfluoroundecanoic Acid (PFUnA)	ND	2.00	0.260	U
335-77-3	Perfluorodecanesulfonic Acid (PFDS)	ND	2.00	0.980	U
754-91-6	Perfluorooctanesulfonamide (FOSA)	ND	2.00	0.580	U
2991-50-6	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	2.00	0.804	U

Results Summary
Form 1
Perfluorinated Alkyl Acids by Isotope Dilution

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: WG1353862-1	**Date Collected**	: NA
Client ID	: WG1353862-1BLANK	**Date Received**	: NA
Sample Location	:	**Date Analyzed**	: 03/23/20 20:48
Sample Matrix	: WATER	**Date Extracted**	: 03/22/20
Analytical Method	: 134,LCMSMS-ID	**Dilution Factor**	: 1
Lab File ID	: I21063	**Analyst**	: JW
Sample Amount	: 250 g	**Instrument ID**	: LCMS02
Extraction Method	: ALPHA 23528	**GC Column**	: Acquity UPLC BEH C18
Extract Volume	: 1000 uL	**%Solids**	: N/A
GPC Cleanup	: N	**Injection Volume**	: 3 uL

		ng/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
307-55-1	Perfluorododecanoic Acid (PFDoA)	ND	2.00	0.372	U
72629-94-8	Perfluorotridecanoic Acid (PFTrDA)	ND	2.00	0.327	U
376-06-7	Perfluorotetradecanoic Acid (PFTA)	ND	2.00	0.248	U
NONE	PFOA/PFOS, Total	ND	2.00	0.236	U

Form 1
METALS

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Lab ID	: L2012391-04	**Date Collected**	: 03/18/20 14:30
Client ID	: FIELD BLANK	**Date Received**	: 03/19/20
Sample Location	: NY	**Date Analyzed**	: 03/25/20 10:37
Sample Matrix	: WATER	**Dilution Factor**	: 1
Analytical Method	: 1,6020B	**Analyst**	: AM
Lab File ID	: WG1354820_MSQ2032520.csv	**Instrument ID**	: ICPMSQ2
Sample Amount	: 50ml	**%Solids**	: N/A
Digestion Method	: EPA 3005A	**Date Digested**	: 03/24/20

		mg/l			
CAS NO.	**Parameter**	**Results**	**RL**	**MDL**	**Qualifier**
7429-90-5	Aluminum, Total	ND	0.0100	0.00327	U
7440-36-0	Antimony, Total	ND	0.00400	0.00042	U
7440-38-2	Arsenic, Total	ND	0.00050	0.00016	U
7440-39-3	Barium, Total	0.00038	0.00050	0.00017	J
7440-41-7	Beryllium, Total	ND	0.00050	0.00010	U
7440-43-9	Cadmium, Total	ND	0.00020	0.00005	U
7440-70-2	Calcium, Total	0.0661	0.100	0.0394	J
7440-47-3	Chromium, Total	ND	0.00100	0.00017	U
7440-48-4	Cobalt, Total	ND	0.00050	0.00016	U
7440-50-8	Copper, Total	ND	0.00100	0.00038	U
7439-89-6	Iron, Total	ND	0.0500	0.0191	U
7439-92-1	Lead, Total	ND	0.00100	0.00034	U
7439-95-4	Magnesium, Total	ND	0.0700	0.0242	U
7439-96-5	Manganese, Total	0.00058	0.00100	0.00044	J
7440-02-0	Nickel, Total	ND	0.00200	0.00055	U
7440-09-7	Potassium, Total	ND	0.100	0.0309	U
7782-49-2	Selenium, Total	ND	0.00500	0.00173	U
7440-22-4	Silver, Total	ND	0.00040	0.00016	U
7440-23-5	Sodium, Total	0.292	0.100	0.0293	
7440-28-0	Thallium, Total	ND	0.00100	0.00014	U
7440-62-2	Vanadium, Total	ND	0.00500	0.00157	U
7440-66-6	Zinc, Total	ND	0.01000	0.00341	U

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: ICPMSQ2		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :	R1297960-2		R1297960-5		R1297960-7		R1297960-9		WG1354597-1	
Date Analyzed :	03/25/20 09:11		03/25/20 09:34		03/25/20 10:28		03/25/20 11:22		03/25/20 09:39	
Parameter	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	mg/l	Q
Aluminum	3.27	U	3.91	J	3.27	U	3.27	U	0.00500	J
Antimony	0.429	U	0.445	J	0.501	J	0.535	J	0.00067	J
Arsenic	0.165	U	0.165	U	0.165	U	0.165	U	0.00016	U
Barium	0.173	U	0.173	U	0.173	U	0.173	U	0.00017	U
Beryllium	0.107	U	0.107	U	0.107	U	0.107	U	0.00010	U
Cadmium	0.0599	U	0.0599	U	0.0599	U	0.0599	U	0.00005	U
Calcium	39.4	U	39.4	U	52.0	J	44.8	J	0.0563	J
Chromium	0.178	U	0.178	U	0.178	U	0.178	U	0.00092	J
Cobalt	0.163	U	0.163	U	0.163	U	0.163	U	0.00016	U
Copper	0.384	U	0.384	U	0.384	U	0.384	U	0.00038	U
Iron	19.1	U	22.3	J	19.1	U	19.1	U	0.0234	J
Lead	0.343	U	0.343	U	0.343	U	0.343	U	0.00034	U
Magnesium	24.2	U	24.2	U	24.2	U	24.2	U	0.0242	U
Manganese	0.440	U	0.440	U	0.909	J	0.524	J	0.00044	U
Nickel	0.556	U	0.556	U	0.556	U	0.556	U	0.00055	U
Potassium	30.9	U	30.9	U	30.9	U	30.9	U	0.0309	U
Selenium	1.73	U	1.73	U	1.73	U	1.73	U	0.00173	U
Silver	0.163	U	0.163	U	0.163	U	0.163	U	0.00016	U
Sodium	29.3	U	29.3	U	114.		44.9	J	0.0293	U
Thallium	0.708		0.501		0.446	J	0.470	J	0.00022	J
Vanadium	1.57	U	1.57	U	1.57	U	1.57	U	0.00157	U
Zinc	3.41	U	3.41	U	3.41	U	3.41	U	0.00341	U

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: ICPMSQ2		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :	R1297960-2		R1297960-5		R1297960-7		R1297960-9		WG1354177-1	
Date Analyzed :	03/25/20 09:11		03/25/20 09:34		03/25/20 10:28		03/25/20 11:22		03/25/20 10:33	
Parameter	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	mg/l	Q
Aluminum	3.27	U	3.91	J	3.27	U	3.27	U	0.00327	U
Antimony	0.429	U	0.445	J	0.501	J	0.535	J	0.00042	U
Arsenic	0.165	U	0.165	U	0.165	U	0.165	U	0.00016	U
Barium	0.173	U	0.173	U	0.173	U	0.173	U	0.00017	U
Beryllium	0.107	U	0.107	U	0.107	U	0.107	U	0.00010	U
Cadmium	0.0599	U	0.0599	U	0.0599	U	0.0599	U	0.00005	U
Calcium	39.4	U	39.4	U	52.0	J	44.8	J	0.0527	J
Chromium	0.178	U	0.178	U	0.178	U	0.178	U	0.00017	U
Cobalt	0.163	U	0.163	U	0.163	U	0.163	U	0.00016	U
Copper	0.384	U	0.384	U	0.384	U	0.384	U	0.00038	U
Iron	19.1	U	22.3	J	19.1	U	19.1	U	0.0191	U
Lead	0.343	U	0.343	U	0.343	U	0.343	U	0.00034	U
Magnesium	24.2	U	24.2	U	24.2	U	24.2	U	0.0242	U
Manganese	0.440	U	0.440	U	0.909	J	0.524	J	0.00074	J
Nickel	0.556	U	0.556	U	0.556	U	0.556	U	0.00055	U
Potassium	30.9	U	30.9	U	30.9	U	30.9	U	0.0309	U
Selenium	1.73	U	1.73	U	1.73	U	1.73	U	0.00173	U
Silver	0.163	U	0.163	U	0.163	U	0.163	U	0.00016	U
Sodium	29.3	U	29.3	U	114.		44.9	J	0.0823	J
Thallium	0.708		0.501		0.446	J	0.470	J	0.00017	J
Vanadium	1.57	U	1.57	U	1.57	U	1.57	U	0.00157	U
Zinc	3.41	U	3.41	U	3.41	U	3.41	U	0.00341	U

Form 3
Blanks

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Instrument ID	: ICPMSQ2		

	Initial Calibration Blank		Continuing Calibration Blank(s)						Preparation Blank	
Lab ID :			R1297960-12							
Date Analyzed :			03/25/20 12:17							
Parameter	**ug/l**	**Q**	**ug/l**	**Q**	**ug/l**	**Q**	**ug/l**	**Q**		**Q**
Aluminum			3.27	U						
Antimony			0.540	J						
Arsenic			0.165	U						
Barium			0.173	U						
Beryllium			0.107	U						
Cadmium			0.0599	U						
Calcium			39.4	U						
Chromium			0.178	U						
Cobalt			0.163	U						
Copper			0.384	U						
Iron			19.1	U						
Lead			0.343	U						
Magnesium			24.2	U						
Manganese			0.440	U						
Nickel			0.556	U						
Potassium			30.9	U						
Selenium			1.73	U						
Silver			0.163	U						
Sodium			59.6	J						
Thallium			0.466	J						
Vanadium			1.57	U						
Zinc			3.41	U						

Form 5a
Matrix Spike

Client	: Hillmann Consulting, LLC	**Lab Number**	: L2012391
Project Name	: G6-2420	**Project Number**	: G6-2420
Client Sample ID	: MW-7	**Matrix**	: WATER
Lab Sample ID	: L2012391-01		
Matrix Spike	: WG1354177-3	**MS Analysis Date**	: 03/25/20 10:46
Matrix Spike Dup	:	**MSD Analysis Date**	:

		Matrix Spike Sample			Matrix Spike Duplicate					
Parameter	Sample Conc. (mg/l)	Spike Added (mg/l)	Spike Conc. (mg/l)	%R	Spike Added (mg/l)	Spike Conc. (mg/l)	%R	RPD	Recovery Limits	RPD Limit
Aluminum, Total	0.0224	2	2.41	119					75-125	20
Antimony, Total	0.00060J	0.5	0.4702	94					75-125	20
Arsenic, Total	0.00100	0.12	0.1321	109					75-125	20
Barium, Total	0.3454	2	2.676	116					75-125	20
Beryllium, Total	ND	0.05	0.05342	107					75-125	20
Cadmium, Total	ND	0.051	0.06155	121					75-125	20
Calcium, Total	166.	10	199.	330 Q					75-125	20
Chromium, Total	0.00021J	0.2	0.2303	115					75-125	20
Cobalt, Total	0.00081	0.5	0.5525	110					75-125	20
Copper, Total	ND	0.25	0.2605	104					75-125	20
Iron, Total	0.360	1	1.63	127 Q					75-125	20
Lead, Total	ND	0.51	0.5844	114					75-125	20
Magnesium, Total	73.8	10	93.2	194 Q					75-125	20
Manganese, Total	1.299	0.5	2.027	146 Q					75-125	20
Nickel, Total	0.00119J	0.5	0.5630	113					75-125	20
Potassium, Total	9.42	10	21.4	120					75-125	20
Selenium, Total	ND	0.12	0.138	115					75-125	20
Silver, Total	ND	0.05	0.05516	110					75-125	20
Sodium, Total	63.0	10	79.1	161 Q					75-125	20
Thallium, Total	0.00021J	0.12	0.1347	112					75-125	20
Vanadium, Total	ND	0.5	0.5772	115					75-125	20
Zinc, Total	ND	0.5	0.5786	116					75-125	20

November 25, 2020

Mr. Chris Hirschmann, CHMM
Hillmann Consulting, LLC
1600 Route 22 East
Union, N.J. 07083

Re: Data Usability Summary Report – Integrated Analytical Laboratories (IAL) – Groundwater Samples

Dear Mr. Hirschmann:

The evaluation of analytical data for volatile organic analysis by IAL for one groundwater, one trip and one field blank for project G6-2420, which were reported in a single data package under Job No. E20-07510, has been completed. The data package was received by ddms, inc. (ddms) for review, and the following samples were reported:

MW-8 FB110520 TRIP BLANK

Analyses were performed in accordance with USEPA Methods 8260D (Volatile Organic Compounds). ddms' review was performed, to the extent possible, in accordance with the analytical methods and "DER-10/Technical Guidance for Site Investigation and Remediation". Professional judgment was applied as necessary and appropriate. Qualifiers consistent with those defined by EPA Region 2 were applied as necessary and appropriate.

