2020 Annual Site Management Report

Former Lockheed Martin
French Road Facility
Utica, New York



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ABBREVIATIONS & ACRONYMS

AGC	Annual Guideline Concentration
BBL	Blasland, Bouck, & Lee, Inc.
CB	catch basin
CCR	Construction Completion Report
CMIP	corrective measures implementation plan
CMS	corrective measures study
ConMed	ConMed Corporation
DAR	(NYSDEC) Division of Air Resources
DCE	dichloroethene
DER	(NYSDEC) Division of Environmental Remediation
EC	Engineering Control
EE	Environmental Easement
FNPD	Former Northern Perimeter Ditch
FS	Feasibility Study
GCTS	groundwater collection and treatment system
GE	General Electric Company
GWMP	Groundwater Monitoring Program
HDPE	high-density polyethylene
IC	Institutional Control
ICM	interim corrective measures
in. W.C.	inches of water column
IRZ	in-situ reactive zone
Lockheed Martin	Lockheed Martin Corporation
MMC	Martin Marietta Corporation
MNA	monitored natural attenuation
MW	monitoring well
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OM&M	Operation, Maintenance, and Monitoring
PCB	polychlorinated biphenyl
PCE	Tetrachloroethene

PC	Performing Contractor
PLC	Programmable Logic Controller
PZ	Piezometer
RAWP	Remedial Action Work Plan
RL	reporting limit
SB	Statement of Basis
SDS	sub-slab depressurization sump
SGV	standards and guidance values
SIR	Supplemental Investigation Report
SMR	Site Management Report
SPDES	State Pollutant Discharge Elimination System
SSDS	sub-slab depressurization system
SVI	soil vapor intrusion
TCE	Trichloroethene
TOGS	Technical and Operational Guidance Series
VC	vinyl chloride
VFD	variable frequency drive
VOC	volatile organic compound
VPGAC	vapor-phase granular activated carbon
VMP	vacuum monitoring point

Certification Statement

I, Peter Rich, of Tetra Tech Inc., certify that I am currently a New York State-registered professional engineer and that this Site Management Report was prepared in accordance with applicable statutes and regulations and in substantial conformance with the (NYSDEC) Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10). I certify that information and statements in this certification form are true. For each engineering control* identified for the site, I certify that all of the following statements are true:

- The inspection of the site to confirm the effectiveness of the engineering controls required by the remedial program was performed under my direction;
- The engineering controls employed at this site are unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of the engineering controls;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally-accepted engineering practices; and
- The information presented in this report is accurate and complete.



_____, P.E.
Signature

3/22/2
Date

* Remediation, as defined in the Statement of Basis, has not been completed at the time this report was prepared. Once the remedy has been implemented, and remediation is deemed complete by NYSDEC, institutional controls (as outlined in the Site Management Plan and Environmental Easement), can be finalized and fully implemented. For that reason, only engineering controls are certified herein. Following site closure, and through the periodic review reporting process, both engineering and institutional controls will be certified.

1.0 INTRODUCTION

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech, Inc. (Tetra Tech) has prepared this 2020 Annual Site Management Report (SMR) for the Former Lockheed Martin French Road Facility (herein, "the site") in Utica, New York. Refer to Figure 1 for a site location map. The activities described herein have been performed in general accordance with the Corrective Measures Implementation Plan (CMIP) required by the "*Order on Consent*" (Order) issued by the New York State Department of Environmental Conservation (NYSDEC) on October 3, 2008 (NYSDEC, 2008), and the *Final Statement of Basis* (SB), *Corrective Measures Selection, Former Lockheed Martin-French Road Facility, Operable Units 01 and 02, Site No. 633036A, EPA ID No. NYD000521971, Utica, Oneida County,* issued by NYSDEC on March 31, 2015 (SB; NYSDEC, 2015).

In addition to the interim corrective measures (ICMs) currently implemented on-site, the SB required excavation of source-area subsurface soils impacted with volatile organic compounds (VOCs) in the Former Northern Perimeter Ditch (FNPD) Area 2 (located to the east of the maintenance building and directly north of the former pole barn), as well as polychlorinated biphenyl (PCB)-impacted shallow surface soils at three other locations across the site.

The excavation design was finalized in the 100% Remedial Action Work Plan (RAWP) for Soil Removal dated August 2018 prepared by Brown and Caldwell Associates (Brown and Caldwell, 2018) on behalf of Lockheed Martin. The NYSDEC approved the August 2018 Brown and Caldwell RAWP in a letter dated August 14, 2018 (NYSDEC, 2018). Shallow excavations were completed in September and October 2018 and the pole barn was dismantled in October 2018. A more detailed discussion of the shallow excavations is provided in the Construction Completion Report (CCR) PCB-Impacted Soil Removal dated May 2020 prepared by Brown and Caldwell (Brown and Caldwell, 2020). The NYSDEC approved the PCB-Impacted Soil Removal CCR in a letter dated September 18, 2020 (NYSDEC, 2020a).

The deep excavation in the FNPD was postponed until 2019 due to impending winter weather in late 2018. During the postponement, Tetra Tech prepared a revised RAWP dated September 2019, on behalf of Lockheed Martin, to address the deep excavation in FNPD (Tetra Tech, 2019). The NYSDEC approved the September 2019 Tetra Tech RAWP in a letter dated September 12, 2019 (NYSDEC, 2019). The excavation and backfilling activities were conducted from October 1, 2019 to November 8, 2019. Site restoration activities were conducted from November 8, 2019 to November 27, 2019 and included the placement of topsoil in the vegetated areas and concrete and asphalt restoration in the former pole barn concrete slab and paved areas. A more detailed discussion of the excavation activities in the FNPD is provided in the CCR for the FNPD dated July 2020 prepared by Tetra Tech (Tetra Tech, 2020). The NYSDEC approved the CCR for the FNPD in a letter dated September 18, 2020 (NYSDEC, 2020b).

The SB requires both Engineering and Institutional Controls (ECs and ICs) to mitigate risks associated with remaining contamination to ensure protection of human health and the environment. Throughout 2020, operation of the Sub-Slab Depressurization System (SSDS) and

Groundwater Collection and Treatment System (GCTS) and execution of the groundwater monitoring program were continued in order to meet the remedial objectives specified in the SB. Per the SB, a cover system has been incorporated into the *Draft Interim Site Management Plan* (*Draft SMP*; Stantec, 2016b) and annual inspections to assess its performance began in 2015. An Environmental Easement (EE) will be granted to NYSDEC and recorded with the Oneida County Clerk to require compliance with all ECs and ICs implemented on-site. The *Draft SMP* and EE materials were submitted to ConMed Corporation (ConMed, the site owner) in July 2016 and NYSDEC in October 2016. The NYSDEC has indicated that it would not begin review of the Draft SMP until after the FNPD and surface soil excavations were completed. An updated draft SMP will be submitted to the NYSDEC under a separate cover.

The SSDS performance portion of this report (see Section 2.1 and Appendix A of this SMR) was written to meet requirements specified in the *SSDS Operation, Maintenance, and Monitoring Plan* (*SSDS OM&M Plan*; Tetra Tech, 2021a), and the GCTS performance portion of this report (see Section 2.2 and Appendix B) was written to satisfy the requirements specified in the *Groundwater Collection and Treatment System Operation Maintenance, and Monitoring Manual (Updated GCTS OM&M Manual*; Tetra Tech, 2021b). The cover system performance portion of the report (Section 2.3 and Appendix C) was written to satisfy requirements detailed in the *Draft SMP*. The *Groundwater Monitoring Program* (*GWMP*) is the basis for the groundwater monitoring program performance portion of this report (see Section 4.0 and Appendix D). The *GWMP* was originally authored as an Interim Groundwater Monitoring Program (IGWMP) in October 2009 by ARCADIS and subsequently revised in February 2012 (ARCADIS, 2012), and May 2016 (Stantec, 2016c). The IGWMP has been revised as a draft GWMP and will be part of the updated SMP that will be submitted to the NYSDEC under a separate cover.

1.1 REMEDIAL OBJECTIVES

As listed in the SB, the remedial objectives and actions to attain them are as follows:

OBJECTIVE	ACTION ITEMS	Relevant 2020 ECs/monitoring programs*
1. Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards	- EE and SMP (ICs) to prohibit groundwater use; and - Connection to municipal public water supply.	- -
2. Prevent contact with or inhalation of volatiles from contaminated groundwater	- Continued SSDS operation; - SMP protocols for ground-intrusive activities and provision for future soil vapor intrusion (SVI) investigations; and - Groundwater monitoring.	• SSDS • Groundwater monitoring program

OBJECTIVE	ACTION ITEMS	Relevant 2020 ECs/monitoring programs*
3. Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable	- Continued GCTS operation; and - Groundwater monitoring (to evaluate GCTS performance).	• GCTS • Groundwater monitoring program
4. Remove the source of groundwater or surface water contamination	- Source area subsurface soil excavation (FNPD Area 2).	- -
5. Prevent the discharge of contaminants to surface water	- Continued GCTS operation.	• GCTS
6. Prevent ingestion/direct contact with contaminated soil	- Source area subsurface soil excavation (FNPD Area 2); - Isolated PCB-impacted surface soil removal; - Restrictive Use Agreement prohibiting residential use; and - Site cover system.	• Site cover system
7. Prevent inhalation exposure from contaminants volatilizing from soil	- Source area subsurface soil excavation (FNPD Area 2); - SMP provision for potential future SVI investigations; and - Continued SSDS operation.	• SSDS
8. Prevent migration of contaminants that would result in groundwater or surface water contamination	- Source area subsurface soil excavation (FNPD Area 2); and - Isolated PCB-impacted surface soil removal.	- -
9. Mitigate impacts to public health resulting from SVI into buildings on-site	- SMP provision for potential future SVI investigations; and - Continued SSDS operation.	• SSDS

* This report details controls, history, and quantifiable performance criteria (where applicable) for each of the relevant ECs/monitoring programs listed in the third (and referenced) column.

1.2 SITE DESCRIPTION AND OWNERSHIP HISTORY

In the early 1950s, General Electric Company (GE) acquired approximately 55 acres of undeveloped land on French Road in Utica, New York and built a 500,000-square-foot manufacturing facility (Figure 1). GE operations included manufacturing, assembling, and testing electrical components for the defense and aerospace industries. GE production

operations continued until April 1993, when the facility was acquired by Martin Marietta Corporation (MMC), who also used the facility for manufacturing operations.

In March 1995, MMC merged with Lockheed Corporation to form Lockheed Martin Corporation. In March 1996, Lockheed Martin sold the property to Pinnacle Park, Inc., which subsequently transferred the property to and leased it back from the Oneida County Industrial Development Agency. ConMed, a medical supplies manufacturer and distributor, now owns and occupies the facility. Although Lockheed Martin no longer owns the property, the corporation retains responsibility for environmental cleanup related to past releases at the site. Figure 2 presents the site layout.

1.3 GROUNDWATER COLLECTION AND TREATMENT SYSTEM HISTORY

Groundwater beneath the northeast portion of the main manufacturing building and in an area along the FNPD has been impacted by VOCs. The former Solvent Dock was located at the northeast end of the main manufacturing building and was the location where solvents were formerly used and stored. The FNPD (running along the northern property boundary) was an open-drainage swale that received storm water from the area north of the manufacturing building and conveyed the water, along with storm water from the western portion of the property, to a manhole before discharging it to the municipal storm sewer.

GE, MMC, and Lockheed Martin have investigated groundwater in these areas since 1991. In November 1994, Blasland, Bouck, & Lee, Inc. (BBL) investigated the facility storm sewer in the Solvent Dock Area. That investigation determined that VOCs detected in the storm sewer were attributable to the discharge of VOC-contaminated groundwater into the FNPD and infiltration of VOC-contaminated groundwater from the Solvent Dock Area into the storm sewer beneath the building.

In May 1995, BBL completed a *Storm Sewer Investigation Report* (BBL, 1995a), which recommended that the contaminated portion of the storm sewer flow be collected, treated, and discharged to meet proposed "State Pollutant Discharge Elimination System" (SPDES) VOC-effluent limitations. BBL evaluated remedial design alternatives (in accordance with NYSDEC recommendations) that would remedy contaminated groundwater by addressing the source of VOCs entering the storm sewer. The results of this evaluation are in the *Storm Sewer Basis of Design Report* (BBL, 1995b). This report led to design of the GCTS in October 1995, and initial system construction was completed in June 1996 as an ICM. The GCTS initially consisted of two underdrain pipes in the vicinity of the northern perimeter ditch, and the construction also included filling in the northern perimeter ditch and installation of a buried shallow storm sewer line.

Once the system was installed and the FNPD was replaced by a buried 24-inch-diameter high-density polyethylene (HDPE) pipe, groundwater no longer discharged to the surface. The pipe now conveys storm water that formerly flowed in the ditch. The ditch area was filled and contoured to match the existing grade. The GCTS was expanded in 2010 to include a third underdrain line running through the facility's eastern parking lot, parallel to a storm sewer running

east–west toward a common storm sewer line (with eventual discharge to Nail Creek). This work also upgraded several GCTS components, notably the air stripper and associated controls. The GCTS collects groundwater from the Solvent Dock Area and the FNPD area, conveys the collected groundwater to a treatment building where VOCs are removed by an air stripper, and then discharges the treated effluent to the municipal stormwater system under SPDES Permit #NY0121894.

As part of optimization efforts for the GCTS, an evaluation of the influent vapor (pre-carbon) from the low-profile air stripper was performed using the NYSDEC Division of Air Resources (DAR)-1 policy to support the proposed removal of the vapor-phase granular activated carbon (VPGAC) treatment units. The air emission calculations were compared to the Annual Guideline Concentrations (AGCs) and Short-Term Guideline Concentrations (SGCs) identified in the July 2016 NYSDEC AGC/SGC tables in DAR-1. A comparison of the pre-carbon emission rates (pounds per hour) from the air stripper indicated that all the target compound constituents in the air stream were substantially less than their respective AGCs and SGCs without the need for vapor phase treatment. The Division of Air Resources (DAR), at NYSDEC Region 6, approved the removal of the VPGAC treatment for the GCTS in correspondence dated October 28, 2020 (NYSDEC, 2020d).

An additional optimization effort was a reduction in the system OM&M activities with a recommended reduction of the specific tasks conducted during the OM&M visits. Currently, the three manholes are inspected monthly. It was recommended that manhole inspection frequency change from monthly to quarterly. In addition, critical device inspection/testing occurs on a quarterly basis. These tests have been conducted for many years of system operation with no issues. It was recommended that the following critical device tests change from a quarterly to semi-annual frequency:

- Air Stripper Low Pressure;
- High Air Flowrate;
- Pre-Carbon Low Temperature;
- Pre-Carbon Low Pressure;
- MH-1, MH-2, MH-3, and Aggregate Low Flowrate;
- Building Sump High Level;
- Sequestering Agent Wet Spill Pallet Sensor; and
- MH-1, MH-2, MH-3 High Levels.

Furthermore, it was recommended that the GCTS air stripper low liquid level testing be removed from the monitoring program. A low liquid level in the air stripper is not a detriment to system operation because the treated water flows into a sump at the bottom of the air stripper and discharges by gravity to the storm sewer connection. The NYSDEC verbally approved the reduction of GCTS OM&M activities in a monthly call on July 1, 2020 and subsequently confirmed in a letter dated August 3, 2020 (NYSDEC, 2020c). A detailed description of the system is documented in the *GCTS OM&M Manual* (Tetra Tech, 2021b).

A more detailed explanation of the GCTS, including the current system layout, can be found in Appendix B.

1.4 SUB-SLAB DEPRESSURIZATION SYSTEM HISTORY

In February 2006, sub-slab soil gas and indoor air samples were collected at multiple locations inside occupied structures in the Solvent Dock Area where groundwater was known to be impacted by VOCs. VOCs including primarily tetrachloroethene (PCE) and trichloroethene (TCE) were detected in the soil gas beneath the main building, as presented in the *Vapor Intrusion Study Report* (EarthTech, 2006). Concentrations of VOCs in sub-slab soil gas samples were greater than NYSDOH guidance levels that required mitigation measures to be implemented (in accordance with NYSDOH's then-current *Public Comment Draft, Guidance for Evaluating Soil Vapor Intrusion in the State of New York, February 2005*).

Additional sub-slab soil gas and indoor air samples were collected in 2007 in the eastern portion of the main building. Based on these results, ARCADIS recommended re-sampling and installing an SSDS. In October and November 2007, supplemental sub-slab soil gas and indoor air sampling was conducted to:

- Confirm previous results;
- Better understand sub-slab soil gas and indoor air quality; and
- Further define areas in the building that might require mitigation as part of the planned ICM for the ConMed facility.

Results of this study were submitted to NYSDEC in the *Addendum to the Vapor Intrusion Study Report for the Solvent Dock Area* (ARCADIS, 2008a). The study results identified elevated TCE in sub-slab soil gas and indoor air at concentrations that could warrant mitigation within the eastern/northeastern portion of the ConMed facility, in accordance with *Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006* (NYSDOH, 2006).

The SSDS was initially installed in November 2007 and was operated as a pilot test to evaluate the system's effectiveness. The initial pilot system extracted soil vapor from two sub-slab depressurization sumps (SDSs): SDS-1 and SDS-2. Based on the pilot test results and supplemental indoor air/sub-slab analytical results (*Revised Work Plan for the Interim Corrective Measure*; ARCADIS, 2008b), the pilot-test system was expanded as part of an ICM plan to include an additional SDS location (SDS-3), a variable-frequency motor drive (VFD), and a programmable logic controller (PLC) equipped with a cellular modem. Following the SSDS startup/shakedown period, the SSDS began continuous operation in July 2008. The ICM operated from July 2008 through November 2010.

As presented in the *Sub-Slab Depressurization System 100% Design Work Plan* (ARCADIS, 2010), OM&M activities during 2009 indicated that the ICM SSDS was not meeting operational goals (specifically in the area north of SDS-1 and west of SDS-3), thereby requiring system expansion and modification. In September 2010, SSDS upgrade activities (which included the installation of additional depressurization sumps SDS-4 through SDS-7 and upgrades to other major components of the system) were initiated. The purpose of these upgrades was to expand the capture area of sub-slab vapor from areas of the main building not currently being mitigated by the system.

Upgrade activities continued into February 2011, at which point the expanded system began full-scale operation.

As presented in the *Summary Report for SSDS Pilot Test in Area of VMP-7A Solvent Dock Area* (ARCADIS, 2013a), a pilot test was conducted to address the vacuum performance of the existing SSDS in the vicinity of vacuum monitoring point (VMP) VMP-7A (*note: for purposes of this report, vacuum and differential pressure are reported as inches of water column [in. W.C.] and expressed as a positive value*). The objective of the SSDS pilot test was to identify an SDS location(s) that would induce a vacuum greater than 0.004 in. W.C. in the sub-slab soil environment, at a sufficient radius to capture the area of VMP-7A and consistent with the design parameters (as presented within the *Sub-Slab Depressurization System 100% Design Work Plan*; ARCADIS, 2010).

This was accomplished by the installation of soil vapor extraction point SDS-8. The pilot test results indicated that operation of SDS-8 created a sub-slab vacuum at VMP-7A well in excess of the target performance criteria of 0.004 in. W.C. of vacuum. As a result, permanent piping and infrastructure incorporating SDS-8 into the full-scale SSDS was installed with approval from NYSDEC. SDS-8 was permanently brought online on October 23, 2013, as detailed in the *Summary Report for Startup of SDS-8* (ARCADIS, 2014).

The differential pressures recorded at VMP-8C during OM&M activities in 2019 and early 2020 exhibited vacuums below the design criteria of 0.004 inches of water column (in. W.C.) for a portion of the 24-hour tests. In order to improve the vacuum readings at VMP-8C, an *SSDS Expansion Work Plan* dated September 2020 (Tetra Tech, 2020) was prepared to discuss the installation of a new depressurization sump SDS-9 in the area of VMP-8C. The NYSDEC approved the *SSDS Expansion Work Plan* in a letter dated September 22, 2020 (NYSDEC, 2020). In early December 2020, permanent piping and infrastructure incorporating SDS-9 into the full-scale SSDS was completed. SDS-9 was brought online on December 15, 2020. A detailed description of the upgraded system is documented in the revised *SSDS OM&M Plan* (Tetra Tech, 2021a).

As part of optimization efforts for the SSDS, an evaluation of the influent vapor (pre-carbon) from the SSDS blower was performed using the NYSDEC Division of Air Resources (DAR)-1 policy to support the proposed removal of the vapor-phase granular activated carbon (VPGAC) treatment units. The air emission calculations were compared to the Annual Guideline Concentrations (AGCs) and Short-Term Guideline Concentrations (SGCs) identified in the July 2016 NYSDEC AGC/SGC tables in DAR-1. A comparison of the pre-carbon emission rates (pounds per hour) from the blower indicated that all the target compound constituents in the air stream were substantially less than their respective AGCs and SGCs without the need for vapor phase treatment. The Division of Air Resources (DAR), at NYSDEC Region 6, approved the shutdown of the VPGAC treatment system for the SSDS in correspondence dated October 28, 2020.

An additional optimization effort was a reduction in the system OM&M activities with a recommended modification of the vapor sampling from the individual SDSs to sampling the combined effluent vapor from the regenerative blower prior to discharge to the atmosphere. In addition, it was recommended to remove the SSDS leak detection testing of the aboveground

piping components from the OM&M procedures. The NYSDEC verbally approved the reduction of SSDS OM&M activities in a monthly call on July 1, 2020 and subsequently confirmed in a letter dated August 3, 2020 (NYSDEC, 2020).

The *2015 Annual Vapor Intrusion Study Report* recommended that the annual vapor intrusion monitoring program be discontinued in the eastern one-third of the building where the SSDS is located (Stantec, 2015a). NYSDEC and NYSDOH approved the discontinuation of the annual SVI monitoring program in the area of SSDS operation in a letter dated September 21, 2015.

In response to the NYSDEC's request in May of 2015 to evaluate the need to investigate the western portion of the facility for potential SVI, Lockheed Martin submitted a letter summarizing the existing historical data relating to potential SVI in the western portion of the building (Stantec, 2015b). Lockheed Martin agreed to perform supplemental VI investigations and submitted a work plan for additional SVI sampling in the western portion of the manufacturing facility (Stantec, 2015c). NYSDEC and NYSDOH approved the work plan in the same letter referenced above (dated September 21, 2015). SVI sampling for the western portion of the facility was performed in March 2016. The investigation findings and recommendations were summarized in a *Soil Vapor Intrusion Assessment* report and submitted to NYSDEC and NYSDOH on July 20, 2016 (Stantec, 2016d). The report was approved by NYSDEC and NYSDOH on September 22, 2016. Based on the results of the SVI assessment, no further investigations are warranted. Lockheed Martin decommissioned the vapor monitoring points in January 2017.

1.5 GROUNDWATER MONITORING HISTORY

After the installation of the GCTS, BBL subsequently developed a groundwater monitoring program to evaluate the effectiveness of the GCTS. This program, as presented in the Solvent Dock and Northern-Perimeter Ditch Area, *Ground-Water Sampling and Analysis Work Plan* (BBL, 1998), has been modified through periodic correspondence with NYSDEC to accommodate changing conditions over the project's life. ARCADIS prepared the *IGWMP* as part of the CMIP required by the Order. Since then, the *IGWMP* was revised in February 2012 (ARCADIS, 2012). Further modifications to the groundwater monitoring program were proposed in the *2015 Annual Site Management Report* (*2015 SMR*; Stantec, 2016e) and accepted by NYSDEC on May 24, 2016(Stantec, 2016c). The I*GWMP* has been revised as a draft GWMP and will be incorporated into the updated Draft *SMP*.

Lockheed Martin's investigations into the areas of concern identified at the site were presented in the 2009 *Corrective Measures Study Report* (CMS; *CMS 2009 Report*; ARCADIS, 2009). The *CMS 2009 Report* selected monitored natural attenuation (MNA) as one of the remedial alternatives to be used as a corrective measure to address site groundwater contamination. Additionally, the *CMS 2009 Report* concluded that supplemental investigations in specific areas of the site were warranted to fully characterize the extent of contamination and to confirm the effectiveness of the remedial action recommendations. These investigations are summarized in the *Former Northern Perimeter Ditch Supplemental Investigation Report* (SIR) (*FNPD SIR*; ARCADIS, 2011a), which confirmed the presence of VOC-contaminated groundwater near the FNPD and

recommended further investigation of contaminants in soil, groundwater, and soil vapor, as well as improved characterization of hydrogeologic conditions.

A feasibility study (FS) report (ARCADIS, 2011b) for the FNPD was submitted to NYSDEC in June 2011. The FS proposed selection of a combination of *in-situ* biological treatment, continued operation of the GCTS, institutional controls, and MNA as the most feasible remedial alternative for the FNPD groundwater impacts. A bioremediation pilot test, which was implemented in April 2012, evaluated the feasibility of an *in-situ* reactive zone (IRZ) using injected food-grade molasses as a carbon source to facilitate enhanced reductive dechlorination. The low permeability of the soils and the low injection flow rates observed during the IRZ pilot test demonstrated that *in-situ* biological treatment is not a viable component for full-scale application.

The FNPD 2013 *Corrective Measures Study (CMS 2013 Report*; ARCADIS, 2013b), which was prepared to address the requirements of a letter from NYSDEC to Lockheed Martin dated July 16, 2013, evaluated the performance of the ICMs operating at the facility and recommended a corrective measure alternative pertinent to the FNPD. The *CMS 2013 Report* concluded that the chlorinated VOCs in groundwater had decreased through natural attenuation processes and operation of the ICMs since monitoring began in 1996; however, certain VOCs continued to persist at concentrations above regulatory criteria. The components of the recommended corrective measures within the *CMS 2013 Report* included continued operation of the GCTS, institutional controls, and MNA. Following its submittal, the *CMS 2013 Report* was reviewed by NYSDEC for use in preparation of the SB. As described in the SB, the major components of the selected site remedy (specifically pertaining to groundwater impacts) include FNPD source-area soil removal, continued periodic groundwater monitoring, operation and maintenance of the existing GCTS, and institutional controls (in the form of a Site Management Plan). As part of the continued periodic groundwater monitoring program, a groundwater sampling event was conducted in July 2020.

2.0 ENGINEERING CONTROLS

Since remaining contamination exists at the site, ECs are required to protect human health and the environment. The ECs are described below and detailed in Appendices A through C of this SMR.

2.1 SSDS PERFORMANCE

This section of the SMR documents the following: continuous, ongoing operation and maintenance of the SSDS; monitoring of sub-slab differential pressures; quarterly influent and effluent vapor sampling, sub-slab vapor sampling, and system leak testing. Appendix A of this report summarizes the SSDS OM&M operational activities and system performance from January through December 2020 in the following sections:

- **Section 2** provides a brief history of system expansions and upgrades since the SSDS operation began, a list of all major SSDS components, and details of the main SSDS remedial operational objectives;
- **Section 3** describes operation and maintenance activities that occurred during the reporting period, including routine, non-routine, alarm response, and system modification activities;
- **Section 4** reviews daily, monthly, and quarterly monitoring activities during the reporting period;
- **Section 5** provides a summation of the SSDS 2020 performance results. Overall the system performed effectively during the reporting period, as demonstrated by the following performance criteria:
    - Sufficient radius of vacuum in the sub-slab vapor environment beneath the building floor slab maintained at or greater than 0.004 in. W.C. (with minor exceptions as detailed in Appendix A),
    - 99.76% system runtime, and
    - Contaminant mass concentrations in the system vapor effluent remained below the NYSDEC Division of Air Resources (DAR)-1 guidance values.
- **Section 6** describes 2021 goals and recommendations, including the following:
    - The goals for operation maintenance and monitoring for the SSDS in 2021 remain unchanged except that the monthly inspections will be suspended during the GCTS temporary shutdown during the optimization investigation anticipated to begin in May 2021.

2.2 GCTS PERFORMANCE

This section of the report documents the following: ongoing operation and maintenance of the GCTS; monitoring of system effectiveness; and monthly effluent sampling and quarterly influent

and effluent sampling. Appendix B of this report summarizes the GCTS OM&M activities performed from January through December 2020 in the following sections:

- **Section 2** provides a description of the GCTS process, a list of all major components, and details of the main GCTS remedial operational objectives;
- **Section 3** describes operation and maintenance activities that occurred during the reporting period, including routine, non-routine, alarm response, and system modification activities;
- **Section 4** reviews system influent, effluent, and stormwater monitoring activities during the reporting period;
- **Section 5** provides a summary of the GCTS 2020 performance results. Overall the system performed effectively during the reporting period, as demonstrated by the following performance criteria:
    - 99.96% system runtime;
    - Quarterly stormwater samples collected from the Catch Basins (CBs) contained no detectable concentrations of VOCs above their respective laboratory reporting limits (RLs), as shown in Table B-4;
    - System-effluent samples contained no detectable concentrations of VOCs above their respective laboratory RLs (as shown in Table B-2) during the reporting period;
    - Vapor-phase discharge from the VPGAC manifold (post-carbon) was below NYSDEC DAR-1 allowable annual-guidance concentrations (AGC); and
    - The site-specific goal of 95% mass removal of target VOCs (specifically 1,1-dichloroethene [1,1-DCE], cis-1,2-dichloroethene [cis-1,2-DCE], PCE, trans-1,2,-dichloroethene [trans-1,2-DCE], TCE, and vinyl chloride [VC]) in the system vapor effluent was achieved during the first 10 months of 2020. In October 2020, the NYSDEC agreed to the removal of the VPGAC treatment units. The VPGAC treatment units were bypassed on December 2, 2020 during a monthly OM&M visit.
- **Section 6** describes 2021 goals and recommendations. An additional optimization measure for the GCTS currently being prepared is the preparation of a GCTS Optimization Investigation Work Plan that includes the evaluation of the ongoing need for the system's hydraulic control through monitoring of the effects of a temporary GCTS shutdown.

2.3 COVER SYSTEM

This section of the report documents the ongoing satisfactory performance of the site cover system. Appendix C of this report summarizes the cover system inspection completed on October 21, 2020 to assess cover system conditions and performance from January through December 2020 in the following sections:

- **Section 2** provides a description of the cover system and its remedial objectives, as outlined in the SB;
- **Section 3** details the site cover system inspection completed by Tetra Tech, on October 21, 2020, with important items for the system's performance noted;
- **Section 4** reviews the system performance results. Overall the system performed effectively during the reporting period; and
- **Section 5** describes 2021 goals and recommendations, including the following:
    - Inspection will continue on an annual basis; and
    - Continued communication between ConMed, Lockheed Martin, and Lockheed Martin's Performing Contractor (PC) on any ground-intrusive or re-paving work planned for 2021 is recommended to allow for timely documentation of changes to the cover system.

3.0 INSTITUTIONAL CONTROLS

A series of ICs is required by the SB to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and (3) limit the use and development of the site to Industrial or Commercial uses only. Adherence to these ICs will be required by the EE once it is implemented. Once remediation is complete in accordance with the SB, the ICs will be implemented under the SMP. The updated *Draft SMP* will provide a more detailed description of site ICs.

4.0 GROUNDWATER MONITORING

This section of the report documents the groundwater monitoring activities performed at the site, including water level gauging and groundwater sampling for laboratory analysis. The criteria to which groundwater analytical results are compared are NYSDEC's Division of Water *Technical and Operational Guidance Series* (TOGS) 1.1.1 *Ambient Water Quality Standards and Guidance Values* (SGVs) and associated addenda (NYSDEC, 1998); April 2000 Addendum to June 1998 Division of Water Technical and Operational Guidance Series (TOGS) No. 1.1.1 (NYSDEC, 2000); Addendum to June 1998 Division of Water Technical and Operational Guidance Series (TOGS) No. 1.1.1 (NYSDEC, 2004). Groundwater monitoring is required by the SB to address the remedial objectives described in Section 1.1. Appendix D of this report summarizes the groundwater monitoring activities performed in July 2020 in the following sections:

- **Section 2** provides a brief description of site groundwater impacts, investigation history, contaminant distribution, and monitoring goals;
- **Section 3** describes the groundwater monitoring parameters, locations, and objectives of the *draft GWMP*;
- **Section 4** evaluates the results of the 2020 groundwater monitoring program, specifically the findings from each of the four *IGWMP* Objectives (1-4) and site geochemistry. Section 4 also includes a description of the data quality review;
- **Section 5** provides recommendations relative to future monitoring and evaluation of data; and
- **Section 6** lists references cited in the report.

The 2020 groundwater monitoring results indicate that groundwater quality remains stable. No sudden increases or exceedances of historical maxima were observed during 2020.

The Mann-Kendall analysis also identified statistically-significant decreasing trends for one or more analytes at five monitoring locations (PZ-6, PZ-5, MW-3, MW-4, and MW-10). Overall, the groundwater contaminant plume appears relatively stable with respect to contaminant concentrations and plume extent. Hydrogeologic conditions, including site geochemistry and groundwater flow direction, have remained consistent over the past eight years of monitoring.

4.1 RECENT PROGRAM MODIFICATIONS

In response to plume stability demonstrated by monitoring results and statistical analyses, and as part of the *2015 SMR*, Lockheed Martin proposed to change the gauging and sampling frequency from quarterly to annual, beginning in 2017, for all wells included in the monitoring program. This recommendation was accepted by NYSDEC via approval of the *2015 SMR* on May 24, 2016. The annual monitoring program was implemented in 2017, and continues to provide sufficient gauging and analytical data to fulfill the groundwater monitoring requirement directive of the SB. At the request of the NYSDEC in March 2018, ten (10) wells were sampled

and analyzed for emerging compounds Per- and polyfluoroalkyl substances (PFAS) and nine (9) wells were sampled and analyzed for 1,4-dioxane. The results of the PFAS and 1,4 dioxane sampling are summarized in the 2018 SMR. One of the replaced Objective 1 wells/piezometers installed after the FNPD excavation activities, A2-PZ-1, was analyzed for PFAS and 1,4-dioxane in July 2020. The results of the PFAS and 1,4-dioxane for A2-PZ-1 are provided in Appendix D.

4.2 RECOMMENDATIONS FOR 2021

A GCTS optimization investigation work plan (Tetra Tech, 2021c) has been prepared that proposes a storm sewer and groundwater investigation to evaluate the potential for permanent shutdown of the existing GCTS. The storm sewer and groundwater investigation is anticipated to begin in May 2021. The investigation includes the completion of two test pits and installation of eight new piezometers in the FNPD area. The GCTS will be temporarily shut down in May 2021 following installation of the new piezometers and backfilling of the test pits. Four quarterly groundwater monitoring and storm sewer monitoring events will be conducted during the temporary shutdown of the GCTS. The first quarterly monitoring event will occur in May 2021 to act as a baseline sampling event. During each quarterly monitoring event during the temporary shutdown of the GCTS, groundwater samples for VOC analysis will be collected from the existing monitoring wells and piezometers sampled during the annual groundwater sampling events, and the eight new piezometers. The GCTS may be re-started at any time during the performance of the quarterly groundwater monitoring and reporting if the data indicate that the temporary GCTS shutdown has or will adversely affect the storm sewer water quality.

5.0 REFERENCES

ARCADIS, 2008a — *Addendum to the Vapor Intrusion Study Report for the Solvent Dock Area, Former Lockheed Martin French Road Facility*. February 29, 2008.

ARCADIS, 2008b — *Revised Work Plan for the Interim Corrective Measure, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica New York*. [revised] April 30, 2008.

ARCADIS, 2009 — *Corrective Measures Study Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. March 16, 2009.

ARCADIS, 2010 — *Sub-Slab Depressurization System 100% Design Work Plan, Former Lockheed Martin French Road Facility*. February 16, 2010.

ARCADIS, 2011a — *Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. March 4, 2011.

ARCADIS, 2011b — *Feasibility Study Report, Former Northern Perimeter Ditch, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. June 13, 2011.

ARCADIS, 2012 — *Interim Groundwater Monitoring Program, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. [revised] February 2012.

ARCADIS, 2013a — *Summary Report for SSDS Pilot Test in Area of VMP-7A, Solvent Dock Area, Former Lockheed Martin French Road Facility, 525 French Road, Utica, New York.* July 2, 2013.

ARCADIS, 2013b — *Corrective Measures Study, Former Northern Perimeter Ditch, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. December 2013.

ARCADIS, 2014 — *Summary Report for Startup of SDS-8 (in the Area of VMP-7A), Solvent Dock Area, Former Lockheed Martin French Road Facility, 525 French Road, Utica, New York.* January 2014.

BBL, 1995a — *Storm Sewer Investigation Report*. May 1995.

BBL, 1995b — *Storm Sewer Basis of Design Report*.

BBL, 1998 — *Solvent Dock and Northern-Perimeter Ditch Area, Ground-water Sampling and Analysis Work Plan. [revised]. February 1998.*

Brown and Caldwell, 2018 — *100% Remedial Action Work Plan Soil Removal, Former Lockheed Martin Corporation French Road Facility, Utica, New York.* August 10, 2018.

Brown and Caldwell, 2020 — *Construction Completion Report for PCB-Impacted Soil Removal*, Former Lockheed Martin Corporation French Road Facility, Utica, New York. May 2020.

EarthTech, 2006 — *Vapor Intrusion Study Report for the Solvent Dock Area*. April 2006.

NYSDEC, 1998 — *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.

NYSDEC, 2000 — *April 2000 Addendum to June 1998 Division of Water Technical and Operational Guidance Series (TOGS) No. 1.1.1.* (originator – Scott Stoner). April 2000.

NYSDEC, 2004 — *Addendum to June 1998 Division of Water Technical and Operational Guidance Series (TOGS) No. 1.1.1.* June 2004.

NYSDEC, 2008 — *Order on Consent, Index Number: CO 6-20080321-5*. October 3, 2008.

NYSDEC, 2015 — *Final Statement of Basis, Corrective Measures Selection, Former Lockheed Martin-French Road Facility, Operable Units 01 & 02, Site No. 633036A, EPA ID No. NYD000521971, Utica, Oneida County.* March 2015.

NYSDEC, 2018 — Approval letter for the Brown and Caldwell 100% Remedial Action Work Plan, Soil Removal, Former Lockheed Martin Corporation French Road Facility, Utica, New York. August 14, 2018.

NYSDEC, 2019 — Approval letter for the Tetra Tech Remedial Action Work Plan, Former Lockheed Martin Corporation French Road Facility, Utica, New York. September 12, 2019.

NYSDEC, 2020a — Approval letter for the Brown and Caldwell Construction Completion Report for PCB-Impacted Soil Removal, Former Lockheed Martin Corporation French Road Facility, Utica, New York. September 18, 2020.

NYSDEC, 2020b — Approval letter for the Tetra Tech Construction Completion Report for the Former Northern Perimeter Ditch Soil Removal, Former Lockheed Martin Corporation French Road Facility, Utica, New York. September 18, 2020.

NYSDEC, 2020c — Approval letter for the OM&M Modifications, Former Lockheed Martin Corporation French Road Facility, Utica, New York. August 3, 2020.

NYSDEC, 2020d — Approval letter for the removal of VPGAC Treatment, Former Lockheed Martin Corporation French Road Facility, Utica, New York. October 28, 2020.

NYSDOH, 2006 — *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. October 2006.

Stantec, 2015a — *2015 Annual Vapor Intrusion Study, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. August 24, 2015.

Stantec, 2015b — *Assessment of Potential Soil Vapor Intrusion, Western Portion of Manufacturing Facility, Former Lockheed Martin French Road Facility, 525 French Road, Utica, New York, NYSDEC Site No. 633036A*. August 24, 2015.

Stantec, 2015c — *Work Plan for Soil Vapor Intrusion Sampling, Western Portion of Manufacturing Facility, Former Lockheed Martin French Road Facility, 525 French Road, Utica, New York, NYSDEC Site No. 633036A*. September 8, 2015.

Stantec, 2016a — *Draft Excavation Initial Design Investigation Report, Former Lockheed Martin French Road Facility, Utica, New York*. November 9, 2016.

Stantec, 2016b — *Draft Interim Site Management Plan, Former Lockheed Martin French Road Facility, Solvent Dock Area and West Lot, Oneida County, Utica, New York, NYSDEC Site Numbers: 633036 and 633036A*. July 2016.

Stantec, 2016c — *Interim Groundwater Monitoring Program, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. [revised] May 23, 2016.

Stantec, 2016d — *Soil Vapor Intrusion Assessment, Western Building Areas, Former Lockheed Martin French Road Facility, Utica, New York*. July 20, 2016.

Stantec, 2016e — *2015 Annual Site Management Report, Former Lockheed Martin French Road Facility, Utica, New York*. March 10, 2016.

Stantec, 2017a — *Excavation Initial Design Investigation Report, Former Lockheed Martin French Road Facility, Utica, New York*. January 4, 2017.

Tetra Tech, 2019 — *Remedial Action Work Plan*, Former Lockheed Martin Corporation French Road Facility, Utica, New York. September 17, 2019.