Below is the Data Usability Summary Report (DUSR) associated with these samples.

	Data Usability Summary Report	
1.	Is the data package complete as defined under the requirements for the most current DEC ASP Category B or USEPA CLP data deliverables?	Yes
2.	Have all holding times been met?	Yes
3.	Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?	Yes
4.	Have all of the data been generated using established and agreed upon analytical protocols?	Yes
5.	Does an evaluation of the raw data confirm the results provided in the data summary sheet and the quality control verification forms?	Yes
6.	Have the correct data qualifiers been used and are they consistent with the most current DEC ASP?	Yes
7.	Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheet from the data package been attached to the DUSR?	Yes

Based on the data review effort, results are usable, with the following qualifications:

- The result for cyclohexane in MW-8 was qualified as not detected (U) at the reported value due to poor spectral match.

All qualifiers applied as a result of the validation process are reflected on the table included as Attachment A to this report. Qualifier definitions are also provided in the attachment. A copy of the chain of custody record is provided in Attachment B. Pages from the data package illustrating the exceedances and issues described in this validation report are included as Attachment C.

The following components were reviewed, where applicable:

- Chain of Custody
- Receiving conditions
- Holding times
- Preservation
- Analyte lists
- Reporting limits
- Requested methods
- Units
- Sample related quality control data:
    - Method blanks
    - Field blanks
    - Trip Blanks
    - Surrogate recoveries
    - LCS/LCSD recoveries
    - MS/MSD recoveries
    - Internal standard areas
    - Duplicates
- Instrument related quality control data:
    - Instrument tunes
    - Calibration summaries

Documentation: A completeness review of the data package was performed, and the data package was determined to be a complete Category B data package. The following documentation issue was observed during the review:

- The summary form for the laboratory control sample (LCS) and LCS Duplicate (LCSD) incorrectly lists the percent recoveries as 'MS %R' and 'MSD %R'.

Holding Times, Preservation, Sample Integrity:

Copies of the applicable chain of custody (COC) records were included in the data package, documenting a collection date of November 5, 2020. The samples were received by the laboratory on the same day of sample collection. All samples were properly preserved and were analyzed within analytical method required holding time.

Volatile Organic Compounds

Compound Identification

The result for cyclohexane in MW-8 was qualified as not detected (U) at the reported value due to poor spectral match.

All other results were determined to be valid, reported. Please feel free to contact me at (908) 370-3431 or jrossi@ddmsinc.com if you have any questions regarding this data package review report or need further information.

Sincerely,

de maximis Data Management Solutions, Inc.

Jeri L Rossi, CEAC
Sr. Environmental Chemist

ATTACHMENT A

Qualification Summary Table
Laboratory Job No. E20-07510

Validation Summary Table
Project G6-2420
Groundwaters

Sample ID	Method	Parameters	Result	Units	Validation Qualifier	MDL	RL
MW-8_E20-07510-001	SW8260D	Cyclohexane		ug/l	U	2.74	28.3

EPA Qualifier Definitions

U	**The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.**
J	**The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.**
J+	**The result is an estimated quantity, but the result may be biased high.**
J-	**The result is an estimated quantity, but the result may be biased low.**
NJ	**The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.**
UJ	**The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.**
R	**The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.**

ATTACHMENT B

CHAIN OF CUSTODY RECORD
Laboratory Job No. E20-07510

IAL
Integrated Analytical Laboratories LLC
Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Chain of Custody Record

Contact Us: 973-361-4252
Web: www.ialonline.com

Customer Information

Company: HK ENG + GEO
Address: 1600 Rt. 22 East
Union, NJ 08863
Telephone #: (908) 688-7806
Project Manager: C. Hirschmann
Email Address(es):
Project Name: G6-2420.1
Project Location (State): NY
Bottle Order #:
☒ "Report to"/"Invoice To" same as above
Sampled by: R. Powell
COMPLETED BY IAL: Field Sampling ___ Equipment Rental

Reporting Information

☒ Check here if same as "Customer Information"
REPORT TO:
Address:
Attn:
INVOICE TO:
Address:
Attn:
PO # G6-2420.1
Quote #

Sample Matrix

DW - Drinking Water; WW - Waste Water; GW - Groundwater; SW - Surface Water; LIQ - Liquid (specify); M - Multiphasic; OI - Oil; S - Soil; SED - Sediment; SOL - Solid (specify); SL - Sludge; W - Wipe

"Rush TAT Charge

24 hr - 100%...
48 hr - 75%....
72 hr - 50%....
96 hr - 35%....
5 day - 25%....
6-9 day - 10%

Deliverables *Surchage may apply for regulatory

N.J. CT. PA	NY
☐ Results Only (Level I)	☒ ASP Category A
☐ Reduced (Level II/III)	☐ ASP Category B*
☐ Regulatory/ Full* (Level IV)	

EDDs

☐ NJ SRP
☒ NYSDEC EQuIS
☐ lab approved custom EDD
☐ NO EDD REQ'D

Concentrations Expected:

Low Med High
Known Hazard: ☐ YES ☐ NO
Describe:

Turn-Around Time (TAT)

Standard (10 business days) Verbal
Rush/date needed (only if pre-approved)** 5 Day
Hard Copy: Standard 3 week Other - call for price

Petroleum Hydrocarbons - Selection is REQUIRED

☐ NJ EPH-DRO - Category 1
☐ NJ EPH-C40 - Category 2
☐ NJ EPH-Fractionated - Cat 2
TAT for PHC, if other than 2 weeks:
☐ CT ETPH
☐ DRO-8015

Regulatory Requirement

New Jersey	New York
☐ GWQS	☒ AWQS (TOGS Table 1)
☐ IGW	☒ GWEL (TOGS Table 5)
☐ SRS	☐ Part 375-6.8(a) - Unrestricted
☐ Ecological	☐ Part 375-6.8(b) - Restricted
☐ DW	☐ CP-51 Table 2 or 3 (selection required)
☐ SPLP	Other States / Criteria

☐ Pennsylvania Act 2
☐ CT RCSA 22a-133k1-k3
☐ TSCA PCBs
OTHER Regulatory Requirements - specify in comments

SAMPLE INFORMATION

ANALYTICAL PARAMETERS (please note if contingent)

Client ID	Depth (ft only)	Sampling Date	Sampling Time	Matrix	# containers	IAL #	8260	Sample Specific Notes:
MW-8	-	11-5-20	0850	GW	3	1	X	
FB110520	-	↓	0745	FB	2	2	X	
TRIP BLANK	-	↓	0850	TB	2	3	X	

Samples previously analyzed by IAL? YES / NO

Preservative Code: 1 = None; 2 = HCl; 3 = HNO3; 4 = MeOH; 5 = NaOH; 6 = H2SO4; 7 = Other

Container Code: A = Amber Glass; B = Plastic; C = Vial; D = Glass; E = EnCore; T = Terracore

Preservative (use code)
Container Type (use code)

Special Instructions/QC Requirements & Comments:

FOR LAB USE ONLY
SDG #: 7510
Cooler Temp: 4 °C

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time (TAT) will not start until any ambiguities have been resolved. TAT starts the following day if samples rec'd at lab ≥ 5PM. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY IAL'S TERMS & CONDITIONS (found on rear of pink copy).

Carrier (check one):
☐ IAL Courier
☐ Client Courier
☐ FedEx/UPS***
***Tracking #:

Relinquished by (Signature and Company)	Date	Time	Received by (Signature and Company)	Date	Time
R. Powell	11/5/20	1605		11/5/20	1605
	11/5/20	1705		11/5/20	1705

IAL Rev 11/2019

LAB COPIES - WHITE & YELLOW; CLIENT COPY - PINK

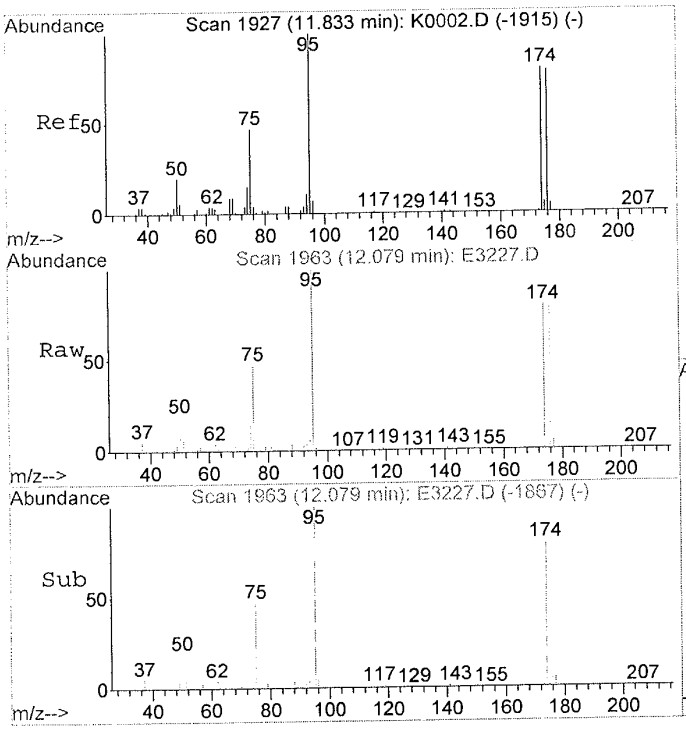
Certification IDs: TNI (TNI01284); CT (PH-0699); NJ (14751); NY (11402); PA (68-00773).

PAGE: 1 of 1

INTEGRATED ANALYTICAL LABORATORIES, LLC

ATTACHMENT C

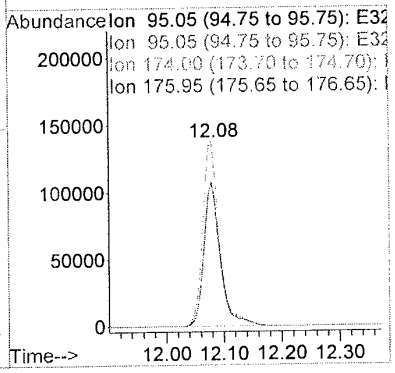
SELECTED PAGES FROM DATA PACKAGE -
QC EXCEEDANCES AND VALIDATION ISSUES
Laboratory Job No. L1948968

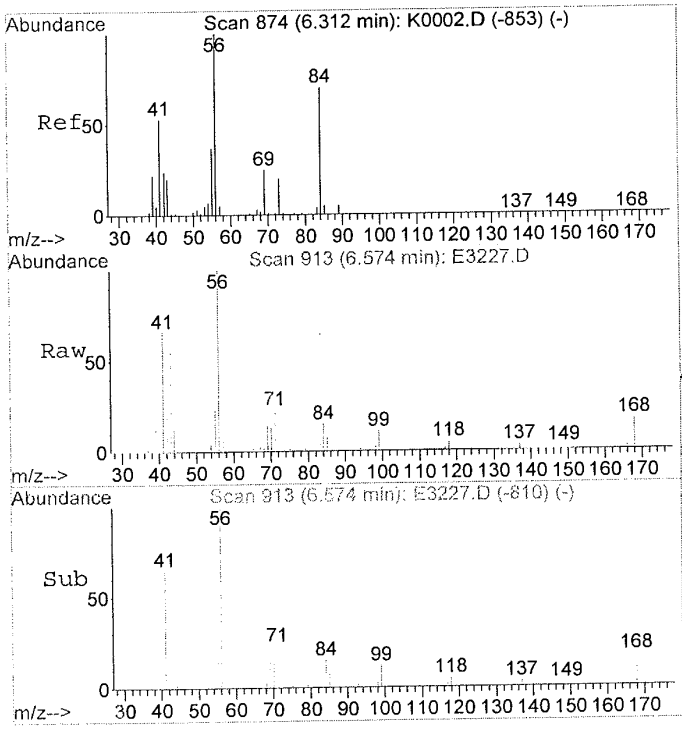


#59
Bromofluorobenzene
Concen: 48.36 UG
RT: 12.08 min Scan# 1963
Delta R.T. 0.01 min
Lab File: E3227.D
Acq: 12 Nov 2020 13:47

Tgt Ion: 95 Resp: 283188

Ion	Ratio	Lower	Upper
95	100		
95	0.0	80.0	120.0#
174	0.0	61.4	92.0#
176	0.0	59.3	88.9#

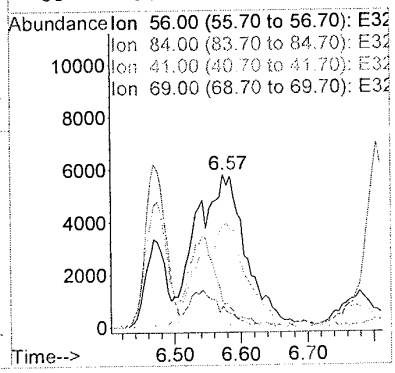




#82
Cyclohexane
Concen: 5.65 UG
RT: 6.57 min Scan# 913
Delta R.T. 0.04 min
Lab File: E3227.D
Acq: 12 Nov 2020 13:47

Tgt Ion: 56 Resp: 28771

Ion	Ratio	Lower	Upper
56	100		
84	0.0	84.1	126.1#
41	68.7	0.0	0.0#
69	0.0	87.5	131.3#



Data Usability Summary Report (DUSR)
NYSDEC ASP Category B

Client/Company:	Hillman Consulting, LLC, Union, New Jersey
Site/Project Name:	Buena Vista Apartments, 85 Riverdale Avenue, Yonkers, New York Air Investigation, HK2420
Laboratories:	Integrated Analytical Labs (IAL), Randolph, NJ
SDGs/Lab Project #:	E23-01495
Date(s) of Collection:	March 23, 2023 through March 24, 2023
Samples & Analyses:	3 Air samples for 55 project-specific Target Compound List (TCL) Volatile Organic Compounds (VOCs) by Method TO-15
Senior Data Reviewers:	Nancy C. Rothman, Ph.D., New Environmental Horizons, Inc. Susan D. Chapnick, M.S., New Environmental Horizons, Inc.
Date Completed:	June 13, 2023

This Data Usability Summary Report (DUSR) is based on guidance developed by the New York State Department of Conservation (NYSDEC) for technical review of analytical data as defined in DER-10 "Technical Guidance for Site Investigation and Remediation" (May 2010 with updates through April 2019). The objective of the DUSR is to determine whether or not the data as presented meet NYSDEC ASP 2005 or EPA method QC acceptance criteria and site-specific criteria for data quality and use.

2 Farmers Circle, Arlington, Massachusetts 02474 781-643-4294 schapnick@neh-inc.com
34 Pheasant Run Drive, Skillman, New Jersey 08558 908-874-5686 nrothman@neh-inc.com

I. Required DUSR Questions

1. ***Is the data package complete as defined under the requirements for the most current NYSDEC ASP Category B or USEPA CLP deliverables?***

   Yes.

2. ***Have all holding times been met?***

   Yes.

3. ***Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?***

   Yes.

4. ***Have all of the data been generated using established and agreed upon analytical protocols?***

   Yes. Analytical data were generated using established EPA Methods (see analytical references in Section II below). Deviations from EPA and NYSDEC ASP 2005 QC protocols are discussed in the DV Checklist of this DUSR.

5. ***Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?***

   Yes. The raw data were checked to verify that detected results met retention time and mass spectral criteria, where applicable, for qualitative identification. A spot check was performed to verify quantitative accuracy (calculation verification) for reporting of validated results (see the DV Checklist).

6. ***Have the correct data qualifiers been used and are they consistent with the most current NYSDEC ASP?***

   Yes. The laboratory used the correct data qualifiers in reporting of results. Data qualifiers were changed for some results during this review, as discussed in the DV Checklist.

7. ***Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheets from the data package been attached to the DUSR?***

   No QC exceedances were noted as discussed in the DV Checklist. QC summary sheets from the data package have not been attached as no actions to qualify data were taken.

II. Sample Descriptions and Analytical Parameters

The sample IDs, dates of sampling, identification of QC samples and the analytical parameters reviewed in this DUSR are listed below in Table 1. Any deviations noted for sample collection or receipt are documented in the DV Checklists.

Table 1. Sample Identification and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters	Sample Type
SV1	E23-01495-01	3/23/2023 through 3/24/2023	Soil Vapor	VOC	Field Sample
IA1	E23-01495-02	3/23/2023 through 3/24/2023	Indoor Air	VOC	Field Sample [used for LD]
AA	E23-01495-03	3/23/2023 through 3/24/2023	Ambient Air	VOC	Field Sample

LD = Laboratory Duplicate

Analytical Method References:

VOC: EPA Method TO-15 for 55 Target VOCs, which includes the 52 compounds listed in Table 1C (Target Compound List for use with Division of Environmental Remediation TO-15 Analysis) plus 1,3-Butadiene, Acetone, Carbon Disulfide, n-Heptane, and Vinyl Bromide and minus Benzyl chloride and Ethanol.

III. Data Deficiencies, Analytical Protocol Deviations, and Quality Control Issues

The following QC elements, as applicable to the analytical methods, were reviewed during this validation:

- Data package completeness and reporting protocols
- Sample receipt, holding times, and canister condition
- Calibration criteria (instrument tuning, initial and continuing calibration verifications)
- Method and field blank results
- Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) Recoveries and Precision
- Internal Standard (IS) and Surrogate Recoveries
- Sample/Laboratory Duplicate (LD) or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including quantitation limits and units)
- Other method-specific QC if applicable and reported
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

During this review of VOCs, results were accepted as reported by the laboratory, with one "D" qualifier applied by the laboratory removed. DV qualification of data was not required. NEH generated a validated electronic data deliverable (EDD) based on the IAL EDD received at NEH. All results were considered acceptable compared to NYSDEC ASP 2005 and SW-846 Method criteria and usable for project decisions without qualification.

As required by the DUSR, the DV Checklist attached to this DUSR document the QC reviewed and the issues that required action or affected the data certainty in terms of the project data quality objectives (DQO) of accuracy, precision, representativeness, comparability, and sensitivity. The DQO of completeness can be evaluated by the project manager after all data are generated.

There were no Field duplicate (FD) samples associated with the soil vapor and air samples reported in this SDG.

All reporting limits for the non-detects were at levels below the NYSDOH Soil Vapor/Indoor Air Decision Matrix Sub-slab Vapor Concentrations for Matrix A, B, and C compounds; therefore, sensitivity was acceptable.

Date Sampled: 3/23/2023 - 3/24/2023 No. Samples: 1 Soil Vapor, 1 Indoor Air, & 1 Ambient Air
Method of Analysis: TO-15 Low-Level

Data Element Acceptable	Canister Receipt	HT	Internal Stds + Surrogates	LCS	Lab Dup (LCS and LD)	Field Duplicates	GC/MS Tunes + Calibrations	RL & Quant.
Yes	√	√	√	√	√	NA	√	√
No								

Other Issues :

Qualifier Action: Remove 1 "D" qualifier

Sensitivity: acceptable

The data package consisted of a NYDEC Category B deliverable. A TO-15 Low Level analysis was performed for 55 project-specific analytes.

Sample receipt: The 3 6-L canisters were received intact and in good condition on 3/24/2023. There were no COC issues noted by the lab.

Certification: Canisters were Batch Certified pre-cleaned on 3/15/2023 prior to shipment to the field. All target VOCs were non-detect; therefore, canisters were certified clean prior to shipment. Canister certification acceptable.

Sample Integrity: Samples were collected between 23 and 24 hours on 3/23-3/24/2023. Canister vacuums prior to leaving the lab (29.0 ”Hg), field receipt vacuums (28-30 ”Hg), field final vacuums (1 to 7 "Hg) and lab receipt vacuums (1 to 7 "Hg,) were acceptable. All canisters were analyzed without over-pressurization. Flow controller outgoing and incoming flow rates all had RPDs < 20%, as reported in the Case Narrative. Canister integrity acceptable - No Action required.

Date: ***6/13/2023***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Associated Blanks: Method Blanks: AA1974BLK (4/3/2023 analyses of all samples) & AA2004BLK (4/4/2023 analysis of DF=5 for SV1)
EB = none

Blank ID	Contaminant / Level (µg/m^3)		Action Level DF= 1		Sample and reported result (µg/m3)	Corrected Database Result
AA1974BLK	None				No Blank Action Required	
AA2004BLK	None				No Blank Action Required	

Holding Time (HT): All samples were analyzed by 4/4/2023. Since samples were analyzed within 30 days of sample collection, HT acceptable - No Action required.

Selection of results for reporting: All samples were analyzed without dilution and acetone in SV1 exceeded the instrument calibrations range (flagged "E" by the lab) so this sample was reanalyzed at DF=5. The lab reported both sets of data in the EDD but accepted all DF=1 data for reporting except Acetone, which was accepted from the DF=5 analysis of SV1. Since the DF=1 and DF=5 analyses for SV1 were in reasonable agreement, the lab reporting of results considered acceptable. No selection of results required during this DV.

Surrogates & Internal Standards: IAL doesn't use both surrogates and IS - only IS, which is compliant with Method TO-15. All 3 IS' (Chlorobenzene-d5, 1,4-Difluorobenzene, and Bromochloromethane) had areas and RTs within criteria in all analyses; therefore, No Action Required.