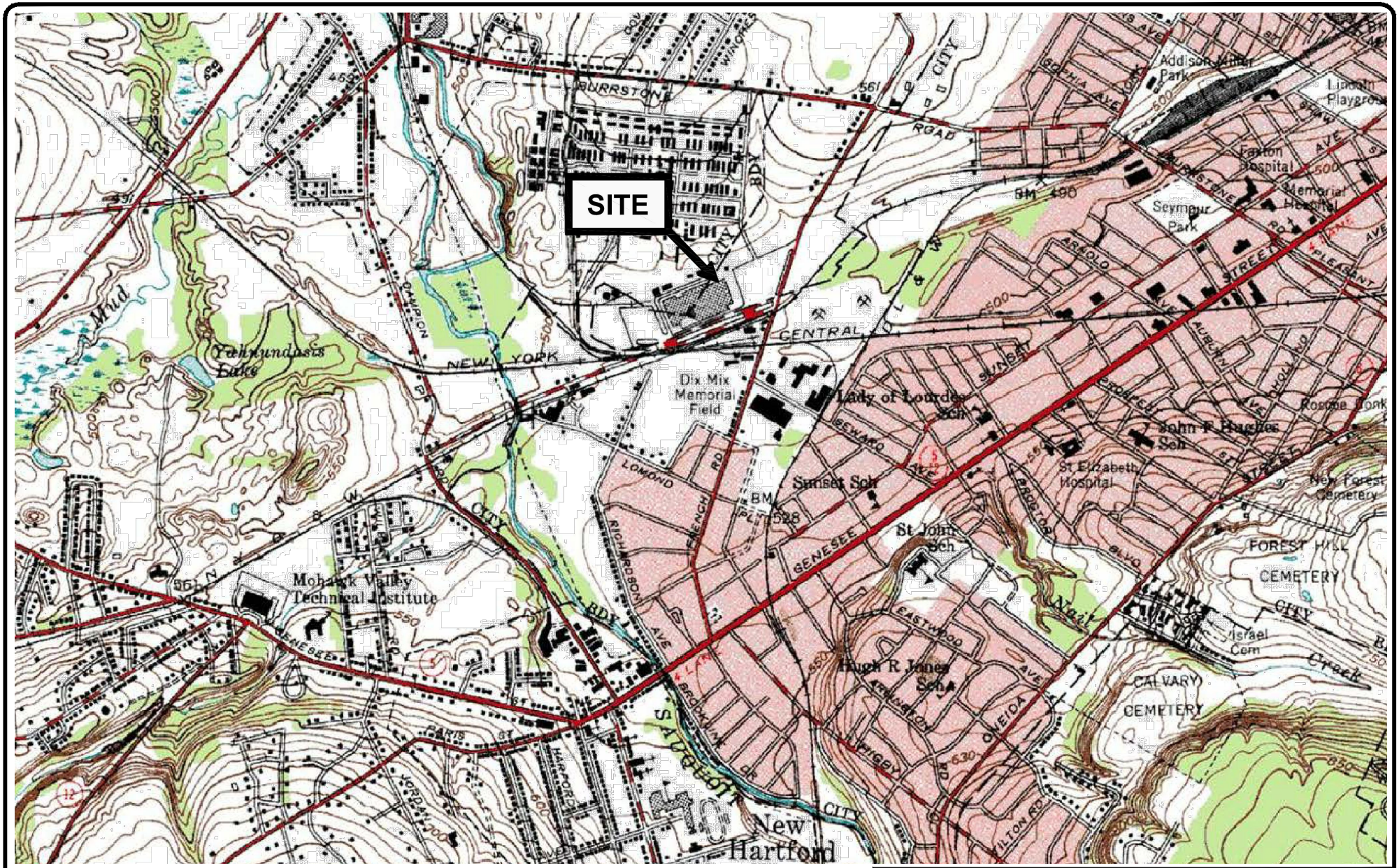
Tetra Tech, 2020 — *Construction Completion Report Former Northern Perimeter Ditch* Soil *Removal, Former Lockheed Martin French Road Facility, Utica, New York*. July 2020.

Tetra Tech, 2021a — *Sub-Slab Depressurization System Operational, Maintenance, and Monitoring Plan, Former Lockheed Martin French Road Facility, Utica, New York*. Updated February 2021.

Tetra Tech, 2021b — *Groundwater Collection and Treatment System Operations, Maintenance, and Monitoring Manual, Solvent Dock Area.* Updated February 2021.

Tetra Tech, 2021c — *GCTS Optimization Investigation Work Plan, Former Lockheed Martin French Road Facility, Utica, New York*. February 2021.

FIGURES



2020 ANNUAL SITE MANAGEMENT REPORT

FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

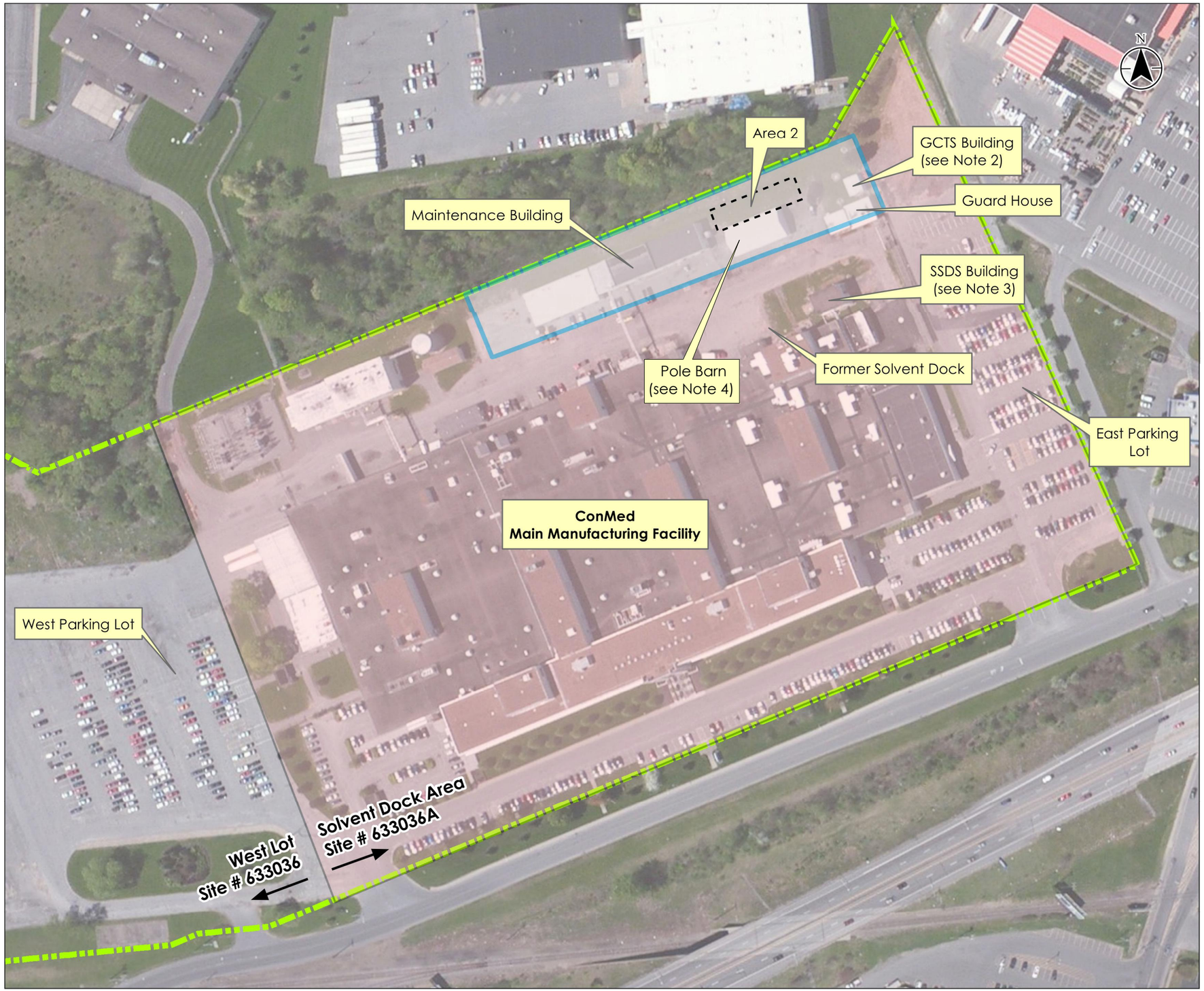
SITE LOCATION MAP

TETRA TECH

CHECKED	MRN
DRAFTED	HJW
PROJECT	117-0507677
DATE	1/9/21

FIGURE: 1

S:\CAD\LOCKHEED MARTIN\UTICA\1-9-18\FIGURE 1.DWG



Legend

- Former Northern Perimeter Ditch (FNPD)
- FNPD Proposed Excavation Areas
- Cover System Extent
- Property Line

0 150 300 Feet

Notes

1. Coordinate System:
   NAD 1983 State Plane New York Central FIPS 3102 Feet.
2. See Figure B-1 for the extent and layout of the GCTS (Appendix B: Groundwater Collection and Treatment System Operation, Maintenance, and Monitoring Performance Report).
3. See Figure A-1 for the extent and layout of the SSDS (Appendix A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report).
4. The pole barn was dismantled in October 2018 as part of the soil removal activities. The concrete slab-on-grade remains.



2020 ANNUAL SITE MANAGEMENT REPORT

FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

SITE LAYOUT

TETRA TECH

CHECKED	MRN
DRAFTED	CMP
PROJECT	117-0507677
DATE	1/17/21

FIGURE: 2

S:\CAD\LOCKHEED MARTIN\UTICA\JANUARY 2019\SITE LAYOUT_1-17-19.DWG

APPENDICES

2020 Annual Site Management Report

APPENDIX A:
Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report

Former Lockheed Martin
French Road Facility
Utica, New York



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March 2021

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ABBREVIATIONS & ACRONYMS

AGC	annual guideline concentration
AWS	air water separator
cfm	cubic feet per minute
CVOCs	chlorinated volatile organic compounds
DAR	Division of Air Resources
DCE	Dichloroethene
ft	Feet
FT	flow transmitter
GAC	granular activated carbon
GCTS	groundwater collection and treatment system
Hp	horsepower
HX	heat exchanger
HVAC	heating, ventilation and air conditioning
ICM	interim corrective measure
in. W.C.	inches of water column
lbs	pounds
Lockheed Martin	Lockheed Martin Corporation
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OM&M	operation, maintenance, and monitoring
PCE	tetrachloroethene
PLC	programmable logic controller
PT	pressure transmitter
PVC	polyvinyl chloride
SDS	sub-slab depressurization sump
SGC	Short-term Guideline Concentration
SMR	Site Management Report
SOPs	Standard Operating Procedures
SSDS	sub-slab depressurization system
SVI	soil vapor intrusion
TCE	trichloroethene

TT	temperature transmitter
USEPA	United States Environmental Protection Agency
VI	Vapor Intrusion
VC	vinyl chloride
VFD	variable frequency drive
VMP	vacuum monitoring point
VPGAC	vapor-phase granular activated carbon
VOCs	volatile organic compounds
VRV	vacuum relief valve
VT	vacuum transmitter
WFS	wet floor sensor

1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) has prepared this Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report (Report) as an Appendix to the *2020 Annual Site Management Report* for the Former Lockheed Martin Corporation (Lockheed Martin) French Road Facility (Site) at 525 French Road, Utica, New York. This Report has been prepared to meet requirements specified in the *Operation, Maintenance, and Monitoring Plan, Sub-Slab Depressurization System* (OM&M Plan; Tetra Tech, 2021). The activities described herein satisfy the requirements of the October 3, 2008 "*Order on Consent*" (CO 6-20080321-5) issued by the New York State Department of Environmental Conservation (NYSDEC; NYSDEC, 2008).

This Report documents the following: ongoing operation of the sub-slab depressurization system (SSDS), monitoring of sub-slab differential pressures, and quarterly influent and effluent vapor sampling. This report summarizes the SSDS operation, maintenance, and monitoring (OM&M) activities performed from January through December 2020.

2.0 SUB-SLAB DEPRESSURIZATION SYSTEM

2.1 HISTORY

The SSDS was initially installed in November 2007 and was operated as a pilot test to evaluate the system's effectiveness in addressing sub-slab concentrations of chlorinated volatile organic compounds (CVOCs) requiring mitigation per the New York State Department of Health (NYSDOH) Soil-Vapor-Intrusion Guidance at the Site. Based on the pilot-test results and supplemental indoor-air/sub-slab analytical results (*Revised Work Plan for the Interim Corrective Measure*, ARCADIS, 2008), the pilot-test system was expanded as part of an interim corrective measures (ICM) plan. The SSDS began continuous operation with sub-slab depressurization sump (SDS)-1, -2, and -3 in July 2008, and operated through November 2010.

As presented in the *Sub-Slab Depressurization System 100% Design Work Plan* (ARCADIS, 2010), OM&M activities during 2009 indicated that the ICM SSDS was not meeting operational goals in all areas. Beginning in September 2010, the SSDS was expanded to include four additional depressurization sumps (SDS-4 through SDS-7) and major components of the system were also upgraded to expand the capture area of sub-slab vapor from areas of the main building. Upgrade activities continued into February 2011, at which point the expanded system began full-scale operation. To improve capture around Vacuum Monitoring Point (VMP)-7A, an eighth sump (SDS-8) was installed in 2013.

Lockheed Martin completed elements of system optimization during 2020 that were reviewed and approved by the NYSDEC/NYSDOH. The optimization measures for the SSDS completed in 2020 included measures to limit the duration of shutdown in the event of a power failure, the retirement of the vapor phase carbon treatment, and installation of an additional depressurization sump. These optimization measures are described in Section 3.5.

An additional optimization effort was a reduction in the system OM&M activities with a recommended modification of the vapor sampling from the individual SDSs to only sampling the effluent vapor from the regenerative blower prior to discharge to the atmosphere. In addition, it was recommended to remove the SSDS leak detection testing of the aboveground piping components from the OM&M procedures. The NYSDEC approved the reduction of SSDS OM&M activities as discussed above verbally during a monthly call on July 1, 2020 and in a letter dated August 3, 2020 (NYSDEC, 2020).

A detailed description of the upgraded system is documented in the revised OM&M Plan (Tetra Tech, 2021). The current system layout is shown on Figure A-1.

For a more detailed SSDS history, refer to Section 1.4 of the SMR.

2.2 MAJOR SYSTEM COMPONENTS

Major components of the system are as follows:

- Nine SDSs (SDS-1 through SDS-9) are used to maintain a sub-slab vacuum within the impacted area. Each SDS was installed to a depth of two feet below the top of the concrete slab and was constructed of three-inch diameter polyvinyl chloride (PVC) well casing with 1.5 feet (ft) of 10-slot PVC well-screen. The well casing and screen were inserted into the borehole, the annular space between the well screen and the borehole was backfilled with a ⅜-inch diameter washed pea-stone filter pack to the bottom of the concrete slab, and the concrete slab was re-sealed with non-shrinking grout to the top of the slab to restore the facility floor.
- Three-inch and four-inch diameter schedule-40 PVC conveyance pipe from the SDSs to the SSDS treatment equipment in the former pH Neutralization Building.
- One moisture separator (air/water separator [AWS-200]) for condensate collection.
- One inline-air filter to protect the blower from particulates (F-201).
- A single 15-horsepower (Hp) regenerative blower (B-200), controlled by a variable frequency drive (VFD).
- A 2-Hp heat exchanger (HX-300) rated for 615 standard cubic feet per minute (cfm).
- Two vapor-phase granular activated carbon (VPGAC) vessels (VPGAC 300 and VPGAC 301). Each carbon vessel contains 1,000 pounds (lbs.) of granular activated carbon (Evoqua VoCarb® 36C).
- 25 sub-slab VMPs.
- Programmable Logic Controller (PLC) to facilitate remote system monitoring and operation.

Specific system details, including equipment specifications and model numbers can be found in the OM&M Plan (Tetra Tech, 2021). During SSDS operation, soil vapor is extracted from each SDS, which creates a vacuum under the floor slab. Refer to Figure A-1 for extraction point locations. The piping system directs the extracted soil vapor to a common manifold, and then conveys the vapor to the SSDS process equipment in the former pH Neutralization Building (Figure A-1). The soil vapor is directed through a moisture separator to remove water vapor, through an inline air filter to remove particulates, by means of the regenerative blower, then to a heat exchanger and discharged to the atmosphere. The vacuum under the floor slab mitigates the potential for soil vapor to enter the indoor air.

2.3 REMEDIAL OPERATIONAL OBJECTIVES

The SSDS operational goal is to reduce the potential for sub-slab soil vapor intrusion (SVI) into the indoor air of the manufacturing building. The system operational objectives are as follows:

- Demonstrate a sufficient radius of vacuum influence in the sub-slab soil vapor environment beneath the building floor slab. The system achieves this by creating a negative differential pressure (vacuum) in the sub-slab environment relative to the indoor air. The Site-specific goal is defined as a constant vacuum in the sub-slab, regardless of

heating, ventilation, and air conditioning (HVAC) conditions, maintained at or greater than 0.004 inches of water column (in. W.C.).

- Maintain and operate the system continuously without significant downtime.
- Demonstrate that the concentrations of target contaminants in the overall system influent vapor remain below the NYSDEC Division of Air Resources (DAR)-1 guidance values.

The operational goals, as recommended in the 2019 Annual Site Management Report (Tetra Tech, 2020), were successfully achieved during 2020 by performing the following activities:

- Monitoring the SSDS operation remotely daily to maintain virtually continuous operation, and responding to non-fatal and fatal alarms as required;
- Performing monthly physical system inspections to verify proper operation, and perform appropriate maintenance;
- Performing quarterly system OM&M, which included the following:
    - Recorded SDS vapor flowrates and vacuum levels, and differential pressure measurements at each VMP location;
    - Performed 24-hour continuous monitoring of differential pressure at select VMPs to verify that the SSDS is maintaining a continuous vacuum of 0.004 in. W.C. in the target areas;
    - Performed critical device testing to verify that the process control logic and instrumentation are functioning properly, and as designed; and
    - Collected system SDS, mid-carbon, and post-carbon (effluent) vapor samples during the January 2020 quarterly monitoring event to monitor the influent and effluent concentrations of Site-related VOCs.
    - Due to COVID-19 preventing access to the ConMed facility, the April 2020 quarterly monitoring event monitored the influent and effluent concentrations of Site-related VOCs by collecting system pre-carbon, mid-carbon, and post-carbon (effluent) vapor samples.
    - Collected system pre-carbon, mid-carbon, and post-carbon (effluent) vapor samples during the July and October 2020 quarterly monitoring event to monitor the influent and effluent concentrations of Site-related VOCs and not each individual SDS as approved by the NYSDEC.

3.0 OPERATION, MAINTENANCE, AND MONITORING ACTIVITIES

3.1 OPERATIONAL SUMMARY

The system was monitored via regular review of the daily system operational emails that are automatically generated and sent from the system PLC to system operators. System operational parameters are recorded during monthly Site inspections and quarterly system OM&M events. Table A-1 summarizes system monitoring data including: applied vacuums and extracted vapor flow rates at each SDS, induced vacuum at each of the 25 monitoring points (VMP-1A through VMP-8D), and the combined system effluent flow rate flow transmitter (FT-301). Figure A-2 provides the average differential pressures measured at VMPs as part of the quarterly Site inspections.

System runtime and down-time are summarized in Table A-2A-2. This report summarizes activities conducted during the calendar year, and system operational uptime is calculated for the calendar year. Note, however that operational data such as flow rates and mass removal are calculated using data between the dates of the last readings obtained in December 2019 and the last readings obtained in December 2020.

The SSDS operated with an approximately 99.76% run time during the reporting period, with minor scheduled maintenance and/or operational interruptions due to system alarm conditions. The system was shut down several times for scheduled routine OM&M activities throughout the reporting period, including various monthly and quarterly system inspections and/or testing. System shutdowns with durations less than three hours are not included in the system runtime calculation noted above. These shutdowns are discussed below in Section 3.56.

For every alarm occurrence an Alarm Response Log was prepared to document the alarm and any corrective actions and/or modifications made to the SSDS as a result. System alarms received during the reporting period are summarized in Section 3.6.

3.2 DAILY ROUTINE SYSTEM INSPECTIONS

Daily remote monitoring was performed during the reporting period. Monitoring included review of the daily system operational e-mails and/or logging onto the system remotely to confirm that the system was operational, that system variables were within their allowable ranges, and that no alarm conditions were present.