LCS/LCSD: AA1973LCS & AA2003LCS. No LCSD performed. Lab spiked all 55 VOCs targets. All LCS %Rec were within lab limits (40-160% for Acetone, 1,4-Dioxane, Hexachlorobutadiene, Naphthalene, and 1,2,4-Trichlorobenzene and 70-130% for other targets). The lab demonstrated acceptable accuracy for the target compounds analyzed by Method TO-15. No Action required.

LD: performed on a sample IA1. Laboratory Sample Duplicate Report indicates RPDs for detected results in these two analyses. All RPDs for detects were < 20% except for 1,2,4-Trimethylbenzene, which reported an RPD = 25.45%; however, the concentrations of the detects were < 5 x the RLs so this RPD exceedance is not meaningful. Lab demonstrated acceptable precision for TO-15 analysis. No Action required.

FD: there were no FDs associated with the samples in this SDG.

Date: ***6/13/2023***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

BFB Tunes: Instrument AA 3/22/2023 (ICAL), 4/3/2023, & 4/4/2023. Lab also included Instrument information from 2/15/2023 & 3/16/2023; however, these analyses were associated with the Canister certification and will not be reviewed further during this DV since these sequences will not affect the results reported for the 3 samples in this SDG. Method TO-15A tune criteria used and tunes were acquired properly (average of 3 scans across BFB peak without background subtraction). All criteria in all tunes were met. All samples except DF=5 reanalysis of sample SV1 on 4/4/2023 were analyzed within 12 hours of the tune (NYSDEC criteria). The DF=5 analysis of SV1 was analyzed beyond 12 hour from BFB tune but within 24 hours of the tune (Method TO-15 criteria). Since the samples were analyzed within TO-15 tune criteria, no action taken.

ICAL: Instrument AA performed on 3/22/2023. 5-level calibration from 0.2 to 40 ppbV for all 55 Target VOCs plus several other non-target compounds. %RSD ≤ 30% for all Target Compounds. ICV on 3/22/2023 was acceptable. Valid ICAL - No Action required.

CCVs: 4/3/2023 & 4/4/2023 - %D ≤ ± 30% for all 55 Target compounds - CCVs acceptable - No Action required.

Compound Reporting: the lab reported results for 55 Target VOCs, which includes the 52 compounds listed in Table 1C (Target Compound List for use with Division of Environmental Remediation TO-15 Analysis) plus 1,3-Butadiene, Acetone, Carbon Disulfide, n-Heptane, and Vinyl Bromide and minus Benzyl chloride and Ethanol.

Qualifier Action: There were no "J" qualified results reported (values < RL) by IAL for this SDG. The DF=5 result for Acetone in sample SV1 was qualified "D" by the lab to indicate the result was from a dilution analysis; however, since the concentration and RL reported were corrected for the dilution, the "D" was not required for association with the final data. All other results are reported without qualification or as non-detects qualified "U."
****ACTION: Remove 1 "D" qualifier***

Sensitivity: All reporting limits (RLs) for the 55 target VOCs were supported by the instrument calibration range and all RLs were below the NYSDOH Sub-Slab Vapor concentration values for Matrix A, B, and C compounds, as shown at the end of this DV Checklist; therefore, sensitivity was acceptable for these samples. In the EDD, the RLs are identified for each compound and sample in the column headed "reporting_detection_limit" and "quantitation_limit."

RL & Result Verification: SV1 (lab ID E23-01495-01); Tetrachloroethene

500 mL analyzed so DF = 1; MWt = 165.85

Sample Response = 182465; IS Response (1,4-Difluorobenzene) = 1826089 @ 10; average RRF ICAL = 0.576

$$\text{Conc.} = \frac{182465 \times 10 \times 1}{1826089 \times 0.576} = 1.73 \text{ ppbV}$$

$\mu g/m^3$ = (ppbV x Mwt x DF) / 24.45 = (1.73 x 165.85 x 1)/24.47 = 11.8 = 12 $\mu g/m^3$ √

Sample-Specific RL: Sample-Specific RL based on 0.2 ppbV lowest std = 1 x 1 x 0.2 = 0.2 ppbV; = (0.2 x 165.85)/24.47 = 1.36 = 1.4 $\mu g/m^3$ √

The sample chromatograms, mass spectra of detects and quantitation reports were scanned and data appeared to have been reported correctly. There are some VOCs in the soil vapor sample with values < RLs; however, results < RL are very uncertain due to the inherent nature of the canisters and reporting below RLs is not required by NYSDEC for TO-15 analysis. In addition, there are several peaks in all of the samples that did not correspond to the TO-15 compounds that were not identified.

Narrative: There were no issues raised in narrative not already addressed here. No Action required.

NYSDOH Soil Vapor/Indoor Air Decision Matrix

Target Analyte Name		NYSDOH Decision Matrix		Sub-slab Vapor Concentration for No Further Indoor Air Action (µg/m3)
Tetrachloroethene (PCE)		Matrix B		100
Trichloroethene (TCE)		Matrix A		6
cis-1,2-Dichloroethene (cDCE)		Matrix A		6
1,1-Dichloroethene (DCE)		Matrix A		6
Vinyl chloride (VC)		Matrix C		6
1,1,1-Trichloroethane (TCA)		Matrix B		100
Carbon Tetrachloride		Matrix A		6

Actions (see references below):

Canister Integrity:	If certification forms indicate issues, J/U or UJ results in samples; if Flow controller flow rate RPD > 20% for pre- and post-flow calibrations, J detect/UJ non-detects or use professional judgment.
Canister Vacuum (Vac):	Initial Field Vac < 25" Hg, J/UJ all results; Lab Receipt Vac > 15" Hg, J/UJ results; Lab Receipt Vac > ± 5" Hg of Final Field Vac, J/UJ results
Hold Time (HT):	HT > 30 days, J detects/ UJ non-detects
Blank Actions:	Sample-specific Blank Action Level = Blank Level x (Sample DF/Blank DF)
	Method Blank (MB): If MB < RL: and sample < RL, negate (U) result in sample RL; if sample is > RL but < 2 x RL (or 4 x RL for acetone, 2-butanone, and methylene chloride), negate (U) result at level found in sample. If MB > RL: and sample < RL, negate (U) result in sample RL; if sample is > RL but < Sample-Specific Blank Action Level, negate (U) the sample at the Sample-Specific Blank Action Level.
	Equipment Blank (EB): Result<Blank Action, EB result at level reported in sample
BFB Tune:	TO-15 tune criteria not met, professional judgment on R of all data; samples analyzed > 12-hours after tune note NYSDEC TO-15 deviation and use professional judgment on J/UJ or R of results
LCS and CCV:	Percent Recovery (%Rec) <10%, J detects, R non-detects; 10% < %Rec <LCL; J/UJ all associated data; %Rec >UCL, J detects - no action for non-detects
Initial Calibration (ICAL):	%RSD > 30%, J/UJ associated results
Internal Standard (IS):	RT > ±0.33 min of IS RT in daily CCV, J/UJ associated results;
	Area < 25% Area in CCV, J detects, R non-detects (or professional judgment); 25%< Area < 60% of so Area, J/UJ associated results; Area > 140% of CCV Area, J detects, no action for non-detects
Surrogates:	%Rec <10%, J detects, R non-detects; 10% < %Rec <70%; J/UJ all associated data; %Rec >130%, J detects - no action for non-detects
Laboratory Duplicates:	LCS/LCSD RPD or Sample/LD RPD > 20% for detects > 5 x RL, J associated data; professional judgment for results < 5 x RL
Field Duplicates:	RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL
RLs + Quant:	Compound reported outside calibration range (< RL or at ppbV level > sample-specific highest ICAL standard for compound), J data. Note if RLs > NYSDOH guidance values
References:	*Supplemental Remedial Investigation Work Plan, Buena Vista Apartments, 85 Riverdale Avenue, Yonkers, NY,* prepared for Buena Vista Associates, LP, prepared by Hillman Consulting, LLC, February 2023 (RIWP); *NYSDEC Analytical Services Protocol,* June 2005 with *NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria,* February 2008; *USEPA Region II SOP HW-31, Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15,* Rev. 6, August 2014*; NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York,* October 2006 (with updates through 2017)*; and Method TO-15A, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), Publication EPA/625/R-96/010b,* September 2019.

Data Usability Summary Report (DUSR)
NYSDEC ASP Category B

Client/Company:	Hillman Consulting, LLC, Union, New Jersey
Site/Project Name:	Buena Vista Apartments, 85 Riverdale Avenue, Yonkers, New York Groundwater Investigation, HK2420-1
Laboratories:	Integrated Analytical Labs (IAL), Randolph, NJ
SDGs/Lab Project #:	E23-01849
Date(s) of Collection:	April 13, 2023 & April 14, 2023
Samples & Analyses:	13 Groundwater, 1 Trip Blank (TB), and 1 Field Blank (FB) for Target Compound List (TCL) + 15 Tentatively Identified Compounds (TICS) for Volatile Organic Compounds (VOCs) by Method 8260D
Senior Data Reviewers:	Nancy C. Rothman, Ph.D., New Environmental Horizons, Inc. Susan D. Chapnick, M.S., New Environmental Horizons, Inc.
Date Completed:	June 13, 2023

This Data Usability Summary Report (DUSR) is based on guidance developed by the New York State Department of Conservation (NYSDEC) for technical review of analytical data as defined in DER-10 "Technical Guidance for Site Investigation and Remediation" (May 2010 with updates through April 2019). The objective of the DUSR is to determine whether or not the data as presented meet NYSDEC ASP 2005 or EPA method QC acceptance criteria and site-specific criteria for data quality and use.

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I. Required DUSR Questions

1. ***Is the data package complete as defined under the requirements for the most current NYSDEC ASP Category B or USEPA CLP deliverables?***

   Yes.

2. ***Have all holding times been met?***

   Yes.

3. ***Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?***

   Yes. Some QC exceptions resulted in qualification of data as noted in the Data Validation Checklists (DV Checklist).

4. ***Have all of the data been generated using established and agreed upon analytical protocols?***

   Yes. Analytical data were generated using established EPA Methods (see analytical references in Section II below). Deviations from EPA and NYSDEC ASP 2005 QC protocols are discussed in the DV Checklist of this DUSR.

5. ***Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?***

   Yes. The raw data were checked to verify that detected results met retention time and mass spectral criteria, where applicable, for qualitative identification. A spot check was performed to verify quantitative accuracy (calculation verification) for reporting of validated results (see the DV Checklist).

6. ***Have the correct data qualifiers been used and are they consistent with the most current NYSDEC ASP?***

   Yes. The laboratory used the correct data qualifiers in reporting of results. Data qualifiers were changed for some results during this review, as discussed in the DV Checklists and Table 2 of this DUSR.

7. ***Have any quality control (QC) exceedances been specifically noted in the DUSR and have the corresponding QC summary sheets from the data package been attached to the DUSR?***

   Yes. QC exceedances are specified in the DV Checklist. QC summary sheets from the data package have not been attached; however, all QC exceedances that required data qualification are summarized in Table 2 of the DUSR and flagged (qualified) in the validated electronic data deliverable (EDD).

II. Sample Descriptions and Analytical Parameters

The sample IDs, dates of sampling, identification of QC samples and the analytical parameters reviewed in this DUSR are listed below in Table 1. Any deviations noted for sample collection or receipt are documented in the DV Checklists.