3.3 MONTHLY ROUTINE SYSTEM INSPECTIONS

Although the SSDS OMM calls generally for quarterly inspection and monitoring activities, certain system elements were inspected monthly in 2020, including:

- Gauge and PLC readings of various components' vacuum, temperature, and pressure;
- Normal blower operation;
- AWS, condensate collection points, and heat-trace outlet;

- Electrical usage and safety signage;
- SSDS vapor-exhaust vent screen;
- Process equipment valve positions and locks;
- Process piping and VPGAC connections; and
- Barometric pressure and ambient temperature (obtained from local weather station), noting whether barometric pressure is rising or falling.

Completed monthly OM&M log sheets are attached in Appendix A-1.

3.4 QUARTERLY SYSTEM OM&M AND INSPECTIONS

The system was monitored quarterly during the reporting period. Copies of completed quarterly log sheets are attached in Appendix A-1. Monitoring activities included collection of the monthly system data, and in addition the following data:

- Induced vacuum (instantaneous) at each VMP location;
- Applied vacuum at the blower and each SDS location;
- Extracted-vapor flow rates at each SDS location and system effluent; and
- 24-hour continuous monitoring of differential pressure at select VMPs.

The results of the system inspections are documented on the OM&M log sheets in Appendix A-1; key system parameters are summarized in Table A-1.

3.4.1 Checklist Items

In addition to the data collection noted above, the following critical system devices were inspected quarterly:

- System electrical disconnect switch;
- System hand-off-auto switches;
- Control panel indicator lights;
- Battery-operated uninterruptible power-supply;
- Electrical and safety signage;
- Inline filter (F-201);
- Vacuum transmitter located on the vacuum side of the blower B-200 (VT-201);
- Flowmeter located on the vacuum side of the blower B-200 (FT-301);
- Vacuum relief valve located on the vacuum side of the blower (VRV-200);
- High and High-High liquid-level switches located on air water separator AWS-200 tank (LSH-201 and LSHH-201);
- Pressure transmitter (PT) located on the pressure side of the blower B-200 (PT-201);
- Temperature transmitter (TT) located pre- and post- heat exchanger HX-300 (TT-201 and TT-301, respectively);
- SSDS vapor-exhaust vent screen;

- Process equipment valve locks;
- Process piping;
- Condensate collection points, and heat-trace outlet; and
- Wet Floor Sensor located below the VPGAC manifold (WFS-201).

2020 Quarterly OM&M events were performed on the following dates:

- January 20-22, 2020;
- April 6-8, 2020;
- July 7-9, 2020; and
- October 6-8, 2020.

Critical devices were tested for proper operation as described in the SSDS OM&M Manual standard operating procedures (SOPs). All devices passed the testing for each event.

3.5 NON-ROUTINE OPERATION AND MAINTENANCE ACTIVITIES

The following non-routine system OM&M activities were performed in 2020:

- A manual transfer switch was installed on June 16, 2020 to allow for the connection of a temporary portable generator to operate the SSDS in the event of a long-term power outage (i.e., greater than 48 hours).

- The results of a NYSDEC AERSCREEN dispersion modeling performed in October 2020 showed that emissions of target compounds would result in impacts of 0% and 0.2% of the SGC and AGC, respectively. Based on these results, the predicted impacts to air quality are well within acceptable levels and vapor phase treatment is not needed for the effective operation of the SSDS treatment system. Therefore, it was recommended that the VPGAC treatment units be removed; the NYSDEC approved the VPGAC treatment unit removal on October 28, 2020. The VPGAC treatment units were bypassed on December 2, 2020.

- As per the NYSDEC-approved SSDS Expansion Design Work Plan, the SSDS expansion consisting of a new sub-slab depressurization sump (SDS-9) and associated piping, was completed from December 7, 2020 to December 15, 2020. The SSDS is operating with the new SDS on-line. The summary of the start-up and testing of SDS-9 is discussed in Appendix A-4.

3.6 ALARM CONDITIONS AND SYSTEM MODIFICATIONS

Three fatal system alarms and five non-fatal alarms occurred. Fatal alarm conditions are those which result in automatic system shutdown. The cause of each fatal alarm and corresponding corrective action are summarized in Table A-2. Alarm response logs describing each alarm and response actions taken are also included in Table A-2. Below is a summary of the three fatal system alarms during 2020 and the response or system modification (if any) that was made:

- July 16, 2020 23:53 Process 10 – Post-blower vapor temperature exceeded high temperature alarm set limit. The temperature rose above 230°F, triggering a shutdown of the SSDS. Tetra Tech re-started the system remotely on July 17, 2020 at 7:35. The temperature rise is likely due the warmer temperature inside the treatment building.
- July 20, 2020 22:34 Process 10 – Post-blower vapor temperature exceeded high temperature alarm set limit. The temperature rose above 230°F, triggering a shutdown of the SSDS. Tetra Tech re-started the system remotely on July 21, 2020 at 7:35. The temperature rise is likely due to the warmer temperature inside the treatment building.
- July 23, 2020 12:03 Process 10 – Post-blower vapor temperature exceeded high temperature alarm set limit. The temperature rose above 230°F, triggering a shutdown of the SSDS. Tetra Tech visited the Site on July 23, 2020 at 16:05 and re-started the system. The temperature rise is likely due to the warmer temperature inside the treatment building. The blower speed was decreased from 50 to 46 Hz to reduce the post-blower vapor temperature to approximately 210°F.

Five non-fatal alarms occurred during the reporting period. For each occurrence Tetra Tech logged on to the system remotely to ensure proper operation. Alarm Response Logs generated for each of these alarm situations are included in Appendix A-2; the alarm descriptions and actions taken are not duplicated here.

4.0 ANALYTICAL MONITORING ACTIVITIES

4.1 QUARTERLY ANALYTICAL SAMPLING

SSDS vapor samples were collected quarterly. Samples were collected with 1-liter batch-certified Summa® canisters with quick-grab regulators. All samples were analyzed by Pace Analytical Laboratories of Melville, New York per US Environmental Protection Agency (USEPA) "Method TO-15" for VOCs.

SSDS influent vapor analytical results (collected from the individual sumps) were collected during the January 2020 quarterly OM&M visit and are summarized in Table A-3 through Table A-10. Due to COVID-19 facility access restrictions, individual sumps were not sampled in the April 2020 quarterly OM&M visit but only the pre-carbon, mid-VPGAC and effluent vapor samples were collected. The pre-carbon, mid-VPGAC and effluent analytical results are summarized in Tables A-11 through Table A-13, respectively. Time-series plots of the analytical results for the primary COCs for each sump are provided in Figure A-29 through Figure A-36. The laboratory analytical results for each sampling event are provided in Appendix A-3. As part of the optimization measures, the individual sump vapor sampling was discontinued as approved by the NYSDEC during a monthly conference call on July 1, 2020 and via a letter dated August 3, 2020. The July and October 2020 vapor sampling results only includes the pre-carbon, mid-carbon and effluent sample locations.

4.2 CONTINUOUS DIFFERENTIAL PRESSURE MONITORING

On January 20-22, February 5-6, July 7-8, July 13-14, and October 6-9, 2020, continuous monitoring of differential vacuum at select VMPs was performed using continuous logging micromanometers (OMNIGUARD™ 4). Differential vacuum was continuously monitored for a 24-hour period at each VMP location at least once during the reporting period. The micromanometer measures the differential vacuum approximately every second and performs a rolling average of the past 15 measurements. Only the maximum and minimum differential vacuum measurements over a five-minute period are recorded. Any differential vacuums measured between the maximum or minimum values during each five-minute period are not recorded during normal operation.

In the same fashion as previous years, not all VMPs are monitored during each event; each VMP was monitored at least once during the reporting period, and some VMPs were tested more than once. The differential vacuum measured during each of the events are presented on Figure A-3 through A-28 and discussed in detail below in Section 5.3.2.

4.3 PREVIOUS ANNUAL VAPOR INTRUSION MONITORING

In previous years annual vapor intrusion (VI) studies were performed that included sub-slab soil vapor and indoor air sampling to evaluate the effectiveness of the SSDS and monitor the current soil-vapor and indoor-air quality at the Site. Based on the findings of the 2015 study (Stantec, 2015) combined with historical results and the planned continued operation of the SSDS as a

mitigation measure, Lockheed Martin proposed to suspend further annual VI studies for the eastern one-third of the building where the SSDS is located. NYSDEC and NYSDOH agreed to the proposed suspension of further annual studies in its letter to Lockheed Martin dated September 21, 2015 (NYSDEC, 2015). Accordingly, no vapor intrusion study was conducted in 2020.

5.0 SSDS PERFORMANCE RESULTS

The following subsections summarize the overall performance of the SSDS.

5.1 SSDS OPERATION

The SSDS operated continuously during the reporting period except for the brief down times noted above in Section 3.46 and on Table A-2. Overall runtime was approximately 99.76%.

Average instantaneous differential vacuum readings for the 25 vapor monitoring points 1A through 8D during the quarterly monitoring events range from a vacuum of 0.005 in. W.C. to 22.367 in. W.C. Average vacuum readings for SDS-1 through SDS-8 range from 0.8 in. W.C. to 77.7 in. W.C. It should be noted that the SDS-2, SDS-3, and SDS-4 applied vacuums are lower by design due to their higher extracted vapor flow rates. The average combined system influent flow rate for 2020 was approximately 85.8 scfm. Refer to Section 5.3.1 for more details.

The cumulative VOC mass removed by the SSDS was calculated based on the combined influent concentrations (Table A-3 through Table A-10) and calculated flow rates (Table A-1) and the pre-carbon concentrations and total system flow rates (Table A-11). Although the intended purpose of the system is to minimize vapor intrusion into indoor air, the system is also removing VOC mass from the sub-slab area. Cumulative VOC-mass removed from the sub-slab area is summarized in Table A-144. From the start of SSDS operations in July 2008 through December 2020, the system has removed 10.296 pounds of target VOCs. The average percentage of target VOCs adsorbed by the VPGAC during the reporting period was 98.3%. The VOC concentrations emitted in the SSDS effluent (post-carbon) over the reporting period were used, along with historic concentrations, to find maximum effluent concentrations. From each maximum effluent concentration an actual annual impact value was calculated for each contaminant. When evaluated against the allowable short-term guideline concentration (SGC) and annual guideline concentration (AGC) values in NYSDEC DAR-1, there were no exceedances. The individual VOCs emitted their historical maximum effluent concentrations, actual annual impact values, and AGCs and SGCs, as per NYSDEC DAR-1, are shown in Table A-155.

As discussed in Section 2.0, the air discharge from the regenerative blower does not need to be treated with the VPGAC treatment units as per the NYSDEC correspondence dated October 28, 2020.

5.2 ANALYTICAL RESULTS

Vapor analytical data for sump, pre-carbon, mid-carbon, and system effluent samples are summarized in Table A-3 through Table A-13. Figure A-2929 through Figure A-36 show plots of influent vapor VOC concentration versus time for TCE, PCE, total dichloroethene (DCE; values represent combined concentrations of 1,1-DCE, cis-1,2-DCE, and trans-1-2, DCE) and VC at each SDS location. Figure A-3837 through Figure A-39 depict VOC concentrations with time for the pre-carbon, mid-carbon and effluent vapor samples, respectively. The following summarizes findings from these analyses:

Influent (Sump) Samples

- Sumps SDS-1 through SDS-3 have been in operation since 2008. In that time, these three sumps have typically demonstrated decreasing trends with some VOCs showing temporary increases at times. The January 2020 VOC results for SDS-1, SDS-2, and SDS-3 are comparable to the 2019 results but with a decrease in SDS-1.

- Sumps SDS-4 through SDS-7 have been in operation since 2011. SDS-4 through SDS-7 were like SDS-1 through SDS-3 and demonstrated decreasing trends with some VOCs showing temporary increases at times. The January 2020 VOC results for SDS-4 to SDS-7 are comparable to the 2019 results with slight decreases.

- Sump SDS-8 has been operational since Quarter 4 of 2012 and has shown stable VC and DCE concentrations since then. The January 2020 VOC result for SDS-8 is comparable to the 2019 result.

- During the 2020 reporting period, PCE is the target VOC with the highest concentrations in sump samples at SDS-1, -2, -3, -4, -6, and -8. TCE is the target VOC with the highest concentration at SDS-5. At SDS-7, no target VOC was clearly the highest concentration.

- Based on the January 2020 sample results, the vapor influent total target VOC (1,1-DCE, cis-1,2-DCE, PCE, trans-1,2-DCE, VC, and TCE) concentrations from each SDS location, calculated from Table A-14, are included below:

SUMP	2019 Average Influent Concentration (µg/m³)	January 2020 Influent Concentration (µg/m³)	Increase/ Decrease	Percentage
SDS-1	1,443.8	770.5	Decrease	53
SDS-2	68.6	47.5	Decrease	69
SDS-3	20.73	16.6	Decrease	20
SDS-4	157.95	144.6	Decrease	8.5
SDS-5	10.75	6.9	Decrease	64
SDS-6	4.98	3.0	Decrease	40
SDS-7	3.10	2.09	Decrease	33
SDS-8	72.08	72.50	Increase	1.5

Mid-Carbon and Effluent Samples

The existing 1,000 lb. carbon units were installed in 2011 (the two smaller carbon units used on the prior system were taken off-line at that time). The carbon in the new 1,000-lb units was replaced in May of 2015, which was the first carbon change-out for these units. The carbon was replaced in August 2018. Since the change-out in August 2018, the mid-carbon and carbon effluent sample results for TCE, PCE, and total DCE concentrations have remained stable at low concentrations (See Tables A-12 and A-13 and Figures A-38 and A-39).

5.3 DIFFERENTIAL PRESSURE MONITORING RESULTS

As discussed in Section 4, differential pressure between the indoor air and sub-slab environment was measured at each VMP and at each sump during the quarterly events. The differential pressures recorded at each VMP were used to monitor performance of the system and its ability to maintain the desired vacuum in the soil vapor beneath the building floor slab. The differential pressures recorded are discussed in detail below.

5.3.1 Instantaneous Measurement

Instantaneous differential pressures were recorded at each VMP with a handheld digital micromanometer; these data are summarized and shown on Table A-1. The average instantaneous differential pressure values for each VMP are shown on Figure A-2. Note that the differential pressure observed at VMP locations may reflect influence by more than one SDS location.

The area of vacuum influence measured during this reporting period is like the area of influence measured in 2019. The area of influence induced by Sumps 1 through 7 continues to include the eastern and northern Molding Facilities, CET Room in the north, and a main hallway and Warehouse Area J to the south and east. With the installation of SDS-8 at the end of 2013, the applied vacuum in the Warehouse Area J room was strengthened and the system's overall area of influence expanded to include the Molding Offices and a portion of the Molding Raw Material Storage Room to the south. Average readings from 2020 of VMP-8C and VMP-8D show that these points appear to be located at the southern extent of the area of vacuum influence generated by SDS-7 and SDS-8. Figure A-2 depicts this data on a map of the system layout. Table A-16 shown below, summarizes the average instantaneous vacuum readings collected during the quarterly monitoring events as well as the distance and direction of VMPs relative to associated sumps. Please note that the average instantaneous vacuum readings were calculated using the quarterly monitoring events and does not include the effects of the December 2020 installation of the new point SDS-9 (Refer to Appendix A-4 for a detailed summary of the start-up and testing of SDS-9).

Table A-16 SDS/VMP Location and Instantaneous Differential Pressure Data

Sump	Associated VMPs	Distance	Direction	2020 Avg. Vacuum (in. W.C.)
SDS-1	VMP-1A	17ft	E	0.015
	VMP-1B	33ft	W	0.263
	VMP-1C	33ft	S	0.112
	VMP-4*	77ft	S	0.021
SDS-2	VMP-2A	29ft	N	0.059
	VMP-2B	31ft	S	0.113
	VMP-2C	42ft	W	0.108
SDS-3	VMP-3C	17ft	N	0.035
	VMP-3B	26ft	S	0.015
	VMP-3D	49ft	SE	0.025
SDS-4	VMP-3E	24ft	NW	0.015
SDS-5	VMP-5	26ft	SE	0.715
	VMP-3A	29ft	NE	0.067
	VMP-5A	38ft	W	0.068
	VMP-5B	43ft	N	0.037
SDS-6	VMP-6A	35ft	W	0.810
	VMP-6B	35ft	S	0.264
	VMP-6	55ft	N	0.206
SDS-7	VMP-7	44ft	N	0.709
	VMP-7B	41ft	E	0.133
	VMP-8D	43ft	S	0.023
SDS-8	VMP-7A	3ft	S	22.367
	VMP-8A	15ft	NW	2.716
	VMP-8B	19ft	S	16.000
	VMP-8C	76ft	SE	0.005

* VMP-4 is also 77 ft. from SDS-2, in the NW direction.

5.3.2 Continuous Datalogging

In addition to recording instantaneous differential pressures, and as discussed in Section 4.2, continuous datalogging micromanometers were used during quarterly events to monitor differential pressure over a 24-hour period. Every VMP was tested at least once and some were

tested multiple times during the year, in accordance with the recommendations of the 2014 OM&M Annual Report. This data was obtained to complement the instantaneous readings and to observe potential variations in sub-slab vacuum due to HVAC system operation, variation in barometric pressure, or other factors.

The 24-hour continuous data generally indicate that vacuum varies slightly over the course of a day at certain VMPs, as shown in several of the plots included in Figure A-3 through A-28. The data indicate that the SSDS performance may be slightly affected by HVAC, barometric pressure, or other external influences at some locations.

The differential pressures recorded at each VMP, as described above, demonstrate that the SSDS is providing a sufficient vacuum in the sub-slab environment to mitigate the potential migration of sub-slab soil gas to indoor air. Minor exceptions were noted, as follows:

- Due to a malfunction error with the datalogger, the 24-hour test for VMP-1A was conducted in early February 2020 for the January OM&M inspection visit. During the 24-hour test, a number of vacuum data points were below the threshold criteria. During the February 2020 OM&M inspection, the instantaneous vacuum reading at VMP-1A was 0.008 in. W.C. During the 24-hour tests in July and October 2020, VMP-1A met the requisite vacuum for the duration of the tests.
- VMP-8C in January 2020 exhibited data points with vacuums below the threshold criteria for several short duration measurements. During the 24-hour tests in July and October 2020, VMP-8C exhibited data points below the threshold criteria for several temporary, short duration measurements. This may be related to the transient room air conditions affected by the HVAC system operation and position of various doors. The operation of the SSDS with the new sump SDS-9 on-line has significantly improved the vacuum at VMP-8C (Refer to Appendix A-4).

6.0 2021 GOALS AND RECOMMENDATIONS

The information presented in this report indicates that the SSDS has generally operated as designed, with the minor, short-duration exceptions based on the testing results at 2 of the 25 VMPs. These minor, temporary exceptions were not considered indicative of inadequate system vacuum. As discussed in Section 2.1, the SSDS was expanded in December 2020 with the installation of a new sump, SDS-9.

Continued operation, maintenance, and monitoring activities will be implemented during 2021, and are described in the sections below. Please note that the monthly inspections will be suspended during the groundwater collection and treatment system (GCTS) optimization investigation anticipated to begin in May 2021. As part of the optimization investigation, the GCTS will be temporarily shutdown in May 2021 for approximately one year (Refer to Section 6.0 of Appendix B of the 2020 SMR for more detail).

6.1 GOALS

The SSDS 2021 remedial and operational goals remain unchanged from those noted in Section 2.3. The SSDS operation will continue to be monitored via the daily system data received from the PLC, monthly visual inspections (until May 2021), quarterly testing, and prompt response to alarms.

The operational data to be collected include:

- Review of the daily automated system operation status email logs to ensure virtually continuous operation of the SSDS;
- Monthly system physical inspection to verify the operation of the system and to perform any minimal maintenance required to maintain proper operation (e.g., inspection, draining of condensate, etc.) will be performed until May 2021;
- Quarterly system inspection information and required OM&M and system performance monitoring data, including the recording of flows, pressures, temperatures, and differential pressure measurements at SDSs and VMPs to verify the performance of the system;
- A vapor sample of the system effluent will be collected during each quarter to monitor the mass removal of Site-related VOCs and confirm compliance with the NYSDEC Division of Air Resources;
- Quarterly 24-hour continuous monitoring of differential pressure at eight to ten select VMPs using continuous logging micromanometers to verify the system performance goal of maintaining a continuous vacuum of 0.004 in. W.C. in the areas of the Site noted above in Section 2.3;
- Quarterly critical device testing to verify that the control logic and instrumentation are functioning properly and as designed.

6.2 RECOMMENDATIONS

Our review and analysis of SSDS monitoring data for the 2020 reporting period indicates that the system is successful at mitigating sub-slab impacts and the optimization measures conducted in 2020 have had a positive effect on the operation of the SSDS. Recommendations for the next reporting period (January–December 2021) include:

- Continue operation of the SSDS;
- Continue system performance vacuum monitoring and effluent sampling;
- Continue preventive maintenance to maintain system reliability;
- Removal and proper disposal of the vapor phase carbon in the vapor treatment units;
- Update the OM&M Plan as needed to include any system modifications.

7.0 REFERENCES

ARCADIS, 2008 — *Revised Work Plan for the Interim Corrective Measure, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. [revised] April 30, 2008.

ARCADIS, 2010 — *Sub-Slab Depressurization System 100% Design Work Plan, Former Lockheed Martin French Road Facility, Utica, New York*. February 16, 2010.

NYSDEC, 2008 — *Order on Consent, Index # CO 6-20080321-5, Site Code # 633036A*. October 3, 2008.

NYSDEC, 2015 — *Re: 2015 Annual Vapor Intrusion Study and Work Plan for Soil Vapor Intrusion Sampling; Former Lockheed Martin French Road Facility; Utica, Oneida County, New York; Site No. 633036A*. September 21, 2015.

NYSDEC, 2020 — *Approval letter for the OM&M Modifications*, Former Lockheed Martin Corporation French Road Facility, Utica, New York. August 3, 2020.

Stantec, 2015 — *2015 Annual Vapor Intrusion Study, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. August 2015.

Tetra Tech, 2020 — *2019 Annual Site Management Report, Former Lockheed Martin French Road Facility, Utica, New York*. March 2020.

Tetra Tech, 2021 — Sub Slab Depressurization System Operational, Maintenance, and Monitoring Plan, Former Lockheed Martin French Road Facility, Utica, New York. February 2021.

TABLES

Table A-1 Sub-Slab Depressurization System Monitoring Data
Former Lockheed Martin French Road Facility, Utica, New York

Date	Pressure (In. W.C.)								Combined Influent Flow Rate (scfm)[1]	Differential Pressure at VMPs [In. W.C.]																							
	SDS-1	SDS-2[5]	SDS-3	SDS-4[3]	SDS-5	SDS-6	SDS-7	SDS-8		1A	1B	1C	2A	2B	2C	3A	3B	3C	3D	3E	4	5	5A	5B	6	6A	6B	7	7A	7B	8A	8B	8C	8D
07/17/08	-20.5	-19.8	-19.0	-	-	-	-	-	102	0.004	-0.080	-0.035	-1.281	-3.516	-3.046	0.005	-0.019	-0.011	-0.014	0.012	-	-	-	-	-	-	-	-	-	-	-	-	-
08/12/08	-28.0	-28.0	-26.0	-	-	-	-	-	55	0.018	-0.087	-0.014	-0.370	-1.028	-	0.020	-0.017	-0.007	-0.011	0.020	-	-	-	-	-	-	-	-	-	-	-	-	-
09/11/08	-28.0	-28.0	-26.0	-	-	-	-	-	78	0.015	-0.101	-0.021	-0.236	-0.657	-0.554	0.009	-0.035	-0.024	-	0.010	-	-	-	-	-	-	-	-	-	-	-	-	-
09/25/08	-25.5	-26.0	-23.8	-	-	-	-	-	76	0.000	-0.082	-0.031	-0.362	-0.974	-0.828	0.004	-0.040	-0.033	-0.040	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
10/10/08	-21.0	-22.0	-18.0	-	-	-	-	-	81	-0.032	-0.011	-0.063	-0.317	-0.833	-0.711	-0.003	-0.058	-0.043	-0.052	-0.006	-	-	-	-	-	-	-	-	-	-	-	-	-
11/17/08	-22.3	-23.0	-19.7	-	-	-	-	-	86	0.000	-0.052	-0.033	-0.357	-0.662	-0.807	-0.003	-0.052	-0.034	-0.047	-0.005	-	-	-	-	-	-	-	-	-	-	-	-	-
04/07/09	-18.0	-19.0	-15.5	-	-	-	-	-	91	0.000	-0.040	-0.025	-0.593	-1.317	-1.483	0.003	-0.044	-0.028	-0.041	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
05/05/09	-18.0	-20.0	-16.0	-	-	-	-	-	91	0.000	0.000	-0.009	0.000	-0.034	-1.082	-0.030	-0.026	-0.042	0.012	-0.010	-	-	-	-	-	-	-	-	-	-	-	-	-
05/29/09	-16.0	-17.8	-17.0	-	-	-	-	-	91	-0.005	-0.233	-0.031	-0.642	-1.745	-1.613	0.000	-0.052	-0.039	-0.044	-0.005	-	-	-	-	-	-	-	-	-	-	-	-	-
07/01/09	-18.7	-18.2	-14.0	-	-	-	-	-	90	0.008	-0.184	-0.014	-0.681	-1.856	-1.608	0.000	-0.048	-0.035	-0.032	0.006	-	-	-	-	-	-	-	-	-	-	-	-	-
08/14/09	-19.0	-18.0	-14.0	-	-	-	-	-	88	0.000	-0.189	-0.010	-0.755	-1.980	-1.305	0.000	-0.037	-0.040	-0.039	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
09/30/09	-19.0	-13.0	-7.0	-	-	-	-	-	100	0.000	-0.198	-0.033	-0.739	-2.002	-1.147	-0.002	-0.038	-0.040	-0.043	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
10/09/09	-19.0	-12.9	-7.3	-	-	-	-	-	99	-0.004	-0.217	-0.030	-0.708	-2.053	-1.758	-0.002	-0.036	-0.041	-0.050	-0.006	-	-	-	-	-	-	-	-	-	-	-	-	-
11/18/09	-18.0	-14.0	-6.5	-	-	-	-	-	98	0.000	-0.201	-0.029	-0.750	-2.034	-1.155	0.000	-0.037	-0.028	-0.035	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
12/21/09	-17.5	-13.0	-6.5	-	-	-	-	-	97	0.000	-0.107	-0.026	-0.762	-2.085	-1.118	0.000	-0.036	-0.021	-0.031	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
01/12/10	-17.8	-13	-7.0	-	-	-	-	-	93	0.000	-0.025	-0.038	-0.777	-2.110	-1.158	-0.004	-0.046	-0.030	-0.042	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
02/03/10	-17.5	-13	-6.5	-	-	-	-	-	111	-0.011	-0.157	-0.027	-0.759	-1.566	-1.835	-0.003	-0.040	-0.023	-0.035	-0.008	-	-	-	-	-	-	-	-	-	-	-	-	-
03/03/10	-17.5	-13	-6.5	-	-	-	-	-	127	0.003	-0.136	-0.026	-0.752	-2.059	-1.794	0.003	-0.043	-0.026	-0.036	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
04/07/10	-17.0	-18.0	-7.0	-	-	-	-	-	118	0.004	-0.224	-0.032	-0.755	-2.074	-1.809	-0.007	-0.047	-0.033	-0.042	-0.003	-	-	-	-	-	-	-	-	-	-	-	-	-
05/05/10	-17.0	-18.0	-7.0	-	-	-	-	-	82	-0.008	-0.180	-0.031	-0.760	-2.101	-1.845	-0.004	-0.043	-0.029	-0.041	-0.007	-	-	-	-	-	-	-	-	-	-	-	-	-
06/03/10	-17.0	-17.9	-6.8	-	-	-	-	-	81	-0.006	-0.162	-0.033	-0.748	-1.317	-1.807	-0.010	-0.037	-0.025	-0.042	-0.009	-	-	-	-	-	-	-	-	-	-	-	-	-
07/08/10	-17.0	-18.0	-15.0	-	-	-	-	-	86	-0.003	-0.164	-0.031	-0.736	-1.985	-1.766	-0.004	-0.039	-0.035	-0.041	-0.005	-	-	-	-	-	-	-	-	-	-	-	-	-
08/05/10	-17.8	-18.0	-15.2	-	-	-	-	-	85	0.000	-0.156	-0.040	-0.765	-2.073	-1.825	0.000	-0.049	-0.034	-0.040	-0.004	-	-	-	-	-	-	-	-	-	-	-	-	-
09/07/10	-17.5	-18.0	-16.0	-	-	-	-	-	86	-0.004	-0.171	-0.045	-0.776	-2.098	-1.861	0.000	-0.044	-0.032	-0.041	-0.003	-	-	-	-	-	-	-	-	-	-	-	-	-
10/06/10	-18.5	-19.0	-16.0	-	-	-	-	-	87	0.018	-0.140	-0.048	-0.807	-2.117	-1.879	0.000	-0.048	-0.142	-0.041	-0.004	-	-	-	-	-	-	-	-	-	-	-	-	-
11/02/10	-20.0	-21.0	-19.0	-	-	-	-	-	90	0.006	-0.160	-0.052	-0.824	-2.156	-1.892	-0.003	-0.040	-0.115	-0.037	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-
12/30/10[2]	-52.0	-8.0	-14.0	-	-	-	-	-	58	0.000	-0.395	-0.111	-0.540	-1.500	-1.400	0.006	-0.012	-0.036	-0.008	0.012	-	-	-	-	-	-	-	-	-	-	-	-	-
01/05/11	-56.0	-1.4	-0.8	-1.0	-36.7	-54.1	-38.5	-	92	-0.003	-0.419	-0.114	-0.105	-0.261	-0.238	-0.083	-0.008	-0.018	-0.015	-0.011	-0.035	-0.127	-0.014	-0.003	-0.080	-0.009	-0.025	-0.020	0.000	-0.072	-	-	-	-
02/28/11	-67.8	-0.5	-1.9	-0.6	-55.5	-66.2	-66.2	-	64	-0.009	-0.490	-0.135	-0.049	-0.119	-0.110	-0.041	-0.013	-0.035	-0.018	-0.005	-0.012	-0.406	-0.041	-0.022	-0.190	0.000	-0.030	-0.028	0.000	-0.109	-	-	-	-
03/04/11	-68.2	-1.0	-0.6	-1.5	-58.0	-67.5	-67.0	-	82	-0.007	-0.525	-0.138	-0.091	-0.020	-0.180	-0.046	-0.012	-0.028	-0.014	-0.005	-0.037	-0.525	-0.041	-0.024	-0.200	-0.008	-0.049	-0.022	0.000	-0.118	-	-	-	-
04/04/11	-67.0	-1.0	-3.0	-1.0	-57.0	-67.0	-66.0	-	77	-0.015	-0.514	-0.139	-0.035	-0.094	-0.059	-0.047	-0.012	-0.032	-0.017	-0.013	-0.030	-0.133	-0.054	-0.033	-0.215	-0.045	0.055	-0.135	0.000	-0.098	-	-	-	-
05/12/11	-67.0	< -1.0	-3.0	< -1.0	-55.0	-65.0	-65.5	-	78	-0.022	-0.499	-0.136	-0.050	-0.118	-0.109	-0.050	-0.010	-0.030	-0.016	-0.009	-0.034	-0.211	-0.044	-0.031	-0.210	-0.006	-0.031	-0.018	0.000	-0.106	-	-	-	-
06/02/11	-70.0	< -1.0	-3.0	< -1.0	-57.0	-66.0	-70.0	-	83	-0.026	-0.520	-0.134	-0.055	-0.123	-0.100	-0.050	-0.011	-0.018	-0.018	-0.018	-0.049	-0.290	-0.041	-0.033	-	-0.025	-0.052	-0.043	0.000	-0.106	-	-	-	-
07/06/11	-66.0	< -1.0	-4.0	< -1.0	-56.0	-67.0	-65.0	-	128	-0.014	-0.450	-0.122	-0.090	-0.093	-0.080	-0.038	-0.014	-0.042	-0.019	-0.014	-0.028	-0.542	-0.045	-0.031	-0.229	-0.004	-0.036	-0.017	0.000	-0.009	-	-	-	-
08/11/11	-67.0	< -1.0	-3.0	< -1.0	-56.0	-65.0	-66.0	-	102	-0.024	-0.428	-0.148	-0.044	-0.093	-0.087	-0.052	-0.012	-0.038	-0.022	-0.018	-0.042	-0.602	-0.056	-0.032	-0.235	-0.023	-0.037	-0.022	0.000	-0.096	-	-	-	-
09/08/11	-72.0	-0.437	-1.35	-0.632	-55.0	-63.5	-63.5	-	78	-0.023	-0.550	-0.152	-0.047	-0.100	-0.094	-0.050	-0.011	-0.038	-0.020	-0.013	-0.037	-0.545	-0.046	-0.030	-0.230	-0.003	-0.027	-0.014	0.000	-0.101	-	-	-	-
10/12/11	-69.0	-0.430	-3.00	-0.590	-58.0	-68.0	-68.0	-	62	-0.010	-0.469	-0.147	-0.039	-0.097	-0.091	-0.060	-0.011	-0.033	-0.019	-0.018	-0.032	-0.412	-0.047	-0.032	-0.005	-0.011	-0.024	-0.017	0.000	-0.096	-	-	-	-
11/01/11	-71.0	-0.431	-1.33	-0.630	-61.0	-71.0	-71.0	-	76	-0.021	-0.539	-0.161	-0.023	-0.100	-0.061	-0.056	-0.016	-0.035	-0.020	-0.014	-0.038	-0.588	-0.480	-0.029	-0.230	-0.010	-0.026	-0.017	0.000	-0.109	-	-	-	-
12/01/11	-73.0	-0.282	-3.00	-0.599	-62.0	-72.0	-72.0	-	82	-0.019	-0.545	-0.160	-0.024	-0.048	-0.054	-0.067	-0.010	-0.028	-0.016	-0.012	-0.035	-0.641	-0.066	-0.041	-0.242	-0.021	-0.033	-0.019	-0.002	-0.112	-	-	-	-
01/11/12	-72.0	-0.554	-2.75	-0.587	-61.8	-70.0	-71.0	-	76	-0.017	-0.559	-0.158	-0.045	-0.094	-0.090	-0.060	-0.006	-0.015	-0.011	-0.008	-0.046	-0.624	-0.053	-0.031	-0.235	-0.029	-0.036	-0.028	-0.006	-0.118	-	-	-	-
02/09/12	-72.8	-0.797	-2.75	-0.594	-62.3	-72.0	-72.0	-	74	-0.018	-0.059	-0.160	-0.070	-0.150	-0.146	-0.065	-0.012	-0.023	-0.015	-0.009	-0.046	-0.432	-0.053	-0.029	-0.238	-0.016	-0.036	-0.025	-0.004	-0.124	-	-	-	-
03/01/12	-72.8	-0.870	-3.00	-0.624	-64.0	-72.3	-72.0	-	68	-0.008	-0.592	-0.160	-0.076	-0.173	-0.167	-0.062	-0.011	-0.025	-0.015	-0.008	-0.052	-0.628	-0.058	-0.031	-0.239	-0.020	-0.033	-0.026	-0.004	-0.123	-	-	-	-
04/03/12	-75.5	-0.828	-1.09	-0.625	-68.0	-72.5	-72.1	-	70	-0.034	-0.583	-0.165	-0.078	-0.167	-0.163	-0.063	-0.023	-0.023	-0.017	-0.011	-0.057	-0.633	-0.052	-0.035	-0.244	0.000	-0.024	-0.021	-0.004	-0.121	-	-	-	-
05/01/12	-74.0	-0.850	-3.00	-0.632	-64.0	-72.8	-72.3	-	66	-0.022	-0.559	-0.160	-0.074	-0.166	-0.156	-0.063	-0.012	-0.025	-0.017	-0.013	-0.055	-0.677	-0.054	-0.035	-0.249	-0.024	-0.043	-0.028	0.000	-0.119	-	-	-	-
06/07/12	-74.0	-0.830	-2.00	-0.633	-65.0	-74.0	-71.5	-	70	-0.020	-0.572	-0.156	-0.072	-0.163	-0.150	-0.063	-0.013	-0.030	-0.018	-0.012	-0.059	-0.689	-0.053	-0.360	-0.249	-0.005	-0.021	-0.030	-0.003	-0.112	-	-	-	-
07/11/12	-72.5	-0.850	-1.07	-0.640	-63.5	-71.9	-72.0	-	87	-0.030	-0.563	-0.164	-0.071	-0.160	-0.148	-0.061	-0.013	-0.033	-0.021	-0.018	-0.050	-0.700	-0.054	-0.040	-0.256	-0.004 to -0.009	-0.035	-0.020	0.000	-0.111	-	-	-	-
08/15/12	-75.0	-0.828	-2.00	-0.632	-64.0	-73.0	-72.5	-	72	-0.022	-0.578	-0.160	-0.079	-0.164	-0.155	-0.065	-0.018	-0.027	-0.019	-0.015	-0.057	-0.693	-0.056	-0.040	-0.252	-0.013	-0.028	-0.031	0.000	-0.109	-	-	-	-
09/11/12	-77.0	-0.821	-2.00	-0.633	-62.0	-75.3	-72.3	-	69	-0.024	-0.569	-0.162	-0.080	-0.160	-0.159	-0.070	-0.018	-0.029	-0.022	-0.013	-0.064	-0.701	-0.056	-0.035	-0.250	-0.020	-0.029	-0.032	0.000	-0.115	-	-	-	-
10/17/12	-74.8	-0.768	-1.25	-0.979	-64.7	-73.9	-74.1	-	74	-0.015	-0.561	-0.163	-0.068	-0.154	-0.141	-0.067	-0.009	-0.029	-0.021	-0.021	-0.044	-0.715	-0.062	-0.035	-0.255	-0.006	-0.033	-0.015	0.000	-0.118	-	-	-	-
11/08/12	-76.0	-0.825	-2.25	-0.642	-64.3	-74.3	-74.3	-	71	-0.020	-0.572	-0.161	-0.082	-0.160	-0.155	-0.063	-0.019	-0.028	-0.017	-0.021	-0.060	-0.716	-0.050	-0.029	-0.243	-0.014	-0.034	-0.039	0.000	-0.116	-	-	-	-
01/15/13	-76.8	-0.768	-1.03	-0.970	-65.2	-75.2	-75.5	-	91	-0.013	-0.532	-0.161	-0.070	-0.157	-0.142	-0.063	-0.009	-0.024	-0.018	-0.016	-0.041	-0.700	-0.045	-0.032	-0.227	0.000	-0.019	-0.016	0.000	-0.119	-	-	-	-
04/23/13	-76.1	-0.853	-1.04	-0.963	-66.2	-75.9	-75.2	-	67	0 to -0.008	-0.525	-0.150	-0.780	-0.175	-0.162	-0.063	-0.008	-0.025	-0.018	-0.017 to -0.022	-0.045	-0.710	-0.051	-0.031	-0.221	-0.007 to -0.009	-0.011	-0.021 to -0.024	0.000	-0.106	-	-	-	-
07/10/13	-73.0	-0.895	-2.50	-0.973	-64.0	-73.0	-72.0	-	73	-0.025	-0.435	-0.150	-0.085	-0.195	-0.184	-0.067	-0.012	-0.025	-0.023	-0.022	-0.048	-0.686	-0.055	-0.039	-0.210	-0.023	-0.036	-0.063	0.000	-0.130	-	-	-	-
10/21/13	-74.0	-0.888	-0.40	-0.995	-64.0	-73.0	-74.0	-62.0	101	-0.024 to -0.031	-0.500	-0.142	-0.081	-0.193	-0.179	-0.064	-0.012	-0.028	-0.023	-0.025	-0.033	-0.720	-0.052	-0.036	-0.206	-0.006 to -0.011	-0.032	-0.037	0.000	-0.134	-2.988	-13.9	-0.006	-0.326
2013 Average[4]:	**-75.0**	**-0.851**	**-1.24**	**-0.975**	**-64.9**	**-74.3**	**-74.2**	**-62.0**	**83**	**-0.017**	**-0.498**	**-0.151**	**-0.254**	**-0.180**	**-0.167**	**-0.064**	**-0.010**	**-0.026**	**-0.021**	**-0.021**	**-0.042**	**-0.704**	**-0.051**	**-0.035**	**-0.216**	**-0.010**	**-0.025**	**-0.035**	**0.000**	**-0.122**	**-2.988**	**-13.900**	**-0.006**	**-0.326**
02/05/14	-71.0	-1.2	-1.1	-1.0	-63.0	-70.0	-70.0	-66.0	88	0.005 to 0.015	-0.465	-0.130	-0.092	-0.190	-0.203	-0.058	-0.007	-0.022	-0.014	-0.015	-0.075	-0.608	-0.056	-0.027	-0.174	-0.977	-0.314	-1.080	-0.220	-0.141	-3.065	-10	-0.003 to 0.004	-0.515 to 0.700
04/02/14	-63.9	-1.0	-1.0	-1.0	-55.2	-61.4	-62.0	-61.0	119	-0.007	-0.441	-0.122	-0.085	-0.181	-0.171	-0.056	-0.009	-0.021	-0.015	-0.013	0.009	-0.669	-0.055	-0.031	-0.205	-0.967	-0.326	-1.042	-15	-0.140	-2.992	-8.25	-0.004 to 0	-0.029 to -0.013
07/09/14	-63.0	-1.0	-2.0	-1.1	-55.0	-62.0	-63.0	-60.0	103	-0.019	-0.427	-0.130	-0.083	-0.182	-0.174	-0.053	-0.010	-0.029	-0.021	-0.022	-0.052	-0.692	-0.053	-0.036	-0.217	-0.912	-0.311	-0.952	-15.000	-0.135	-2.830	-13.000	-0.006	-0.017
10/08/14	-67.0	-3.0	-3.0	-2.5	-58.0	-65.0	-68.0	-65.5	95	-0.034	-0.397	-0.146	-0.082	-0.176	-0.173	-0.004	-0.012	-0.029	-0.025	-0.029	-0.070	-0.711	-0.054	-0.042	-0.229	-1.054	-0.382	-1.154	-5.000	-0.152	-3.176	-5.000	-0.006	-0.029
2014 Average[4]:	**-66.2**	**-1.5**	**-1.8**	**-1.4**	**-57.8**	**-64.6**	**-65.8**	**-63.1**	**101.2**	**-0.013**	**-0.433**	**-0.132**	**-0.086**	**-0.182**	**-0.180**	**-0.043**	**-0.010**	**-0.025**	**-0.019**	**-0.020**	**-0.047**	**-0.670**	**-0.055**	**-0.034**	**-0.206**	**-0.978**	**-0.333**	**-1.057**	**-8.805**	**-0.142**	**-3.016**	**-9.063**	**-0.003**	**0.006**
01/08/15	-67.0	-0.3	-1.0	-0.5	-65.0	-65.0	-66.0	-64.0	97	-0.006	-0.482	-0.135	-0.078	-0.176	-0.177	0.0 to -0.61	-0.019	-0.052	-0.026	-0.010	-0.058	-0.751	-0.067	-0.029	-0.242	-0.909	-0.348	-0.998	-15.000	-0.147	-2.817	-11.000	-0.006	0.000
04/16/15	-64.0	-1.0	-2.0	-1.0	-64.0	-64.0	-65.0	-61.0	98	-0.018	-0.413	-0.137	-0.082	-0.181	-0.177	-0.148	-0.019	-0.053	-0.031	-0.026	-0.059	-0.754	-0.064	-0.038	-0.239	-0.954	-0.320	-1.043	-15.000	-0.171	-2.919	-12.5	-0.006	-0.022
07/07/15	-65.0	-3.0	-4.0	-3.0	-65.0	-66.0	-66.0	-63.0	238	-0.021	-0.415	-0.141	-0.096	-0.208	-0.198	-0.142	-0.020	-0.060	-0.030	-0.022	-0.059	-0.774	-0.063	-0.045	-0.240	-0.944	-0.288	-0.915	-15.000	-0.134	-3.255	-15.000	-0.006	-0.024
10/05/15	-66.0	-0.5	-2.0	-1.5	-65.0	-65.0	-66.0	-64.0	81	-0.019	-0.340	-0.137	-0.088	-0.005	-0.192	-0.102	-0.019	-0.057	-0.031	-0.023	-0.055	-0.766	-0.061	-0.042	-0.245	-0.932	-0.333	-0.963	-28.000	-0.145	-3.175	-13.5	-0.006	-0.026
2015 Average[4]:	**-65.5**	**-1.2**	**-2.3**	**-1.5**	**-64.8**	**-65.0**	**-65.8**	**-63.0**	**128.6**	**-0.016**	**-0.413**	**-0.138**	**-0.086**	**-0.143**	**-0.186**	**-0.174**	**-0.019**	**-0.056**	**-0.030**	**-0.020**	**-0.058**	**-0.761**	**-0.064**	**-0.039**	**-0.242**	**-0.935**	**-0.322**	**-0.980**	**-18.250**	**-0.149**	**-3.042**	**-13.000**	**-0.006**	**-0.018**