Table 1. Sample Identification and Analytical Parameters Validated

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters	Sample Type
MW-1A	E23-01849-001	4/13/2023	GW	VOC + TICs	Field Sample
MW-2	E23-01849-002	4/14/2023	GW	VOC + TICs	Field Sample [used for LD]
MW-3	E23-01849-003	4/13/2023	GW	VOC + TICs	Field Sample
MW-4	E23-01849-004	4/13/2023	GW	VOC + TICs	Field Sample
MW-5	E23-01849-005	4/14/2023	GW	VOC + TICs	Field Sample
MW-6	E23-01849-006	4/13/2023	GW	VOC + TICs	Field Sample
MW-7	E23-01849-007	4/13/2023	GW	VOC + TICs	Field Sample
MW-8	E23-01849-008	4/14/2023	GW	VOC + TICs	Field Sample
MW-9	E23-01849-009	4/14/2023	GW	VOC + TICs	Field Sample
MW-10	E23-01849-010	4/13/2023	GW	VOC + TICs	Field Sample
MW-11	E23-01849-011	4/13/2023	GW	VOC + TICs	Field Sample
MW-12	E23-01849-012	4/13/2023	GW	VOC + TICs	Field Sample
MW-13	E23-01849-013	4/13/2023	GW	VOC + TICs	Field Sample

Table 1. Sample Identification and Analytical Parameters Validated - *continued*

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters	Sample Type
FB041423	E23-01849-014	4/14/2023	Water	VOC + TICs	FB
TRIP BLANK	E23-01849-015	4/14/2023	Water	VOC + TICs	TB

FB = Field Blank
LD = Laboratory Duplicate
TB = Trip Blank
TICs = Tentatively Identified Compounds

Analytical Method References:

VOC: EPA SW-846 Method 8260D for 51 VOC compounds, which included all 51 TCL from SOM02.3 except the lab reported "Xylenes", rather than o-Xylene and m,p-Xylene isomers separately, and reported "Total, 1,3-Dichloropropene (Cis And Trans)," which is not required for CLP. Up to 15 TICs in each sample were evaluated / reported.

III. Data Deficiencies, Analytical Protocol Deviations, and Quality Control Issues

The following QC elements, as applicable to the analytical methods, were reviewed during this validation:

- Data package completeness and reporting protocols
- Sample receipt, holding times, and canister condition
- Calibration criteria (instrument tuning, initial and continuing calibration verifications)
- Method and field blank results
- Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD) Recoveries and Precision
- Internal Standard (IS) and Surrogate Recoveries
- Sample/Laboratory Duplicate (LD) or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including quantitation limits and units)
- Other method-specific QC if applicable and reported
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

During this review of VOCs, selected results were estimated (J or UJ)) due to QC issues. Table 2 (attached) summarizes the actions taken during this review. NEH generated a validated electronic data deliverable (EDD) based on the IAL EDD received at NEH. All results were considered acceptable compared to NYSDEC ASP 2005 and SW-846 Method criteria and usable for project decisions, with the understanding of the potential uncertainty (bias) in the qualified results.

As required by the DUSR, the DV Checklist attached to this DUSR document the QC reviewed and the issues that required action or affected the data certainty in terms of the project data quality objectives (DQO) of accuracy, precision, representativeness, comparability, and sensitivity. The DQO of completeness can be evaluated by the project manager after all data are generated.

There were no Field duplicate (FD) samples associated with the GW reported in this SDG.

A Sensitivity Evaluation Worksheet, attached to the DV checklist, indicates non-detects, highlighted in gray, that exceeded the NYS Ambient Water Quality Standards and Guidance Values – Water Class “GA” (TOGS AWQS – Water Class GA). Data users will need to evaluate usability of the non-detects at levels exceeding the TOGS 1.1.1 for project use.

Table 2. Summary of Data Validation Actions
Hillman Project HK2420-1, IAL Lab SDG E23-01849

#sys_sample_code	#lab_anl_method_name	#lab_sample_id	#chemical_name	#validator_qualifiers	#result_comment
MW-1A_E23-01849-001	SW8260D	E23-01849-001	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-1A_E23-01849-001	SW8260D	E23-01849-001	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-2_E23-01849-002	SW8260D	E23-01849-002	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-2_E23-01849-002	SW8260D	E23-01849-002	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-3_E23-01849-003	SW8260D	E23-01849-003	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-3_E23-01849-003	SW8260D	E23-01849-003	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-4_E23-01849-004	SW8260D	E23-01849-004	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-4_E23-01849-004	SW8260D	E23-01849-004	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-5_E23-01849-005	SW8260D	E23-01849-005	2,2-Dimethylbutane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-5_E23-01849-005	SW8260D	E23-01849-005	2,3-Dimethyl Butane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-5_E23-01849-005	SW8260D	E23-01849-005	2,4-Dimethyl Pentane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-5_E23-01849-005	SW8260D	E23-01849-005	Volatile Organic Hydrocarbons With 1st Highest Conc.	J	Bias Indeterminate: TIC
MW-5_E23-01849-005	SW8260D	E23-01849-005	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-5_E23-01849-005	SW8260D	E23-01849-005	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-6_E23-01849-006	SW8260D	E23-01849-006	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-6_E23-01849-006	SW8260D	E23-01849-006	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-7_E23-01849-007	SW8260D	E23-01849-007	2-Methyl Butane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-7_E23-01849-007	SW8260D	E23-01849-007	2,3-Dimethyl Butane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-7_E23-01849-007	SW8260D	E23-01849-007	Methylcyclopentane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-7_E23-01849-007	SW8260D	E23-01849-007	2,4-Dimethyl Pentane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-7_E23-01849-007	SW8260D	E23-01849-007	2,3-Dimethyl Pentane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-7_E23-01849-007	SW8260D	E23-01849-007	Trans-1,2-Dimethylcyclohexane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-7_E23-01849-007	SW8260D	E23-01849-007	Volatile Organic Hydrocarbons With 1st Highest Conc.	J	Bias Indeterminate: TIC
MW-7_E23-01849-007	SW8260D	E23-01849-007	Volatile Organic Hydrocarbons With 2nd Highest Conc.	J	Bias Indeterminate: TIC
MW-7_E23-01849-007	SW8260D	E23-01849-007	Volatile Organic Hydrocarbons With 3rd Highest Conc.	J	Bias Indeterminate: TIC
MW-7_E23-01849-007	SW8260D	E23-01849-007	1,1-Dichloroethene	J	Bias Indeterminate: Result < RL
MW-7_E23-01849-007	SW8260D	E23-01849-007	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-7_E23-01849-007	SW8260D	E23-01849-007	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-8_E23-01849-008	SW8260D	E23-01849-008	2-Methyl Butane	JN	Bias Indeterminate: TIC + presumptive evidence for identification
MW-8_E23-01849-008	SW8260D	E23-01849-008	Volatile Organic Hydrocarbons With 1st Highest Conc.	J	Bias Indeterminate: TIC
MW-8_E23-01849-008	SW8260D	E23-01849-008	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-8_E23-01849-008	SW8260D	E23-01849-008	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-9_E23-01849-009	SW8260D	E23-01849-009	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-9_E23-01849-009	SW8260D	E23-01849-009	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-10_E23-01849-010	SW8260D	E23-01849-010	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-10_E23-01849-010	SW8260D	E23-01849-010	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-11_E23-01849-011	SW8260D	E23-01849-011	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-11_E23-01849-011	SW8260D	E23-01849-011	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-12_E23-01849-012	SW8260D	E23-01849-012	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-12_E23-01849-012	SW8260D	E23-01849-012	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-13_E23-01849-013	SW8260D	E23-01849-013	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-13_E23-01849-013	SW8260D	E23-01849-013	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
MW-13_E23-01849-013	SW8260D	E23-01849-013	Ethylbenzene	J	Bias Indeterminate: Result < RL
MW-13_E23-01849-013	SW8260D	E23-01849-013	1,3,5-Trimethylbenzene (Mesitylene)	JN	Bias Indeterminate: TIC + presumptive evidence for identification
FB041423_E23-01849-014	SW8260D	E23-01849-014	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
FB041423_E23-01849-014	SW8260D	E23-01849-014	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
TRIP BLANK_E23-01849-015	SW8260D	E23-01849-015	1,4-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification
TRIP BLANK_E23-01849-015	SW8260D	E23-01849-015	1,2-Dichlorobenzene	UJ	Bias Low: Initial Calibration outside criteria + Low Calibration verification

Lab: Integral Analytical Laboratory LLC (IAL)

Volatile Data Review Checklist
Hillman Consulting: Project HK2420-1

SDG#: E23-01849

Date Sampled: 4/13/20923 - 4/14/2023
Method of Analysis: 8260D + TICs

No. Samples: 13 + 1FB + 1TB
Matrix: Groundwater

Data Element Acceptable	Preservation & HT	Blanks Acceptable	Surrogates	LCS / Blank Spike	MS/MSD	FD	Tunes ICALs CCALs	IS'	RL & Quant. Correct	%Solids
Yes	√	√	√	√	NA	NA		√	√	NA
No							Estimate (UJ) 30 results			

Comments:

Qualifier Action: 2 J-qualified results reported by the laboratory accepted as estimated (J) & "D" removed from 25 results

Selection of Results: none required

TICs: 16 results estimated (J or NJ)

Sensitivity: non-detects > TOGS 1.1.1 shown in Sensitivity Worksheet

The data package consisted of a NYDEC Category B deliverable.

Data Package Completeness:

1. Were all required forms (results, summary QC, COC), as required to validate the data in accordance with NYSDEC ASP 2005 and DUSR requirements present in the data package? *Yes.*

2. Were all result forms for all samples listed on the chain-of-custody present in data package? Yes. Samples were reported on summary forms using the laboratory IDs (IAL Sample ID) and client ID. A Sample Reference List in the data package cross references the COC Client ID to the IAL Lab Sample IDs.

Sample Receiving: Samples were received intact on 4/14/2023 at < 6 °C. The COC didn't identify whether the samples were preserved with HCl; however, the lab sample prep log indicates all samples were at pH < 2 at the time of analysis suggesting that HCl preservation was performed. There were no Sample Receipt issues noted by the lab.

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Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Holding Time: The samples were verified to be at pH < 2 at the time of analysis. All samples were analyzed by 4/20/2023 within 14 days of collection so HT acceptable - No Action required. Note, the EDD received from IAL did not contain the correct date & time of sample analysis; therefore, the "#analysis_date" field in the EDD was updated by NEH to the correct date & time of sample analysis.

Selection of Results for Reporting: all samples were analyzed at DF=1 except sample MW-8 was analyzed at DF=5 and samples MW-3 and MW-5 were analyzed at DF=10 to report all detects within the instrument calibration range. Since only one result per compound per sample was reported, no selection of results required.

Blank Evaluation: Method Blanks = BLKA230419-02; TB = TRIP BLANK; and Field Blank = FB041423 (associated with the GW samples in this SDG). All Blanks were non-detect for VOCs so no Blank Action to negate or estimate data required.

Surrogates: The lab used surrogate 1,2-dichloroethane-d4, toluene-d8, 4-bromofluorobenzene, and dibromofluoromethane, which are acceptable by SW-846 method 8260D. All surrogates were recovered within lab criteria in all samples and QC - No Action required.

LCS /LCSD: LCSA_230419-02. No LCD performed. The lab spiked 76 VOCs into LCS. All LCS %Rec were within lab criteria except: acrolein and 1,4-dioxane were recovered < 10% while 2-chloroethyl vinyl ether %Rec high compared to lab criteria. However, these 3 VOCs were not reported for the samples in this SDG so no action required due to LCS outside criteria.

MS/MSD: performed on a sample not associated with this project (i.e., batch QC). Since the results of this MS will not impact the samples in this SDG, no further review of this MS performed here. Note, the COC did not request MS analysis for the GW samples in this SDG and only 3 VOC vials for each GW were collected; therefore, insufficient volume was available for MS analysis on these GW samples.

Field Duplicates (FD): there were no FD samples identified by Hillman Consulting for these GW samples.

Laboratory Duplicate (LD): performed on sample MW-2, although not requested on the COC. The sample and duplicate were non-detect for all VOCs; therefore, while these results are consistent with each other, it is not possible to quantitatively evaluate Sample/LD precision. Sample/LD precision considered acceptable - No Action required.

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Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Tunes: Instrument MSD_E BFBA230323-01 on 3/23/2023 & BFBA230419-02 on 4/19/2023. Verified that Method 8260C criteria used for Tune acceptance, which is tighter than the tune criteria for Method 8260D and therefore acceptable. All Abundances were acceptable and all samples were analyzed within 12 hours of tune. Average of scans across peak with background correction used to generate tunes - acceptable. No Action required.

ICAL: MSD_E 3/23/2023 analyzed 6- to 7-level ICAL using 5-mL purge from 0.5 or 1.0 to 200 µg/L for 51 target VOCs reported, plus many non-project required VOCs. Min. RRF and Maximum %RSD given Method 8260D were achieved for all compounds in the ICAL except: 1,2-dichlorobenzene and 1,4-dichlorobenzene minimum RRF requirements were not met (8260D requires RRFs ≥ 0.6 for these 2 compounds but the average RRFs for these 2 compounds were < 0.6).
ICV analyzed 3/23/2023 following multi-level ICAL, reported %D < ± 30% for all compounds with 1,2-dichlorobenzene and 1,4-dichlorobenzene minimum RRF requirements not being met.
****ACTION: 1,2-Dichlorobenzene and 1,4-Dichlorobenzene in all samples estimated (UJ) with possible low bias, unless other issues affect the data, due to low sensitivity in the Initial Calibration for these compounds.***

CCV: MSD_E 4/19/2023. CCV %D ≤ ± 20% and minimum RRF achieved for all target compounds in CCV except: 1,2-dichlorobenzene and 1,4-dichlorobenzene minimum RRF requirements were not met.
****ACTION: 1,2-Dichlorobenzene and 1,4-Dichlorobenzene estimated (UJ) in all samples with possible low bias, unless other issues affect the data, due to low calibration verification.***

Internal Standards (IS): lab used three IS (pentafluorobenzene, 1,4-difluorobenzene, and chlorobenzene-d5). These are not the same IS required by CLP; however, since SW-846 method was performed, use of alternative IS are acceptable. All 3 IS areas and RTs were within criteria for all samples and QC - No Action required.

Compound Reporting: Lab reported results for 51 VOC compounds, which included all 51 TCL from SOM02.3 except the lab reported "Xylenes", rather than o-Xylene and m,p-Xylene isomers separately, and reported "Total, 1,3-Dichloropropene (Cis And Trans)," which is not required for CLP. The compound names were in some cases slightly different from the CLP names (e.g., CLP Methyl tert-butyl ether reported by the lab as Tert-Butyl Methyl Ether) and for some, but not all, alkenes, the lab used the "ylene" suffix rather than "ene" as indicated in CLP. According to Chris Hirschman (Hillman Consulting), the compound list reported for these samples is the same list as was used for reporting of the original GW data in the RI investigation of this site in 2019.

Tentatively Identified Compounds (TICs): Lab looked for up to 15 TICs in all samples and only found reportable TICs in samples MW-5, MW-7, MW-8, and MW-13. All TICs are uncertain since the instruments are not calibrated for these compounds; however, if there is > 85% match of the sample compound mass spectra to a known compound in the GC/MS mass spectral library, as was the case for several alkanes, the compound is identified by name, CAS#, and qualified "JN." Unknown Hydrocarbons in the EDD are identified as "Volatile Organic Hydrocarbons With 1st Highest Conc.," "Volatile Organic Hydrocarbons With 2nd Highest Conc.," or Volatile Organic Hydrocarbons With 3rd Highest Conc." as applicable. For samples MW-5 and MW-8, the lab also added a "D" qualifier to the TICs since these samples were analyzed at DF > 1; however, since the estimated concentrations reported took the dilutions into consideration, the "D" was removed (see Qualifier action section).
****ACTION: All 16 TICs accepted as estimated (J or JN) with indeterminate bias.***

Sensitivity: several non-detects were reported at levels above the NYS Ambient Water Quality Standards and Guidance Values – Water Class "GA" (TOGS AWQS – Water Class GA), as shown in the attached Sensitivity Worksheet, due to method limitations and dilutions used for analysis of these samples. The gray highlighted entries in the Sensitivity Worksheet indicate non-detects > TOGS 1.1.1. The data users will need to evaluate these non-detects at elevated levels for project decisions.

Qualifier Action: there were 2 results reported at a level < RL and flagged "J" by the laboratory. 25 results were qualified with a "D" (including 6 TICs) to indicate the results reported were from a dilution analysis of the sample. All other data were either non-detect (flagged "U") at the RL or were detected. The RL was identified in the EDD as the "#reporting_detection_limit"
****ACTION: 2 J-qualified results reported by the laboratory accepted as estimated (J) with indeterminate bias due to Result < RL and 25 "D" removed.***

Calculation check: Tetrachloroethylene (PCE) in sample MW-3 (lab sample ID E23-01849-003)

Response of Cpd = 268348 ; Response of IS (1,4-Difluorobenzene) = 603120 @ 50; 0.25 mL sample in 5-mL purge so effective DF = 20; Average RRF from ICAL = 0.246

Lowest Level ICAL std = 0.5 µg/L for 5 mL purge

Sample-Specific QL: Sample-Specific QL based on 0.5 µg/L lowest std = Cstd x DF= 0.5 x 20 = 10 µg/L √

$$\text{Tetrachloroethylene (PCE) Conc.} = \frac{268348 \times 50 \times 20}{603120 \times 0.246} = 1809 = 1810\ \mu g/L$$ √

Calculations verified - No Action required. Note, Dilution Factor in EDD (reported in field "#dilution_factor" as 10) was incorrect since the initial analysis of this sample was at DF=10 but the reanalysis, from which the data was reported, was DF=20. The "#dilution_factor" field in the EDD was updated for this sample.

The sample chromatogram, mass spectra of detects and quantitation report was scanned and data appeared to have been reported correctly.

Narrative: the narrative did not mention any issues with quality that would affect the sample data - No Action required.

SW-846 Method 8260D, Region II DV SOP, and NYSDEC ASP2005 - ACTIONS

Preservation:	Temperature upon receipt 4°±°2C; use judgment if outside criteria if Method 5035a not followed
HT:	waters- pH >2 or no HCl: 7d<HT; J- det/R NDs
	pH < 2, 14d <HT; J- det/R NDs
	low- or medium-level solid - 14d <HT< 28 d, J det/J NDs; HT > 28 days, J- det/R NDs
	unfrozen solid - 48 hrs < HT < 96 hrs, J det/J NDs; HT > 96hrs, J- det/R NDs
Surrogates:	Criteria per Table 11A of NYSDEC ASP2005 Exhibit E or lab limits as long as results within ± 10% of ASP limits
	%Rec<10%, J- det/ R NDs; 10% <%Rec<LCL, J- det/ J NDs; %Rec >UCL, J+ det/Accept NDs.
LCS:	Lab limits accepted since LCS not required for NYSDEC ASP2005
	%Rec<10%, J- det/ R NDs; 10% <%Rec<LCL, J- det/ J NDs; %Rec >UCL, J+ det/Accept NDs.
Tunes:	Samples analyzed within 12-hrs and criteria met per Table 3, Method 8260D. If out, use professional judgment.
ICAL:	minimum 5-Level ; min. RRF per Method 8260D criteria and RSD ≤ 20%.
CCV:	min. RRF per Method 8260D criteria and %D ≤ ± 20%.
Blanks:	If contamination in method blank or matrix-related blank(s) exist, comparison of the blank to the samples must take into consideration all sample-specific preparation and analysis factors (e.g., dilution used in analysis, dry weights analyzed, etc.). Blank Action Level (BAL) = Blank Result on a sample-equivalent basis (or 2x Blank Result for 2-butanone, acetone, and methylene chloride). If the result in blank < RL and result in sample is < RL, negate (U) result at the sample-specific RL. If the result in the Blank is > RL, if the sample is < RL, negate (U) at the RL; if sample result is > RL but < BAL, negate result at the level found; or If sample value > sample-equivalent BAL, no action required.
	Non-Matrix-related Blank contamination: Blank Action taken the sample way as for matrix-related blanks except data are not negated but are estimated (J+ or J) depending on professional judgment.
MS/MSD:	Table 12 of Exhibit E, NYSDEC ASP2005 or lab limits as long as results within ± 10% of ASP limits
	%Rec<10%, J- det/ R NDs; 10% <%Rec<LCL, J- det/ J NDs; %Rec >UCL, J+ det/Accept NDs- Unspiked Sample only. RPD > Control limit, J det / J ND; %RSD of non-spiked > 50%, J det
FD:	Both Conc. > 2xRL, RPD >30% (water) 50% (soil), J det; One result ND, other >2 x RL, J det/J NDs; Both Conc. < 2xRL; RPD >criteria, LCS OK, Accept data
IS:	20% ≤ Area < 50% of IS in CCAL , J det/ J NDs; Area < 20% of CCAL, J det / R NDs; Area > 150% IS in CCAL, J det / Accept NDs. Overall bias for IS outside criteria considered indeterminate since a it is unclear whether low IS is a mis-spike of IS (causing low of high bias in results using the IS that's out of criteria) or whether entire region of GC/MS is affected causing IS and results to be equally affected so no bias in results. This action is taken based on professional judgment.
%solids	If %solids < 50%, J det/J NDs; if %solids <10%, J det/R NDs (Region II SOP).

Date: ***6/12/2023***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

SW-846 Method 8260D, Region II DV SOP, and NYSDEC ASP2005 - ACTIONS *(continued)*

Compound List:	TCL (per EPA CLP SOW SOM02.3, which was the compound list used in 2019 for the initial RI of this site) + 15 TICs
RLs:	If result > upper calibration range, J result, if result < lowest calibration standard, J result. Verify all J data reported properly, if applicable. Verify RLs are sample specific and that all compounds requested were reported.
TICs:	If a VOC compound reported from another analysis or target VOC is reported as a TIC, the data are rejected (R). TICs that have no identification (i.e., reported as "Unknown") are estimated (J) and those TICs that are reported with a CAS#, are estimated with presumptive evidence for identification (JN). Professional judgment used to accept or reject TICs.
DV Qualifier Definitions	U = analyte is non-detect at the sample-specific Quantitation Limit (usable); UJ = non-detect is usable as an estimated value; J = result is usable as an estimated value with indeterminate bias; J+ = result is usable as an estimated value with possible high bias; J- = result is usable as an estimated value with possible low bias; JN = the analyte has been "tentatively identified" and the result is usable as an estimated value with indeterminate bias; R = result is rejected due to severe QC exceedance and unusable for project objectives. Bias: L = Low; H = High; I = Indeterminate.
Sensitivity:	Identify any non-detects which exceed TOGS 1.1.1 (TOGS GA AWQS) criteria for waters.
References:	*Supplemental Remedial Investigation Work Plan,* Buena Vista Apartments, 85 Riverdale Avenue, Yonkers, NY, prepared for Buena Vista Associates, LP, prepared by Hillman Consulting, LLC, February 2023 (RIWP)*;* NYSDEC *DER-10, Technical Guidance for Site Investigation and Remediation* (May 3, 2010 with updates through April 9, 2019); *NYS Ambient Water Quality Standards and Guidance Values – Water Class "GA" (TOGS AWQS – Water Class GA) included in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1)* , Ambient Water Quality Standards And Guidance Values and Groundwater Effluent Limitations (June 1998 with 2000 and 2004 Addenda) NYSDEC *6 NYCRR Part 375* (December 14, 2006); SW-846 Method 8260D; and USEPA Region II, USEPA Hazardous Waste Support Branch Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260C, SOP# HW-24; rev. 4 (October 2014).