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Table A-1. Sub-Slab Depressurization System Monitoring Data
Former Lockheed Martin French Road Facility, Utica, New York

Date	Pressure (In. W.C.)								Combined Influent Flow Rate (scfm)[1]	Differential Pressure at VMPs [In. W.C.]																							
	SDS-1	SDS-2[2]	SDS-3	SDS-4[3]	SDS-5	SDS-6	SDS-7	SDS-8		1A	1B	1C	2A	2B	2C	3A	3B	3C	3D	3E	4	5	5A	5B	6	6A	6B	7	7A	7B	8A	8B	8C	8D
1/5/2016[5]	-80.0	-1.0	-1.5	-1.0	-80.0	-80.0	-80.0	-79.0	110	-0.008	-0.480	-0.152	-0.092	-0.197	-0.195	-0.110	-0.016	-0.035	-0.021	-0.025	-0.054	-0.793	-0.068	-0.039	-0.237	-0.944	-0.321	-0.952	-30.000	-0.167	-3.154	-13.500	-0.006	-0.025
4/6/2016[6]	-64.0	-1.0	-4.0	-2.0	-63.0	-64.0	-64.0	-62.0	106	-0.005	-0.256	-0.113	-0.085	-0.191	-0.174	-0.099	-0.013	-0.037	-0.020	-0.007	-0.042	-0.645	-0.060	-0.033	-0.190	-0.735	-0.265	-0.725	-23.000	-0.136	-2.468	-12	-0.004	-0.021
07/14/16	-60.0	-1.0	-2.5	-1.0	-62.0	-60.0	-63.0	-60.0	133	-0.015	-0.333	-0.113	-0.087	-0.197	-0.184	-0.104	-0.019	-0.051	-0.030	-0.025	-0.050	-0.755	-0.060	-0.039	-0.230	-0.941	-0.317	-0.937	-32.000	-0.133	-3.297	-16	-0.005	-0.024
10/12/16	-62.0	-1.0	-4.0	-0.5	-62.0	-64.0	-60.0	-62.0	79	-0.006	-0.073	-0.110	-0.090	-0.203	-0.192	-0.097	-0.019	-0.050	-0.023	-0.013	-0.053	-0.732	-0.074	-0.035	-0.222	-0.926	xxxx	-0.939	-32.000	-0.140	-3.24	-16	-0.005	-0.025
2016 Average:	**-66.5**	**-1.0**	**-3.0**	**-1.1**	**-66.8**	**-67.0**	**-66.8**	**-65.8**	**107.2**	**-0.009**	**-0.286**	**-0.122**	**-0.089**	**-0.197**	**-0.186**	**-0.103**	**-0.017**	**-0.043**	**-0.024**	**-0.018**	**-0.050**	**-0.731**	**-0.066**	**-0.037**	**-0.220**	**-0.887**	**-0.301**	**-0.888**	**-29.250**	**-0.144**	**-3.040**	**-14.375**	**-0.005**	**-0.024**
01/10/17	-62.0	-2.0	-2.0	-2.0	-63.0	-63.0	-63.0	-62.0	61	0.015	-0.247	-0.098	-0.078	-0.179	-0.152	-0.087	-0.011	-0.033	-0.016	-0.004	-0.023	-0.665	-0.058	-0.030	-0.183	-0.797	-0.285	-0.799	-28.000	-0.142	-2.816	-12.000	0.000	-0.021
04/13/17	-62.0	-1.0	-2.0	-1.5	-62.0	-63.0	-63.0	-62.0	71	-0.016	-0.277	-0.115	-0.080	-0.188	-0.177	-0.088	-0.017	-0.450	-0.021	-0.010	-0.063	-0.721	-0.058	-0.047	-0.217	-0.820	-0.305	-0.778	-0.250	-0.135	-2.660	-0.250	-0.004	-0.021
07/19/17	-62.0	-1.0	-2.0	-1.0	-62.0	-62.0	-64.0	-62.0	120	-0.020	-0.301	-0.115	-0.091	-0.191	-0.151	-0.074	-0.017	-0.050	-0.029	-0.020	-0.050	-0.765	-0.060	-0.042	-0.235	-0.604	-0.205	-0.559	-0.250	-0.126	-2.150	-2.500	-0.032	-0.015
10/03/17	-64.0	-1.0	-2.9	-1.0	-62.0	-62.0	-63.0	-60.0	81	-0.012	-0.129	-0.109	-0.081	-0.182	-0.175	-0.009	-0.019	-0.045	-0.026	-0.014	-0.044	-0.733	-0.060	-0.040	-0.230	-0.936	-0.321	-0.952	-32.000	-0.133	-3.218	-16.000	-0.004	-0.025
2017 Average	**-62.5**	**-1.3**	**-2.2**	**-1.4**	**-62.3**	**-62.5**	**-63.3**	**-61.5**	**83.2**	**-0.008**	**-0.239**	**-0.109**	**-0.083**	**-0.185**	**-0.164**	**-0.065**	**-0.016**	**-0.145**	**-0.023**	**-0.012**	**-0.045**	**-0.721**	**-0.059**	**-0.040**	**-0.216**	**-0.789**	**-0.279**	**-0.772**	**-15.125**	**-0.134**	**-2.711**	**-7.688**	**-0.010**	**-0.021**
1/2/2018 [7]	-68.0	-1.0	-2.0	-1.5	-62.0	-65.0	-64.0	-62.0	53	0.000	-0.172	-0.102	-0.079	-0.172	-0.157	-0.075	-0.013	-0.030	-0.140	-0.004	-0.032	-0.512	-0.047	-0.022	-0.155	-0.797	-0.262	-0.764	-0.180	-0.128	-2.733	-1.400	0.000	-0.020
04/02/18	-62.0	-1.0	-2.0	-1.5	-62.0	-62.0	-63.0	-62.0	80	-0.004	-0.340	-0.109	-0.086	-0.178	-0.139	-0.078	-0.014	-0.036	-0.023	-0.011	-0.047	-0.278	-0.055	-0.033	-0.184	-0.669	-0.241	-0.425	-25.000	-0.132	-2.541	-14.000	-0.005	-0.025
07/10/18	-62.0	-1.0	-2.0	-1.5	-62.0	-62.0	-60.0	-60.0	117	-0.020	-0.271	-0.116	-0.077	-0.162	-0.168	-0.007	-0.018	-0.047	-0.028	-0.014	-0.034	-0.693	-0.058	-0.040	-0.212	-0.870	-0.320	-0.815	-2.000	-0.129	-2.000	-16.000	-0.005	-0.025
10/9/218 [8]	-62.0	-1.0	-4.0	-1.0	-62.0	-62.0	-62.0	-60.0	93	-0.020	-0.212	-	-0.077	-0.170	-0.160	-0.007	-0.015	-0.046	-0.048	-0.004	-0.013	-0.705	-0.063	-0.039	-0.021	-0.848	-0.309	-0.493	-34.000	-0.137	-3.182	-16.000	-0.004	-0.023
2018 Average	**-63.5**	**-1.0**	**-2.5**	**-1.4**	**-62.0**	**-62.8**	**-62.3**	**-61.0**	**85.8**	**-0.011**	**-0.249**	**-0.109**	**-0.080**	**-0.171**	**-0.156**	**-0.042**	**-0.015**	**-0.040**	**-0.060**	**-0.008**	**-0.032**	**-0.547**	**-0.056**	**-0.034**	**-0.143**	**-0.796**	**-0.283**	**-0.624**	**-15.295**	**-0.132**	**-2.614**	**-11.850**	**-0.004**	**-0.023**
1/2/2019 [9]	-68.0	-1.0	-2.0	-1.5	-64.0	-64.0	-64.0	-62.0	62	-0.004	-0.254	-0.094	-0.072	-0.151	-0.154	-0.009	-0.013	-0.036	-0.120	-0.008	-0.009	-0.597	-0.056	-0.032	-0.170	-0.815	-0.277	-0.757	-34.000	-0.136	-2.878	-18.000	0.000	-0.021
04/01/19	-78.0	-1.0	-80.0	-1.7	-78.0	-76.0	-77.0	-77.0	94	-0.010	-0.315	-0.117	-0.077	-0.158	-0.151	-0.110	-0.012	-0.034	-0.022	-0.012	-0.048	-0.573	-0.067	-0.033	-0.193	-0.935	-0.344	-0.691	-5.088	-0.149	-3.110	-16.000	-0.005	-0.025
07/09/19	-76.0	-0.8	-3.2	-1.7	-76.0	-75.0	-76.0	-72.0	133	-0.007	-0.294	-0.110	-0.078	-0.160	-0.160	-0.079	-0.017	-0.045	-0.030	-0.018	-0.052	-0.755	-0.065	-0.044	-0.219	-0.812	-0.300	-0.704	-5.123	-0.140	-2.940	-16.000	-0.005	-0.023
10/01/19	-78.0	-0.8	-3.2	-1.8	-77.0	-77.0	-77.0	-72.0	95	-0.011	-0.142	-0.116	-0.073	-0.152	-0.151	-0.082	-0.017	-0.044	-0.030	-0.023	-0.018	-0.747	-0.065	-0.042	-0.210	-0.854	-0.301	-0.751	-5.089	-0.141	-3.074	-15.000	-0.005	-0.026
2019 Average	**-75.0**	**-0.9**	**-22.1**	**-1.7**	**-73.8**	**-73.0**	**-73.5**	**-70.8**	**96.2**	**-0.008**	**-0.251**	**-0.109**	**-0.075**	**-0.155**	**-0.154**	**-0.070**	**-0.015**	**-0.040**	**-0.051**	**-0.015**	**-0.032**	**-0.668**	**-0.063**	**-0.038**	**-0.198**	**-0.854**	**-0.306**	**-0.726**	**-12.325**	**-0.142**	**-3.001**	**-16.250**	**-0.004**	**-0.024**
01/20/20	-78.0	-1.0	-2.0	-1.9	-78.0	-78.0	-79.0	-76.0	67	-0.003	-0.246	-0.109	-0.059	-0.118	-0.105	-0.071	-0.009	-0.025	-0.019	-0.007	-0.027	-0.645	-0.069	-0.027	-0.186	-0.825	-0.285	-0.715	-5.100	-0.137	-2.860	-16.000	-0.004	-0.017
4/6/2020[10]	-	-	-	-	-	-	-	-	94[11]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07/06/20	-78.0	-0.7	-3.8	-1.9	-78.0	-78.0	-78.0	-76.0	102[12]	-0.030	-0.330	-0.127	-0.057	-0.109	-0.108	-0.065	-0.020	-0.044	-0.032	-0.023	-0.028	-0.754	-0.065	-0.043	-0.213	-0.818	-0.290	-0.879	-36.000	-0.137	-3.090	-20.000	-0.005	-0.024
10/06/20	-77.0	-0.7	-4.1	-2.1	-77.0	-77.0	-76.0	-77.0	80[12]	-0.011	-0.263	-0.112	-0.060	-0.112	-0.111	-0.064	-0.017	-0.037	-0.025	-0.014	-0.008	-0.746	-0.070	-0.040	-0.218	-0.787	-0.217	-0.534	-26.000	-0.124	-2.197	-12.000	-0.007	-0.029
2020 Average	**-77.7**	**-0.8**	**-3.3**	**-2.0**	**-77.7**	**-77.7**	**-77.7**	**-76.3**	**85.8**	**-0.015**	**-0.280**	**-0.116**	**-0.059**	**-0.113**	**-0.108**	**-0.067**	**-0.015**	**-0.035**	**-0.025**	**-0.015**	**-0.021**	**-0.715**	**-0.068**	**-0.037**	**-0.206**	**-0.810**	**-0.264**	**-0.709**	**-22.367**	**-0.133**	**-2.716**	**-16.000**	**-0.005**	**-0.023**
Average[4]:	**-52.978**	**-7.033**	**-7.120**	**-1.128**	**-62.930**	**-68.426**	**-68.252**	**-64.981**	**89.1**	**-0.010**	**-0.320**	**-0.101**	**-0.277**	**-0.675**	**-0.594**	**-0.044**	**-0.022**	**-0.041**	**-0.029**	**-0.010**	**-0.043**	**-0.620**	**-0.063**	**-0.040**	**-0.210**	**-0.459**	**-0.160**	**-0.434**	**-8.251**	**-0.124**	**-2.912**	**-12.548**	**-0.006**	**-0.034**

Notes:
1. Cumulative influent flow rates shown after and including 12/30/10 obtained using manual anemometer. Prior to 12/30/10, combined influent flow rate value obtained from flow transmitter FT-201.
2. New blower installed as part of system upgrades in operation.
3. Vacuum at SDS-2 and SDS-4 wellheads from 5/12/11 through 8/11/11 were recorded as zero due to the scaled range of the field mounted vacuum gauges. Subsequent vacuum readings at those SDS locations have been recorded with a micromanometer.
4. For instances in which a differential pressure range has been provided for a VMP on a specific date, the middle of the range has been used for average calculations.
These values have not been included in the calculation of the average sub-slab vacuums.
5. On 12/21/2015 the Blower was switched to bypass the VFD, so it is drawing more vacuum than normal. The field pressure readings for SDS-1, -5, -6, and -7 were < -80, but for calculation purposes were stated as -80. When a replacement VFD is installed in Q1 2016 these numbers are expected to return to normal ranges, so no corrective action is being taken at this time to address the higher pressures.
6. Blower and VFD replaced on 3/1/16. Vacuum readings taken on 4/6/2016 and onward reflect.
7. On February 8, 2018 SDS-3 Pressure was measured at -2.0 In. W.C.
8. On October 9, 2018, the differential pressure at VMP-1C could not be measured due to the presence of water on the floor.
9. On February 4, 2019 SDS-3 Pressure was measured at -2.0 In. W.C.
10. Due to COVID-19, no entry to facility was performed during the April 2020 quarterly event; no readings were collected from the SDSs.
11. As per Note 10, a combined influent flow rate was not calculated from the individual SDSs. The combined influent flow rate value was obtained from flow transmitter FT-301.
12. Combined influent flow rate was not calculated from the individual SDSs. The combined influent flow rate value was obtained from flow transmitter FT-301.