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-1A E23-01849-001		MW-2 E23-01849-002		MW-3 E23-01849-003	
				Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane (TCA)	8260D	µg/L	5	0.5	U	0.5	U	5	U
1,1,2,2-Tetrachloroethane	8260D	µg/L	5	0.5	U	0.5	U	5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	8260D	µg/L	5	1	U	1	U	10	U
1,1,2-Trichloroethane	8260D	µg/L	1	0.5	U	0.5	U	5	U
1,1-Dichloroethane	8260D	µg/L	5	0.5	U	0.5	U	5	U
1,1-Dichloroethene	8260D	µg/L	5	0.5	U	0.5	U	5	U
1,2,3-Trichlorobenzene	8260D	µg/L	5	0.5	U	0.5	U	5	U
1,2,4-Trichlorobenzene	8260D	µg/L	5	0.5	U	0.5	U	5	U
1,2-Dibromo-3-Chloropropane	8260D	µg/L	0.04	0.5	U	0.5	U	5	U
1,2-Dibromoethane (Ethylene Dibromide)	8260D	µg/L	0.0006	0.5	U	0.5	U	5	U
1,2-Dichlorobenzene	8260D	µg/L	3	0.5	UJ	0.5	UJ	5	UJ
1,2-Dichloroethane	8260D	µg/L	0.6	0.5	U	0.5	U	5	U
1,2-Dichloropropane	8260D	µg/L	1	0.5	U	0.5	U	5	U
1,3-Dichlorobenzene	8260D	µg/L	3	0.5	U	0.5	U	5	U
1,4-Dichlorobenzene	8260D	µg/L	3	0.5	UJ	0.5	UJ	5	UJ
2-Hexanone	8260D	µg/L	50	1	U	1	U	10	U
Acetone	8260D	µg/L	50			1	U	10	U
Benzene	8260D	µg/L	1	0.5	U	0.5	U	5	U
Bromochloromethane	8260D	µg/L	5	0.5	U	0.5	U	5	U
Bromodichloromethane	8260D	µg/L	50	0.5	U	0.5	U	5	U
Bromoform	8260D	µg/L	50	0.5	U	0.5	U	5	U
Bromomethane	8260D	µg/L	5	0.5	U	0.5	U	5	U
Carbon Disulfide	8260D	µg/L	60	0.5	U	0.5	U	5	U
Carbon Tetrachloride	8260D	µg/L	5	0.5	U	0.5	U	5	U
Chlorobenzene	8260D	µg/L	5	0.5	U	0.5	U	5	U
Chloroethane	8260D	µg/L	5	0.5	U	0.5	U	5	U
Chloroform	8260D	µg/L	7	0.5	U	0.5	U	5	U
Chloromethane (Methyl Chloride)	8260D	µg/L	5	0.5	U	0.5	U	5	U
Cis-1,2-Dichloroethylene	8260D	µg/L	5	0.5	U	0.5	U		
Cis-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U	0.5	U	5	U
Cyclohexane	8260D	µg/L	NS	1	U	1	U	10	U
Dibromochloromethane	8260D	µg/L	50	0.5	U	0.5	U	5	U
Dichlorodifluoromethane	8260D	µg/L	5	1	U	1	U	10	U
Ethylbenzene	8260D	µg/L	5	0.5	U	0.5	U	5	U
Isopropylbenzene (Cumene)	8260D	µg/L	5	0.5	U	0.5	U	5	U
Methyl Acetate	8260D	µg/L	NS	0.5	U	0.5	U	5	U
Methyl Ethyl Ketone (2-Butanone)	8260D	µg/L	50			1	U	10	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	8260D	µg/L	NS	1	U	1	U	10	U
Methylcyclohexane	8260D	µg/L	NS	0.5	U	0.5	U	5	U

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-1A E23-01849-001		MW-2 E23-01849-002		MW-3 E23-01849-003	
				Result	Qualifier	Result	Qualifier	Result	Qualifier
Methylene Chloride	8260D	µg/L	5	1	U	1	U	10	U
Styrene	8260D	µg/L	5	0.5	U	0.5	U	5	U
Tert-Butyl Methyl Ether	8260D	µg/L	10	0.5	U	0.5	U	5	U
Tetrachloroethylene (PCE)	8260D	µg/L	5	0.5	U	0.5	U		
Toluene	8260D	µg/L	5	0.5	U	0.5	U	5	U
Trans-1,2-Dichloroethene	8260D	µg/L	5	0.5	U	0.5	U		
Trans-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U	0.5	U	5	U
Trichloroethylene (TCE)	8260D	µg/L	5	0.5	U	0.5	U		
Trichlorofluoromethane	8260D	µg/L	5	1	U	1	U	10	U
Vinyl Chloride	8260D	µg/L	2	0.5	U	0.5	U	5	U
Xylenes	8260D	µg/L	5	1	U	1	U	10	U

1 NYS Ambient Water Quality Standards and Guidance Values – Water Class "GA" (TOGS AWQS – Water Class GA) included in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), Ambient Water Quality Standards And Guidance Values and Groundwater Effluent Limitations (June 1998 with 2000 and 2004 Addenda)

The Highlighted entries indicate the non-detects that are reported at levels > TOGS 1.1.1

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-4 E23-01849-004		MW-5 E23-01849-005		MW-6 E23-01849-006	
				Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane (TCA)	8260D	µg/L	5	0.5	U	5	U	0.5	U
1,1,2,2-Tetrachloroethane	8260D	µg/L	5	0.5	U	5	U	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	8260D	µg/L	5	1	U	10	U	1	U
1,1,2-Trichloroethane	8260D	µg/L	1	0.5	U	5	U	0.5	U
1,1-Dichloroethane	8260D	µg/L	5	0.5	U	5	U	0.5	U
1,1-Dichloroethene	8260D	µg/L	5	0.5	U	5	U	0.5	U
1,2,3-Trichlorobenzene	8260D	µg/L	5	0.5	U	5	U	0.5	U
1,2,4-Trichlorobenzene	8260D	µg/L	5	0.5	U	5	U	0.5	U
1,2-Dibromo-3-Chloropropane	8260D	µg/L	0.04	0.5	U	5	U	0.5	U
1,2-Dibromoethane (Ethylene Dibromide)	8260D	µg/L	0.0006	0.5	U	5	U	0.5	U
1,2-Dichlorobenzene	8260D	µg/L	3	0.5	UJ	5	UJ	0.5	UJ
1,2-Dichloroethane	8260D	µg/L	0.6	0.5	U	5	U	0.5	U
1,2-Dichloropropane	8260D	µg/L	1	0.5	U	5	U	0.5	U
1,3-Dichlorobenzene	8260D	µg/L	3	0.5	U	5	U	0.5	U
1,4-Dichlorobenzene	8260D	µg/L	3	0.5	UJ	5	UJ	0.5	UJ
2-Hexanone	8260D	µg/L	50	1	U	10	U	1	U
Acetone	8260D	µg/L	50			10	U	1	U
Benzene	8260D	µg/L	1			5	U	0.5	U
Bromochloromethane	8260D	µg/L	5	0.5	U	5	U	0.5	U
Bromodichloromethane	8260D	µg/L	50	0.5	U	5	U	0.5	U
Bromoform	8260D	µg/L	50	0.5	U	5	U	0.5	U
Bromomethane	8260D	µg/L	5	0.5	U	5	U	0.5	U
Carbon Disulfide	8260D	µg/L	60	0.5	U	5	U	0.5	U
Carbon Tetrachloride	8260D	µg/L	5	0.5	U	5	U	0.5	U
Chlorobenzene	8260D	µg/L	5	0.5	U	5	U	0.5	U
Chloroethane	8260D	µg/L	5	0.5	U	5	U	0.5	U
Chloroform	8260D	µg/L	7			5	U	0.5	U
Chloromethane (Methyl Chloride)	8260D	µg/L	5	0.5	U	5	U	0.5	U
Cis-1,2-Dichloroethylene	8260D	µg/L	5	0.5	U			0.5	U
Cis-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U	5	U	0.5	U
Cyclohexane	8260D	µg/L	NS	1	U			1	U
Dibromochloromethane	8260D	µg/L	50	0.5	U	5	U	0.5	U
Dichlorodifluoromethane	8260D	µg/L	5	1	U	10	U	1	U
Ethylbenzene	8260D	µg/L	5	0.5	U	5	U	0.5	U
Isopropylbenzene (Cumene)	8260D	µg/L	5	0.5	U	5	U	0.5	U
Methyl Acetate	8260D	µg/L	NS	0.5	U	5	U	0.5	U
Methyl Ethyl Ketone (2-Butanone)	8260D	µg/L	50	1	U	10	U	1	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	8260D	µg/L	NS	1	U	10	U	1	U
Methylcyclohexane	8260D	µg/L	NS	0.5	U			0.5	U

Date: ***6/12/2023***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-4 E23-01849-004		MW-5 E23-01849-005		MW-6 E23-01849-006	
				Result	Qualifier	Result	Qualifier	Result	Qualifier
Methylene Chloride	8260D	µg/L	5	1	U	10	U	1	U
Styrene	8260D	µg/L	5	0.5	U	5	U	0.5	U
Tert-Butyl Methyl Ether	8260D	µg/L	10	0.5	U	5	U	0.5	U
Tetrachloroethylene (PCE)	8260D	µg/L	5					0.5	U
Toluene	8260D	µg/L	5	0.5	U	5	U	0.5	U
Trans-1,2-Dichloroethene	8260D	µg/L	5					0.5	U
Trans-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U	5	U	0.5	U
Trichloroethylene (TCE)	8260D	µg/L	5	0.5	U			0.5	U
Trichlorofluoromethane	8260D	µg/L	5	1	U	10	U	1	U
Vinyl Chloride	8260D	µg/L	2	0.5	U			0.5	U
Xylenes	8260D	µg/L	5	1	U	10	U	1	U

1 NYS Ambient Water Quality Standards and Guidance Values – Water Class "GA" (TOGS AWQS – Water Class GA) included in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), Ambient Water Quality Standards And Guidance Values and Groundwater Effluent Limitations (June 1998 with 2000 and 2004 Addenda)

The Highlighted entries indicate the non-detects that are reported at levels > TOGS 1.1.1

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-7 E23-01849-007		MW-8 E23-01849-008		MW-9 E23-01849-009	
				Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane (TCA)	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
1,1,2,2-Tetrachloroethane	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	8260D	µg/L	5	1	U	5	U	1	U
1,1,2-Trichloroethane	8260D	µg/L	1	0.5	U	2.5	U	0.5	U
1,1-Dichloroethane	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
1,1-Dichloroethene	8260D	µg/L	5			2.5	U	0.5	U
1,2,3-Trichlorobenzene	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
1,2,4-Trichlorobenzene	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	8260D	µg/L	0.04	0.5	U	2.5	U	0.5	U
1,2-Dibromoethane (Ethylene Dibromide)	8260D	µg/L	0.0006	0.5	U	2.5	U	0.5	U
1,2-Dichlorobenzene	8260D	µg/L	3	0.5	UJ	2.5	UJ	0.5	UJ
1,2-Dichloroethane	8260D	µg/L	0.6	0.5	U	2.5	U	0.5	U
1,2-Dichloropropane	8260D	µg/L	1	0.5	U	2.5	U	0.5	U
1,3-Dichlorobenzene	8260D	µg/L	3	0.5	U	2.5	U	0.5	U
1,4-Dichlorobenzene	8260D	µg/L	3	0.5	UJ	2.5	UJ	0.5	UJ
2-Hexanone	8260D	µg/L	50	1	U	5	U	1	U
Acetone	8260D	µg/L	50	1	U				
Benzene	8260D	µg/L	1			2.5	U	0.5	U
Bromochloromethane	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
Bromodichloromethane	8260D	µg/L	50	0.5	U	2.5	U	0.5	U
Bromoform	8260D	µg/L	50	0.5	U	2.5	U	0.5	U
Bromomethane	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
Carbon Disulfide	8260D	µg/L	60	0.5	U	2.5	U	0.5	U
Carbon Tetrachloride	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
Chlorobenzene	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
Chloroethane	8260D	µg/L	5			2.5	U	0.5	U
Chloroform	8260D	µg/L	7	0.5	U	2.5	U		
Chloromethane (Methyl Chloride)	8260D	µg/L	5	0.5	U	2.5	U		
Cis-1,2-Dichloroethylene	8260D	µg/L	5					0.5	U
Cis-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U	2.5	U	0.5	U
Cyclohexane	8260D	µg/L	NS					1	U
Dibromochloromethane	8260D	µg/L	50	0.5	U	2.5	U	0.5	U
Dichlorodifluoromethane	8260D	µg/L	5	1	U	5	U	1	U
Ethylbenzene	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
Isopropylbenzene (Cumene)	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
Methyl Acetate	8260D	µg/L	NS	0.5	U	2.5	U	0.5	U
Methyl Ethyl Ketone (2-Butanone)	8260D	µg/L	50	1	U				
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	8260D	µg/L	NS	1	U	5	U	1	U
Methylcyclohexane	8260D	µg/L	NS					0.5	U

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-7 E23-01849-007		MW-8 E23-01849-008		MW-9 E23-01849-009	
				Result	Qualifier	Result	Qualifier	Result	Qualifier
Methylene Chloride	8260D	µg/L	5	1	U	5	U	1	U
Styrene	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
Tert-Butyl Methyl Ether	8260D	µg/L	10	0.5	U	2.5	U	0.5	U
Tetrachloroethylene (PCE)	8260D	µg/L	5					0.5	U
Toluene	8260D	µg/L	5	0.5	U	2.5	U	0.5	U
Trans-1,2-Dichloroethene	8260D	µg/L	5					0.5	U
Trans-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U	2.5	U	0.5	U
Trichloroethylene (TCE)	8260D	µg/L	5					0.5	U
Trichlorofluoromethane	8260D	µg/L	5	1	U	5	U	1	U
Vinyl Chloride	8260D	µg/L	2			2.5	U	0.5	U
Xylenes	8260D	µg/L	5	1	U	5	U	1	U

1 NYS Ambient Water Quality Standards and Guidance Values – Water Class "GA" (TOGS AWQS – Water Class GA) included in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), Ambient Water Quality Standards And Guidance Values and Groundwater Effluent Limitations (June 1998 with 2000 and 2004 Addenda)

The Highlighted entries indicate the non-detects that are reported at levels > TOGS 1.1.1

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-10 E23-01849-010		MW-11 E23-01849-011		MW-12 E23-01849-012	
				Result	Qualifier	Result	Qualifier	Result	Qualifier
1,1,1-Trichloroethane (TCA)	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	8260D	µg/L	5	1	U	1	U	1	U
1,1,2-Trichloroethane	8260D	µg/L	1	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	8260D	µg/L	0.04	0.5	U	0.5	U	0.5	U
1,2-Dibromoethane (Ethylene Dibromide)	8260D	µg/L	0.0006	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	8260D	µg/L	3	0.5	UJ	0.5	UJ	0.5	UJ
1,2-Dichloroethane	8260D	µg/L	0.6	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	8260D	µg/L	1	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	8260D	µg/L	3	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	8260D	µg/L	3	0.5	UJ	0.5	UJ	0.5	UJ
2-Hexanone	8260D	µg/L	50	1	U	1	U	1	U
Acetone	8260D	µg/L	50			1	U	1	U
Benzene	8260D	µg/L	1	0.5	U	0.5	U	0.5	U
Bromochloromethane	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Bromodichloromethane	8260D	µg/L	50	0.5	U	0.5	U	0.5	U
Bromoform	8260D	µg/L	50	0.5	U	0.5	U	0.5	U
Bromomethane	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Carbon Disulfide	8260D	µg/L	60	0.5	U	0.5	U	0.5	U
Carbon Tetrachloride	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Chlorobenzene	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Chloroethane	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Chloroform	8260D	µg/L	7						
Chloromethane (Methyl Chloride)	8260D	µg/L	5			0.5	U	0.5	U
Cis-1,2-Dichloroethylene	8260D	µg/L	5	0.5	U	0.5	U		
Cis-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U	0.5	U	0.5	U
Cyclohexane	8260D	µg/L	NS	1	U	1	U	1	U
Dibromochloromethane	8260D	µg/L	50	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	8260D	µg/L	5	1	U	1	U	1	U
Ethylbenzene	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Isopropylbenzene (Cumene)	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Methyl Acetate	8260D	µg/L	NS	0.5	U	0.5	U	0.5	U
Methyl Ethyl Ketone (2-Butanone)	8260D	µg/L	50	1	U	1	U	1	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	8260D	µg/L	NS	1	U	1	U	1	U
Methylcyclohexane	8260D	µg/L	NS	0.5	U	0.5	U	0.5	U

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-10 E23-01849-010		MW-11 E23-01849-011		MW-12 E23-01849-012	
				Result	Qualifier	Result	Qualifier	Result	Qualifier
Methylene Chloride	8260D	µg/L	5	1	U	1	U	1	U
Styrene	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Tert-Butyl Methyl Ether	8260D	µg/L	10	0.5	U	0.5	U	0.5	U
Tetrachloroethylene (PCE)	8260D	µg/L	5	0.5	U				
Toluene	8260D	µg/L	5	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	8260D	µg/L	5	0.5	U	0.5	U		
Trans-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U	0.5	U	0.5	U
Trichloroethylene (TCE)	8260D	µg/L	5	0.5	U	0.5	U		
Trichlorofluoromethane	8260D	µg/L	5	1	U	1	U	1	U
Vinyl Chloride	8260D	µg/L	2	0.5	U	0.5	U	0.5	U
Xylenes	8260D	µg/L	5	1	U	1	U	1	U

1 NYS Ambient Water Quality Standards and Guidance Values – Water Class "GA" (TOGS AWQS – Water Class GA) included in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), Ambient Water Quality Standards And Guidance Values and Groundwater Effluent Limitations (June 1998 with 2000 and 2004 Addenda)

The Highlighted entries indicate the non-detects that are reported at levels > TOGS 1.1.1

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-13 E23-01849-013	
				Result	Qualifier
1,1,1-Trichloroethane (TCA)	8260D	µg/L	5	0.5	U
1,1,2,2-Tetrachloroethane	8260D	µg/L	5	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	8260D	µg/L	5	1	U
1,1,2-Trichloroethane	8260D	µg/L	1	0.5	U
1,1-Dichloroethane	8260D	µg/L	5	0.5	U
1,1-Dichloroethene	8260D	µg/L	5	0.5	U
1,2,3-Trichlorobenzene	8260D	µg/L	5	0.5	U
1,2,4-Trichlorobenzene	8260D	µg/L	5	0.5	U
1,2-Dibromo-3-Chloropropane	8260D	µg/L	0.04	0.5	U
1,2-Dibromoethane (Ethylene Dibromide)	8260D	µg/L	0.0006	0.5	U
1,2-Dichlorobenzene	8260D	µg/L	3	0.5	UJ
1,2-Dichloroethane	8260D	µg/L	0.6	0.5	U
1,2-Dichloropropane	8260D	µg/L	1	0.5	U
1,3-Dichlorobenzene	8260D	µg/L	3	0.5	U
1,4-Dichlorobenzene	8260D	µg/L	3	0.5	UJ
2-Hexanone	8260D	µg/L	50	1	U
Acetone	8260D	µg/L	50	1	U
Benzene	8260D	µg/L	1		
Bromochloromethane	8260D	µg/L	5	0.5	U
Bromodichloromethane	8260D	µg/L	50	0.5	U
Bromoform	8260D	µg/L	50	0.5	U
Bromomethane	8260D	µg/L	5	0.5	U
Carbon Disulfide	8260D	µg/L	60	0.5	U
Carbon Tetrachloride	8260D	µg/L	5	0.5	U
Chlorobenzene	8260D	µg/L	5	0.5	U
Chloroethane	8260D	µg/L	5	0.5	U
Chloroform	8260D	µg/L	7		
Chloromethane (Methyl Chloride)	8260D	µg/L	5	0.5	U
Cis-1,2-Dichloroethylene	8260D	µg/L	5		
Cis-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U
Cyclohexane	8260D	µg/L	NS		
Dibromochloromethane	8260D	µg/L	50	0.5	U
Dichlorodifluoromethane	8260D	µg/L	5	1	U
Ethylbenzene	8260D	µg/L	5		
Isopropylbenzene (Cumene)	8260D	µg/L	5		
Methyl Acetate	8260D	µg/L	NS	0.5	U
Methyl Ethyl Ketone (2-Butanone)	8260D	µg/L	50	1	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	8260D	µg/L	NS	1	U
Methylcyclohexane	8260D	µg/L	NS		

Chemical	Analytical Method	Units	TOGS 1.1.1[1]	MW-13 E23-01849-013	
				Result	Qualifier
Methylene Chloride	8260D	µg/L	5	1	U
Styrene	8260D	µg/L	5	0.5	U
Tert-Butyl Methyl Ether	8260D	µg/L	10	0.5	U
Tetrachloroethylene (PCE)	8260D	µg/L	5	0.5	U
Toluene	8260D	µg/L	5		
Trans-1,2-Dichloroethene	8260D	µg/L	5		
Trans-1,3-Dichloropropene	8260D	µg/L	0.4	0.5	U
Trichloroethylene (TCE)	8260D	µg/L	5	0.5	U
Trichlorofluoromethane	8260D	µg/L	5	1	U
Vinyl Chloride	8260D	µg/L	2	0.5	U
Xylenes	8260D	µg/L	5		

1 NYS Ambient Water Quality Standards and Guidance Values – Water Class "GA" (TOGS AWQS – Water Class GA) included in the Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), Ambient Water Quality Standards And Guidance Values and Groundwater Effluent Limitations (June 1998 with 2000 and 2004 Addenda)

The Highlighted entries indicate the non-detects that are reported at levels > TOGS 1.1.1