Definitions:
ft - feet
In. W.C. - Inches of Water Column
scfm - standard cubic feet per minute
VMP - Vacuum Monitoring Point

Table A-2. Sub-Slab Depressurization System Operation Summary
Former Lockheed Martin French Road Facility, Utica, New York

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
November 2007	Pilot test conducted						
7/19/2008	System brought online following ICM upgrades and startup/shakedown period						
8/11/2008	8/11/08 6:18	8/11/08 14:50	0.4	05	VFD run fault	Power outage/Voltage spike	Restart system
10/11/2008	10/11/08 6:42	10/13/08 9:16	2.1	05	VFD run fault	Power outage/Voltage spike	Restart system
2008 % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		2.5	162.5	99%			
1/10/2009	1/10/09 23:09	1/13/09 18:48	2.8	06	AWS-HH	Build up of condensate	Thaw out frozen tank and install heat trace/insulating jacket on AWS tank.
2/2/2009	2/1/09 0:00	2/2/09 15:30	1.6	NA	Power outage	Power outage/ Faulty battery backup	Restart system
3/9/2009	3/8/09 11:03	3/9/09 11:03	1.0	05	VFD run fault	Power outage/Voltage spike	Inspect and restart system
7/7/2009	7/7/09 7:21	7/8/09 11:00	1.2	05	VFD run fault	ConMed temporarily shuts down power	Restart system
7/17/2009	7/17/09 10:57	7/17/09 13:00	0.1	05	VFD run fault	Power outage/Voltage spike	Inspect and restart system
7/31/2009	7/31/09 10:00	8/3/09 14:30	3.2	05	VFD run fault	Power outage/Voltage spike	Inspect and restart system
11/14/2009	11/14/09 18:55	11/16/09 8:00	1.5	05	VFD run fault	Power outage/Voltage spike	Inspect and restart system
2009 % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		11.4	352.6	97%			
3/22/2010	3/22/10 11:16	3/22/10 18:26	0.3	05	VFD run fault	Power outage/Voltage spike	Inspect and restart system
6/8/2010	6/8/10 8:22	6/8/10 15:21	0.3	05	VFD run fault	Power outage/Voltage spike	Inspect and restart system
11/11/2010[1]	11/11/10 10:00	12/31/10 23:59	9.0	05	LOTO	System was shutdown periodically from 11/11 through 12/31 in order to implement remedial enhancements	Restart system daily
2010 % Run Time Summary[1]		**Days Offline**	**Days Online**	**% Run Time**			
		9.6	355.4	97%			
1/27/2011[1]	1/27/11 19:53	1/28/11 9:13	0.6	13	HX fault	Local HOA switch intentionally turned into off position. PLC still attempting to turn on HX.	Temperature setpoints controlling HX on/off operation temporarily adjusted so that PLC will not attempt to turn on HX. Restart system.
2/22/2011	2/22/11 9:52	2/22/11 16:15	0.3	NA	Manual shutdown	System temporarily shutdown to allow for supplemental lighting installation.	Restart system.
2/28/2011	2/28/11 12:08	2/28/11 21:12	0.4	NA	Manual shutdown	System temporarily shutdown to allow for VPGAC manifold repairs.	Restart system.
3/2/2011	3/2/11 12:40	3/2/11 18:01	0.2	NA	Manual shutdown	System temporarily shutdown to allow for electrical/programming maintenance.	Restart system.
3/30/2011	3/30/11 12:52	3/30/11 20:28	0.3	NA	Manual shutdown	System temporarily shutdown to allow for electrical labeling.	Restart system.
3/31/2011	3/31/11 8:05	3/31/11 13:33	0.2	NA	Manual shutdown	System temporarily shutdown to allow for electrical labeling.	Restart system.
4/11/2011	4/11/11 17:51	4/12/11 9:08	0.6	10	High TT-201	Post-blower temperature exceeding initial high temperature alarm setpoint.	Adjust high temperature setpoint from 180 °F to 200 °F.
4/24/2011	4/24/11 22:10	4/25/11 17:31	0.8	27	Low Flow	Potential drifting associated with transmitter calibration.	Continue to monitor and re-calibrate during next O&M visit if needed.
5/29/2011	5/29/11 15:13	6/1/11 20:34	3.2	10	High TT-201	Post-blower temperature exceeding initial high temperature alarm setpoint.	Adjust high temperature setpoint from 180 °F to 210 °F.
6/10/2011	6/10/11 23:31	6/13/11 16:18	2.7	NA	Power outage	Power outage/Voltage spike	Inspect and restart system. Upon inspection, replacement of a blown fuse conducted.
7/9/2011	7/9/11 7:01	7/11/11 11:08	2.2	28	Power outage	Power outage/Voltage spike	Restart system.
9/7/2011	9/7/11 1:14	9/7/11 10:14	0.4	27	Low Flow	Potential drifting associated with transmitter calibration.	Inspect flow transmitter on 9/8/11.
9/7/2011	9/7/11 16:56	9/8/11 10:31	0.7	27	Low Flow	Potential drifting associated with transmitter calibration.	Inspect flow transmitter on 9/8/11.
9/14/2011	9/14/11 7:44	9/14/11 14:18	0.3	NA	Manual shutdown	System temporarily shutdown to allow for heat exchanger bypass piping modification.	Operate ICM system while main system offline.
9/16/2011	9/16/11 7:07	9/16/11 12:06	0.2	NA	Manual shutdown	System temporarily shutdown to allow for heat exchanger bypass piping modification.	Operate ICM system while main system offline.
12/14/2011	12/14/11 4:23	12/14/11 12:24	0.3	27	Low Flow	Potential drifting associated with transmitter calibration.	Monitor system and flowrate remotely.
12/19/2011	12/19/11 12:56	12/19/11 16:30	0.1	27	Low Flow	Potential drifting associated with transmitter calibration.	Monitor system and flowrate remotely.
12/19/2011	12/19/11 17:58	12/19/11 22:00	0.2	27	Low Flow	Potential drifting associated with transmitter calibration.	Monitor system and flowrate remotely. Modify alarm time delay and low set point.
12/23/2011	12/23/11 6:11	12/23/11 10:10	0.2	27	Low Flow	Potential drifting associated with transmitter calibration.	Monitor system and flowrate remotely. Modify alarm time delay and low set point.
12/24/2011	12/24/11 0:34	12/24/11 8:20	0.3	27	Low Flow	Potential drifting associated with transmitter calibration.	Reduce low flow alarm set point.
2011 % Run Time Summary[1][2]		**Days Offline**	**Days Online**	**% Run Time**			
		14.2	350.8	96%			
1/14/2012	1/14/12 0:52	1/14/12 8:37	0.3	27	Low Flow	Potential drifting associated with cold weather pattern.	Restart system
1/19/2012	1/19/12 1:05	1/19/12 7:47	0.3	27	Low Flow	Potential drifting associated with cold weather pattern.	Restart system
2/13/2012	2/13/12 0:38	2/13/12 10:30	0.4	27	Low Flow	Suspect flow transmitter may have had some moisture on it, resulting in a false low air flow rate.	Restart system
2/15/2012	2/15/12 18:48	2/15/12 19:35	0.0	16	High Vacuum	Suspect that the flow transmitters 4-20mA signal may have temporarily drifted.	Log into the system remotely and downloaded the datalogger files to confirm possible causes of alarm. Datalogger file indicated that the vacuum readings were steady at around -71 in.W.C. prior to alarm. System was restarted.
3/1/2012	3/1/12 5:31	3/1/12 11:42	0.3	27	Low Flow	Potential drifting associated with cold weather pattern.	Restart system. Performed a field calibration to fix noted drifting.
3/7/2012	3/7/12 10:30	3/7/12 17:49	0.3	NA	System temporarily taken offline to complete the arc flash study field reconnaissance	NA	NA
4/20/2012	4/20/12 15:17	4/20/12 15:30	0.0	NA	System temporarily taken offline to complete the arc flash study field reconnaissance	NA	NA
4/23/2012	4/23/12 12:45	4/23/12 16:46	0.2	NA	Chris Davern onsite to modify the SSDS cfg file and test UPS battery.	The SSDS cfg file was modified so that the High for TT-201 is the fatal alarm as opposed to what it was previously, the High-High. UPS battery tested successfully and lasted approximately 60 minutes.	
6/21/2012	6/21/12 19:15	6/22/12 11:00	0.7	10	High TT-201	Post-blower/Pre-HX temperature exceeded high temperature alarm setpoint (225 F). Ambient temperatures exceeded 90's F.	Restart the system following inspection and passing of seasonal high ambient temperatures.
7/4/2012	7/4/12 17:58	7/5/12 11:00	0.7	10	High TT-201	Post-blower/Pre-HX temperature exceeded high temperature alarm setpoint (225 F). Ambient temperatures exceeded 90's F.	Restart system following inspection.
7/14/2012	7/14/12 17:41	7/16/12 12:26	1.8	10	High TT-201	Post-blower/Pre-HX temperature exceeded high temperature alarm setpoint (225 F). Ambient temperatures exceeded 90's F.	Restart system. Confirmed accuracy of post-blower temperature transmitter TT-201 and post-blower temperature gauge TI-201. Conducted several tests consisting of varying blower speed and adjusting fresh-air dilution valve to observe impact on temperature rise through blower.
8/4/2012	8/4/12 16:17	8/6/12 9:19	1.7	10	High TT-201	Vapor stream post-blower exceeded the high set point if 225 F due to increased summer ambient temperatures.	Restart system remotely at 9:19 on 8/6/12. Continue to monitor post-blower temperatures during forecasted higher ambient temperature conditions.
9/13/2012	9/13/12 19:02	9/14/12 9:30	0.6	16	High Vacuum, VT-201	Suspect that the vacuum transmitter's 4-20mA signal may have temporarily drifted.	Log into the system remotely and downloaded the datalogger files to confirm possible causes of alarm. Datalogger file indicated that the vacuum readings were steady at around -73 in.W.C. prior to alarm. System was restarted. The high vacuum alarm set point was changed from -80 to -85 in.W.C.
2012 % Run Time Summary (through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		7.2	358.8	98%			

Table A-2. Sub-Slab Depressurization System Operation Summary
Former Lockheed Martin French Road Facility, Utica, New York

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
4/21/2013	4/21/13 16:02	4/22/13 8:45	0.7	16	High Vacuum, VT-201	Suspect that the vacuum transmitter's 4-20mA signal may have temporarily drifted.	Log into the system remotely and downloaded the datalogger files to confirm possible causes of alarm. Datalogger file indicated that the vacuum readings were steady at around -73 in.W.C. prior to alarm. System was restarted. The high vacuum alarm set point was changed from -80 to -85 in.W.C.
9/4/2013	9/4/13 7:05	9/5/13 8:46	1.1	24	Low Pressure, PT-201	Suspect that the pressure transmitter's 4-20mA signal may have temporarily drifted.	Log into the system remotely and downloaded the datalogger files to confirm possible causes of alarm. Datalogger file indicated that the pressure readings were steady at around 1.5-1.8 in.W.C. prior to alarm. System was restarted and monitored for operation.
10/27/2013	10/27/13 22:21	10/28/13 8:56	0.4	24	Low Pressure, PT-201	Suspect that the pressure transmitter's 4-20mA signal may have temporarily drifted.	Log into the system remotely and downloaded the datalogger files to confirm possible causes of alarm. Datalogger file indicated that the pressure readings were steady at around 3.8-4.1 in.W.C. prior to alarm. The alarm time delay was increased from 15 sec to 120 sec. System was restarted and monitored for operation.
11/6/2013	11/6/13 8:21	11/7/13 5:30	0.9	16	High Vacuum, VT-201	Suspect that the flow transmitters 4-20mA signal may have temporarily drifted.	The alarm time delay was increased from 2 seconds to 2 minutes. System was restarted and monitored for operation.
12/20/2013	12/19/13 4:15	12/19/13 18:52	0.6	21	VFD Fault	Suspect Temporary Power Failure	Based on correspondence with the facility operator (ConMed) they had some electrical issues with their parking lot lighting. As a result the SSDS building may have temporarily lost power. System was restarted and monitored for operation.
2013 % Run Time Summary (through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		3.7	361.3	99%			
1/9/2014	1/9/14 15:11	1/9/14 21:00	0.2	13	Heat Exchanger Motor Fault	As a result of the recent snow storm which occurred during this period snow/ice may have built up on the fan blades and thus frozen and thereby causing enough resistance to the fan motor to initiate the failed start condition detected by the PLC input.	Inspect HX physical HOA and locally mounted disconnect switches. The HOA was confirmed to be in the "Auto" position and the local disconnect was also confirmed to be in the "On" position. Verify that the overload relay did not trip. System was restarted and monitored for operation.
1/14/2014	1/14/14 6:57	1/14/14 7:49	0.0	24	Low Pressure, PT-201	Suspect that the pressure transmitter's 4-20mA signal may have temporarily drifted.	Log into the system remotely and downloaded the datalogger files to confirm possible causes of alarm. Datalogger file indicated that the pressure readings were steady at around 1.5-1.8 in.W.C. prior to alarm. The alarm time dealy was increased from 2 to 5 minutes. System was restarted and monitored for operation.
2/3/2014	2/3/14 21:51	2/4/14 10:05	0.5	23	High Pressure, PT-201	Condensate buildup in the carbon bed manifold piping lead to airflow constriction.	Site visit was performed to drain carbon manifold piping. System was restarted and monitored for operation.
2/4/2014	2/4/14 10:06	2/4/14 10:56	0.0	23	High Pressure, PT-201	Condensate in carbon manifold piping had not been drained sufficiently to allow airflow to continue at normal operating conditions.	Carbon manifold piping was drained. System was restarted and monitored for operation.
2/7/2014	2/7/14 12:07	2/7/14 12:58	0.0	21	VFD Fault	System was shut down due to critical system testing. Test of VFD fault alarm caused the system to shut down.	NA
3/1/2014	3/1/14 21:24	3/1/14 23:15	0.1	21	VFD Fault	System was shut down due to apparent electrical surge/outing at the ConMed facility.	System was restarted in Auto remotely.
3/4/2014	3/4/14 14:00	3/4/14 14:30	0.0	NA	OM&M Activities	OM&M Activities	NA
3/6/2014	3/6/14 14:40	3/6/14 19:20	0.2	23	High Pressure, PT-201	Condensate in carbon manifold piping had not been drained sufficiently to allow airflow to continue at normal operating conditions.	Carbon manifold piping was drained. System was restarted and monitored for operation.
1st Quarter (2014) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		1.0	89.0	99%			
4/27/2014	4/27/14 0:04	4/27/14 10:00	0.4	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
5/1/2014	5/1/14 20:57	5/2/14 7:49	0.5	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
6/16/2014	6/16/14 8:22	6/16/14 8:40	0.0	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
6/21/2014	6/21/14 6:45	6/21/14 10:30	0.2	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
6/28/2014	6/28/14 7:30	6/29/14 13:00	1.2	-	ConMed Shutdown	ConMed Scheduled Shutdown	System was off during ConMed Shutdown and restarted during a site visit on 6/29/2014.
2nd Quarter (2014) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		2.3	88.7	97%			
7/1/2014	7/1/14 18:02	7/1/14 18:50	0.0	ACFAIL	No description of ACFAIL	Possibly caused by loss of AC power	System was restarted in Auto remotely.
7/1/2014	7/1/14 20:06	7/1/14 21:40	0.1	ACFAIL	No description of ACFAIL	Possibly caused by loss of AC power	System was restarted in Auto remotely.
8/18/2014	8/18/14 3:55	8/18/14 7:33	0.2	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
9/3/2014	9/3/14 1:19	9/3/14 7:17	0.2	21	VFD Fault	VFD electrical connection was investigated and secured.	System was restarted in Auto from on site.
3rd Quarter (2014) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.5	91.5	99%			
11/4/2014	11/4/14 5:49	11/4/14 7:50	0.1	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated. Plan to increase fault time delay.	System was restarted in Auto remotely.
4th Quarter (2014) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.1	91.9	99.9%			
2014 % Run Time Summary (through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		3.9	361.1	99%			
1st Quarter (2015) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.0	90.0	100%			
4/29/2015	4/29/15 5:36	4/29/15 8:00	0.1	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
2nd Quarter (2015) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.1	90.9	100%			
8/5/2015	8/5/15 0:37	8/5/15 8:00	0.3	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
8/7/2015	8/7/15 18:56	8/7/15 23:00	0.2	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
9/12/2015	9/12/15 17:21	9/13/15 10:00	0.7	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
9/20/2015	9/20/15 20:48	9/20/15 21:10	0.0	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely.
3rd Quarter (2015) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		1.2	90.8	98.7%			
10/22/2015	10/22/15 20:10	10/26/15 14:30	3.8	21	VFD Fault	Cause of shutdown were voltage and current overloads. The cause of these overloads is currently being investigated.	System would not restart in Auto remotely, so Stantec visited the site and found that the blower breaker had been tripped. Upon starting the blower manually, audible evidence of a possible internal mechanical issue was heard, so the system was left off until 10/26 when Stantec returned with a representative of Oneida Electric. All wiring and connections related to the blower were checked for improper grounding, continuity, voltage, etc. and no unusual conditions were noted. The system was restarted on site, and operation appeared normal that afternoon and the morning of 10/27 during remote checks.
11/5/2015	11/5/15 9:21	11/5/15 9:40	0.0	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely. Stantec continued to research options for further mechanical inspection, voltage/current monitoring, and/or possible blower/motor/VFD service or replacement.
11/19/2015	11/19/15 21:41	11/20/15 8:40	0.5	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely. Stantec continued to research options for further mechanical inspection, voltage/current monitoring, and/or possible blower/motor/VFD service or replacement.
11/24/2015	11/24/15 8:41	11/24/15 8:45	0.0	20	Thermal Switch Overload	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto on site. Stantec continued to research options for further mechanical inspection, voltage/current monitoring, and/or possible blower/motor/VFD service or replacement.

Table A-2. Sub-Slab Depressurization System Operation Summary
Former Lockheed Martin French Road Facility, Utica, New York

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
11/29/2015	11/29/15 9:26	11/29/15 12:30	0.1	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely. Stantec continued to research options for further mechanical inspection, voltage/current monitoring, and/or possible blower/motor/VFD service or replacement.
12/5/2015	12/5/15 18:57	12/6/15 4:00	0.4	21	VFD Fault	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely. Stantec continued to research options for further mechanical inspection, voltage/current monitoring, and/or possible blower/motor/VFD service or replacement.
12/8/2015	12/8/15 10:49	12/8/15 11:00	0.0	20	Thermal Switch Overload	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto on site. Stantec continued to research options for further mechanical inspection, voltage/current monitoring, and/or possible blower/motor/VFD service or replacement.
12/9/2015	12/9/15 10:35	12/9/15 10:40	0.0	20	Thermal Switch Overload	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely. Stantec was asked to prepare a recommendation about how to respond to recent Process 20 and 21 alarms. Blower, motor, and VFD replacement were recommended.
12/16/2015	12/16/15 8:15	12/16/15 8:20	0.0	20	Thermal Switch Overload	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely. Stantec was in the process of making a change order for the replacement of the current blower, motor, and VFD in response to recent Process 20 and 21 alarms.
12/16/2015	12/16/15 10:27	12/16/15 11:00	0.0	20	Thermal Switch Overload	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely. Stantec was in the process of making a change order for the replacement of the current blower, motor, and VFD in response to recent Process 20 and 21 alarms.
12/18/2015	12/18/15 21:55	12/18/15 23:00	0.0	20	Thermal Switch Overload	Cause of shutdown currently unknown and currently being investigated.	System was restarted in Auto remotely. Stantec had submitted a change order for the replacement of the current blower, motor, and VFD in response to recent Process 20 and 21 alarms.
12/20/2015	12/20/15 18:46	12/21/15 14:00	0.8	20	Thermal Switch Overload	Cause of shutdown currently unknown and currently being investigated.	System would not restart in Auto remotely, so Stantec visited the site and found that the SSDS breaker had been tripped. Upon attempting to restart the system, it shut down with a Process 21 fatal alarm. Stantec then restarted the system in VFD bypass mode. Due to the increased vaccum resulting from operating without the VFD, Stantec adjusted bleed valve BV-202 to lower the Vaccum (VT-201) and Flow (FT-301) input values to approximately 88 IWC and 228 CFM, respectively. The Analog inputs were compared to OMM Table 3 and found to be within operating ranges, with the exception of VT-201 and FT-301. The alarm setpoints for these inputs were temporarily adjusted to 100 IWC and 240 CFM to avoid unncecesary alarms.The system was restarted on site, and operation appeared normal through the remainder of 2015.
4th Quarter (2015) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		5.6	86.4	94%			
2015 % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through December 31)		6.9	358.1	98.1%			
3/1/2016	3/1/16 8:30	3/2/16 10:00	1.1	N/A	System temporarily shut down to replace the blower and VFD.	NA	NA
			0.0				
			0.0				
1st Quarter (2016) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through March 31)		1.1	89.9	98.8%			
2nd Quarter (2016) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through June 30)		0.0	91.0	100.0%			
9/24/2016	9/24/16 5:26	9/24/16 15:10	0.4	AC Fail	Power loss to system building	Area-wide power outage that impacted the ConMed facility	Stantec was not able to connect to the system remotely. A site visit was made and the system was restarted at 1510 hours.
9/27/2016	9/27/16 11:43	9/27/16 16:10	0.2	AC Fail	Power loss to system building	Area-wide power outage that impacted the ConMed facility	Stantec was not able to connect to the system remotely. A site visit was made and the system was restarted at 1610 hours.
3rd Quarter (2016) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through September 30)		0.6	91.4	99.36%			
4th Quarter (2016) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through December 31)		0.0	92.0	100.0%			
2016 % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through December 31)		1.7	364.3	99.5%			
1st Quarter (2017) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through March 31)		0.0	90.0	100.0%			
2nd Quarter (2017) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through June 30)		0.0	91.0	100.0%			
7/1/2017	7/1/17 10:14	7/1/17 11:45	0.0	Process 21	VFD fault	VFD outside frequency range	restarted system
7/20/2017	7/20/17 18:08	7/21/17 10:10	0.8	Process 22	Pre-carbon heat exchanger exceeded temperature limit	Temperature rose above 115°F	Tested system, but heat exchanger was not functioning properly. Aztech found that the TT-301 Hi Analog Input was set at 300°F, reset to 100°F. System operating normal.
3rd Quarter (2017) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through September 30)		0.8	91.2	99.2%			
10/9/2017	10/9/17	10/9/17	0.2	No Alarm	PLC was not energized	Backup battery failure	No morning SSDS status report was received. Could not remotely connect to SSDS PLC. Tetra Tech found system to be shut down upon arrival to site. Main power on, Auxiliary Power supply was off and PLC not energized. TT turned on Aux. Power supply, and that energized PLC. TT put SSDS through startup sequence, and it turned on the SSDS. Monitored system for 30 min prior to leaving site. TT monitored the system remotely and it operated normally throughout the day.
10/23/2017	10/23/17	10/23/17	0.3	No Alarm	PLC was not energized	Backup battery failure	No morning SSDS status report was received. TT observed the system shutdown and the Main Power on, but the Aux. Power supply was off and PLC was not energized. TT attempted to turn on the backup battery, but it would not energize. TT plugged the PLC directly into an outlet, and that energized the PLC. TT put the SSDS through startup sequence, and it turned on the SSDS. Monitored system for 30 min, and it operated normally. Backup battery was replaced on 10/25/17.
11/7/2017	11/7/17 13:50	11/7/17 19:20	0.2	Process 21 and Shutdown 80	The Variable Frequency Drive, VFD-200 had no power	Bad power cable or fuse	Tetra Tech's troubleshooting of the system revealed a circuit breaker in the off position. Tetra Tech engaged the circuit breaker to the on position, which powered up the VFD. Tetra Tech put the SSDS through a start-up sequence and the system operated normally.
12/28/2017	12/28/17 12:07	12/28/17 12:50	0.0	Process 23	High Post-Blower Pressure	Post blower pressure exceed 30 IWC	Remotely restarted system and monitored
12/28/2017	12/28/17 19:31	12/29/17 9:00	0.6	Process 23	High Post-Blower Pressure	Post blower pressure exceed 30 IWC	Remotely restarted the system, mobilized to the SSDS and drained the carbon vessels and air flow manifold
4th Quarter (2017) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through December 31)		1.3	90.7	98.6%			
2017 % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through December 31)		2.1	362.9	99.4%			
1st Quarter (2018) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
(through March 31)		0.0	90.0	100.0%			

Table A-2. Sub-Slab Depressurization System Operation Summary
Former Lockheed Martin French Road Facility, Utica, New York

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
4/2/2018	4/2/18 17:50	4/2/18 18:33	0.03	Process 22	High Pre-Carbon Temperature	Incorrect alarm setting	TT-301 Hi Hi alarm was triggered after TT-301 exceeded 115º F. Tetra Tech remotely logged into ProView and observed that the TT-301 Hi was set at 300 ºF, above the normal setting of 100 ºF that should have initiated the operation of the heat exchanger and cooled the SSDS. TT-301 Hi setting was reset at 100 ºF and the system operated normally.
2nd Quarter (2018) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through June 30)	0.03	90.97	99.97%				
3rd Quarter (2018) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through September 30)	0.0	92.0	100.0%				
4th Quarter (2018) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through December 31)	0.0	92.0	100.0%				
2018 % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through December 31)	0.03	364.97	99.99%				
2/20/2019	2/20/19 9:20	2/20/19 12:00	0.10	No Alarm	Unknown	Possible power or data line fault.	Tetra Tech was on site with the client and noticed the system was off, for an unknown reason (no alarms were present). System was restarted and operated normally.
1st Quarter (2019) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through March 31)	0.10	89.90	99.88%				
5/25/2019	5/25/19 6:57	5/25/19 14:00	0.29	AC Fail	Temporary loss of power.	Temporary loss of power due to inclement weather.	Tetra Tech was not able to connect to the system remotely. A site visit was made and the system was restarted.
6/19/2019	6/19/19 10:15	6/19/19 17:30	0.31	AC Fail	Temporary loss of power.	Unknown.	Tetra Tech was not able to connect to the system remotely. A site visit was made and the system was restarted.
2nd Quarter (2019) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through June 30)	0.60	90.40	99.34%				
8/8/2019	8/8/19 9:40	8/8/19 11:20	0.07	10	High Post-Blower Temperature	Temperature reached 225°F (High Temperature Setpoint)	A site visit was made and the cause of the high tempeature was investigated, no issues identified. The system was restarted.
8/17/2019	8/17/19 0:30	8/17/19 14:00	0.56	10	High Post-Blower Temperature	Temperature reached 225°F (High Temperature Setpoint)	A site visit was made and the cause of the high tempeature was investigated, no issues identified. The system was restarted.
3rd Quarter (2019) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through September 30)	0.63	91.37	99.32%				
4th Quarter (2019) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through December 31)	0.00	92.00	100.00%				
2019 % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through December 31)	1.33	363.67	99.63%				
1st Quarter (2020) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through March 31)	0.00	91.00	100.00%				
2nd Quarter (2020) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through June 30)	0.00	91.00	100.00%				
7/16/2020	7/16/20 23:53	7/17/20 7:30	0.32	10	High Post-Blower Temperature	Temperature reached 230°F (High Temperature Setpoint)	The system was restarted remotely and monitored.
7/20/2020	7/20/20 22:34	7/21/20 7:30	0.38	10	High Post-Blower Temperature	Temperature reached 230°F (High Temperature Setpoint)	The system was restarted remotely and monitored.
7/23/2020	7/23/20 12:03	7/23/20 16:05	0.16	10	High Post-Blower Temperature	Temperature reached 230°F (High Temperature Setpoint)	A site visit was made and the cause of the high tempeature was investigated, no issues identified. The system was restarted with a change in the blower frequency from 50 to 46 Hz.
3rd Quarter (2020) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through September 30)	0.86	91.14	99.07%				
4th Quarter (2020) % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through December 31)	0.00	91.00	100.00%				
2020 % Run Time Summary	**Days Offline**	**Days Online**	**% Run Time**				
(through December 31)	0.86	364.14	99.76%				

Table A-3. SDS-1 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-1																																	
Date	7/17/2008		8/13/2008		9/11/2008		10/10/2008		4/7/2009		7/1/2009		10/9/2009		11/5/2009		1/21/2010		7/8/2010		1/7/2011		3/8/2011		4/4/2011		7/6/2011		10/22/2011		1/11/2012		4/3/2012		7/11/2012		10/17/2012		1/15/2013		4/23/2013		7/11/2013		10/23/2013		2/7/2014		4/4/2014	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	**5.5**		< 0.83		**0.61**	J	< 0.83		< 0.83		**0.83**		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		**0.89**		**0.78**	J	< 0.83		< 0.83		< 0.83		**0.55**	J	**0.67**	J	< 0.83		<6.8		**21**		< 22.00		< 8.70		**0.17**	J
1,1,2,2-Tetrachloroethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		<8.6		< 0.76		< 27.00		< 11.00		< 1.40	
1,1,2-Trichloroethane	< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		<6.8		< 0.87		< 22.00		< 8.70		< 1.10	
1,1-Dichloroethane	**0.58**	J	< 0.62		< 0.62		< 0.62		< 0.62		**0.45**	J	< 0.62		< 0.62		< 0.62		**0.45**	J	< 0.62		< 0.62		< 0.62		**0.53**	J	< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		<5.1		< 0.93		< 16.00		< 6.50		< 0.81	
1,1-Dichloroethene	< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		<5.0		< 3.40		< 16.00		< 6.30		< 0.79	
1,2,4-Trichlorobenzene	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		<23		< 2.20		< 74.00		< 30.00		< 3.70	
1,2,4-Trimethylbenzene	**3**		**4.2**		**5.9**		**1.4**		< 0.75		**3.6**		< 0.75		< 0.75		< 0.75		**6.3**		**1.7**		**6.2**		**1**		**2.3**		< 0.75		**0.65**	J	< 0.75		**19**		< 0.75		**1.1**		<6.1		< 1.00		< 20.00		< 7.90		**0.28**	J
1,2-Dibromoethane	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		<9.6		< 1.10		< 31.00		< 12.00		< 1.50	
1,2-Dichlorobenzene	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		<7.5		< 1.60		< 24.00		< 9.60		< 1.20	
1,2-Dichloroethane	**0.49**	J	< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		<5.1		< 0.73		< 16.00		< 6.50		< 0.81	
1,2-Dichloropropane	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		**0.56**	J	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		<5.8		< 1.10		< 18.00		< 7.40		< 0.92	
1,3,5-Trimethylbenzene	**1.5**		**1.2**		**2.5**		**0.6**	J	< 0.75		**0.55**	J	< 0.75		< 0.75		< 0.75		**2**		< 0.75		**1.3**		< 0.75		**1.2**		< 0.75		< 0.75		**8.9**		< 0.75		< 0.75		< 0.75		<6.1		< 0.93		< 20.00		< 7.90		**0.099**	J
1,3-butadiene	< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		<2.8		< 0.55		< 8.80		< 3.50		< 0.44	
1,3-Dichlorobenzene	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		<7.5		< 1.10		< 24.00		< 9.60		**0.085**	J
1,4-Dichlorobenzene	**1.7**		**2.5**		**2.1**		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		**1**		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		<7.5		< 1.10		< 24.00		< 9.60		< 1.20	
1,4-Dioxane	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		<110		< 2.50		< 360.00		< 140.00		< 18.00	
2-Chlorotoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<6.5		< 0.67		< 21.00		< 8.30		< 1.00	
2,2,4-trimethylpentane	< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		<5.8		< 0.70		< 19.00		**7.8**		< 0.93	
4-ethyltoluene	**1**		**1.3**		**2.6**		**0.6**	J	< 0.75		**0.95**		< 0.75		< 0.75		< 0.75		**1.2**		< 0.75		**1.9**		< 0.75		**0.55**	J	< 0.75		< 0.75		< 0.75		**9.2**		< 0.75		< 0.75		<6.1		< 0.74		< 20.00		< 7.90		**0.11**	J
4-Isopropyltoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<6.9		< 1.10		< 22.00		< 8.80		< 1.10	
Acetone	**46**		**35**		**85**		**19**		**15**		**22**		< 0.72		**4.1**		**2.7**		**140**		**30**		**230**		**15**		**5**		**4**		**22**		**8.9**		**210**		**16**		**13**		**22**	J	**9.7**	J	< 240.00		< 95.00		**12**	
Allyl chloride	< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		**6**		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		<9.8		< 1.50		< 31.00		< 13.00		< 1.60	
Benzene	**0.78**		< 0.49		**0.49**		< 0.49		< 0.49		**0.42**	J	< 0.49		< 0.49		< 0.49		**0.36**	J	**1**		**0.78**		**0.36**	J	**0.39**	J	< 0.49		**0.55**		< 0.49		**150**		< 0.49		< 0.49		<4.0		< 0.58		< 13.00		**2.7**	J	**0.23**	J
Benzyl chloride	< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		<8.5		< 1.10		< 21.00		< 8.30		< 1.00	
Bromodichloromethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		**1.6**		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		<8.4		< 0.80		< 27.00		< 11.00		< 1.30	
Bromoform	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		<13		< 0.74		< 41.00		< 17.00		< 2.10	
Bromomethane	< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		<4.9		< 1.00		< 16.00		< 6.20		< 0.78	
Carbon disulfide	**1.2**		**1.4**		**1.1**		**1.4**		**0.41**	J	**1.8**		**0.38**	J	**1.6**		< 0.47		**1**		< 0.47		< 0.47		< 0.47		**0.38**	J	**1.3**		**0.98**		< 0.47		**0.57**		< 0.47		< 0.47		<9.7		< 0.62		< 31.00		**6.5**	J	**6.4**	
Carbon tetrachloride	< 0.96		< 0.96		**0.7**	J	< 0.96		**0.45**	J	< 0.96		< 0.96		< 0.96		**0.38**	J	< 0.96		**0.64**	J	< 0.96		< 0.96		**0.77**	J	**0.51**	J	**1**		< 0.96		< 0.96		< 0.96		< 0.96		<1.6		< 0.82		< 5.00		< 2.00		**0.43**	
Chlorobenzene	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		<5.7		< 0.60		< 18.00		< 7.40		< 0.92	
Chloroethane	< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		<8.2		< 0.87		< 26.00		< 11.00		< 1.30	
Chloroform	**12**		**7.4**		**19**		**12**		**4.4**		**34**		< 0.74		**11**		**3.7**		**30**		**0.99**		< 0.74		**5.5**		**110**		**6.7**		**4.2**		**2.3**		**18**		**4**		**1.8**		**1.7**	J	**17**		<2.3		< 7.80		**0.67**	J
Chloromethane	< 0.31		**0.4**		**0.69**		< 0.31		< 0.31		< 0.31		< 0.31		**0.86**		< 0.31		< 0.31		**0.65**		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		**1.2**	J	< 0.70		< 21.00		< 8.30		**0.34**	J
cis-1,2-Dichloroethene	**27**		**11**		**30**		**39**		**36**		**48**		< 0.60		**48**		**38**		**31**		**2.8**		< 0.60		**29**		**50**		**20**		**31**		**19**		**27**		**21**		**17**		**15**		**15**		**19**		**10**		**7.4**	
cis-1,3-Dichloropropene	< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		<5.7		< 0.59		< 18.00		< 7.30		< 0.91	
Cyclohexane	< 0.52		**3.6**		**4.8**		< 0.52		**0.63**		< 0.52		< 0.52		< 0.52		< 0.52		< 0.52		< 0.52		**27**		**0.38**	J	< 0.52		**0.7**		**1.9**		**0.49**	J	**300**		< 0.52		< 0.52		**1.5**	J	< 0.65		< 14.00		< 5.50		**15**	
Dibromochloromethane	< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		<11		< 0.94		< 34.00		< 14.00		< 1.70	
Ethyl acetate	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		NS		NS		NS		NS		NS	
Ethylbenzene	**1.2**		**0.62**	J	**0.88**		< 0.66		< 0.66		**1**		< 0.66		< 0.66		< 0.66		**1.1**		**0.62**	J	**4.3**		< 0.66		**0.53**	J	< 0.66		**1.2**		**0.57**	J	**64**		< 0.66		< 0.66		<5.4		< 0.65		< 17.00		**1.5**	J	**1.0**	
Freon 11	**2.2**		**8**		**8.5**		**4.1**		**510**	J	**7.9**		< 0.86		**1.7**		**4.9**		**34**		**5.7**		**48**		**230**		**77**		**45**		**320**		**98**		**45**		**890**		**26**		**7.6**		**940**		**380**		**4.6**	J	**4.0**	
Freon 113	**4.4**		**0.93**	J	**1.3**		**1.1**	J	**1.7**		**2.5**		< 1.20		**1.1**	J	**0.93**	J	**1.4**		**0.93**		< 1.20		**1**	J	**1.4**		**1.3**		**2.2**		**1.6**		**1.9**		**2.3**		**1.3**		**1.2**	J	< 1.50		< 31.00		< 12.00		**0.90**	J
Freon 114	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		<8.7		< 0.99		< 28.00		< 11.00		< 1.40	
Freon 12	**2.3**		**3.4**		**9.2**		**2**		**2.8**		**3**		< 0.75		**2.4**		**2.1**		**7**		**4.1**		**3.1**		**27**		**63**		**29**		**74**		**45**		**44**		**60**		**46**		**31**		**33**		**31**	J	**11**	J	**28**	
Freon 22	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**3**	J	< 1.40		< 35.00		< 14.00		**1.0**	J
Heptane	< 0.62		**12**		**2**		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		**27**		**6.4**		**0.54**	J	**17**		< 0.62		**1.1**		< 0.62		**300**		< 0.62		< 0.62		**0.78**	J	< 0.70		< 16.00		< 6.60		< 0.82	
Hexachloro-1,3-butadiene	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		<13		< 3.10		< 43.00		< 17.00		< 2.10	
Hexane	< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		**260**		< 0.54		< 0.54		**1.4**	J	< 0.70		< 14.00		**5.3**	J	**0.18**	J
Isopropyl alcohol	**31**		**300**		**510**		**47**		**39**		**3.1**		< 0.37		**3.7**		**16**		**13**		**90**		**180**		**9.5**		< 0.37		**6.7**		**37**		**46**		**5.4**		**4.6**		**23**		**6.3**	J	**6.7**	J	< 250.00		< 98.00		**26**	
m&p-Xylene	**2.5**		**1.7**		**2.6**		**0.62**	J	< 1.30		**3.1**		< 1.30		< 1.30		< 1.30		**2.3**		**1.5**		**15**		**1.1**	J	**1.7**		**1.2**	J	**3.8**		**1.8**		**270**		< 1.30		**0.57**	J	**1.3**	J	< 0.96		< 43.00		**3.8**	J	**3.4**	
Methyl Butyl Ketone	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		<13		< 1.60		< 41.00		< 16.00		< 2.00	
Methyl Ethyl Ketone	**1,400**		**540**		**220**		**620**		**120**		**130**		< 0.90		**2.4**		**1.2**		**58**		< 0.90		**690**		**3.7**		**2.2**		**1.8**		**1.1**		**0.75**	J	< 0.90		**2.8**		**0.51**	J	**4.5**	J	< 0.74		< 29.00		< 12.00		**3.9**	
Methyl Isobutyl Kelone	< 1.20		< 1.20		**1.8**		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		**2.9**		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		<13		< 1.40		< 41.00		< 16.00		**0.78**	J
Methyl methacrylate	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<13		< 0.66		< 41.00		< 16.00		< 2.00	
Methyl tert-butyl ether	< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		<4.5		< 0.54		< 14.00		< 5.80		< 0.72	
Methylene chloride	**1.8**		**48**		**160**		**8.8**		**4.9**		**20**		< 0.53		**2.8**		**4.7**		**16**		**14**		**290**		**12**		**16**		**14**		**17**		**17**		**690**		**5.1**		**11**		**7.9**	JB	< 0.80		**6.9**	J B	< 14.00		**3.8**	
Naphthalene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<16		< 2.00		< 52.00		< 21.00		< 2.80	
n-Butane	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<0.64		< 0.52		< 24.00		**20**		< 1.20	
n-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<6.9		< 1.20		< 22.00		< 8.80		< 1.10	
n-Propylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<6.1		< 0.64		< 20.00		< 7.90		< 0.98	
o-Xylene	**1**		**0.71**		**0.97**		< 0.66		< 0.66		**1**		< 0.66		< 0.66		< 0.66		**0.88**		**0.44**	J	**4.5**		< 0.66		**0.66**		< 0.66		**0.88**		< 0.66		**56**		< 0.66		< 0.66		<5.4		< 0.69		< 17.00		**1.1**	J	**0.93**	
Propylene	< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		NS		NS		NS		NS		NS	
sec-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<6.9		< 0.82		< 22.00		< 8.80		< 1.10	
Styrene	**1.5**		**1.2**		**1.8**		< 0.65		< 0.65		**0.61**	J	< 0.65		< 0.65		< 0.65		**1**		**0.78**		**0.95**		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		<5.3		< 0.47		< 17.00		< 6.80		**0.24**	J
tert-Butyl alcohol	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<95		< 1.20		< 300.00		< 120.00		< 15.00	
tert-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		<6.9		< 0.60		< 22.00		< 8.80		< 1.10	
Tetrachloroethylene	**16,000**		**830**		**3,300**		**7,000**		**1,500**		**2,000**		< 1.00		**3,800**		**2,300**		**1,800**		**280**		< 1.00		**1,100**		**3,300**		**1,600**		**1,900**		**1,600**		**2,900**		**5,800**		**2,500**		**1,400**		**1,500**		**2,300**		**1200**		**660**	D
Tetrahydrofuran	**870**		**360**		**240**		**400**		**51**		**120**		< 0.45		**2**		**1.3**		**53**		< 0.45		**1,700**		**5.5**		**3**		**6.3**		<0.45		**0.96**		< 0.45		**1.2**		< 0.45		<92		< 0.86		< 290.00		< 120.00		< 15.00	
Toluene	**2.5**		**2**		**2**		**1.3**		**0.61**		**3.2**		< 0.57		**0.38**	J	< 0.57		**6.4**		**2**		**5.9**		**1.1**		**1.8**		**0.46**	J	**5.7**		**1**		**810**		**0.5**	J	< 0.57		**7.7**		**1.6**		**1.6**	J	**3.0**	J	**1.9**	
trans-1,2-Dichloroethene	**5**		**0.93**		< 0.60		**1.6**		**1.9**		**1.6**		< 0.60		**1.6**		**2.2**		**2.5**		< 0.60		< 0.60		**3.3**		**1.7**		**1.5**		**4.4**		**3.2**		< 0.60		< 0.60		**3.8**		**1.5**	J	< 0.91		< 16.00		< 6.30		**5.2**	
trans-1,3-Dichloropropene	< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		<5.7		< 0.68		< 18.00		< 7.30		< 0.91	
Trichloroethene	**580**	J	**30**		**110**		**89**		**96**		**190**		< 0.82		**180**		**92**		**89**		**7.4**		**4.6**		**50**		**130**		**51**		**82**		**64**		**88**		**87**		**64**		**45**		**97**		**69**		**39**		**27**	
Vinyl acetate	< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		NS		NS		NS		NS		NS	
Vinyl Bromide	< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		<5.5		< 0.83		< 17.00		< 7.00		< 0.87	
Vinyl chloride	< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		<0.64		< 0.23		< 2.00		< 0.82		< 0.10	
Cumulative VOCs (µg/m³)[2]	**19,006.15**		**2,207.49**		**4,726.54**		**8,249.52**		**2,384.80**		**2,599.61**		**0.38**		**4,064.20**		**2,470.11**		**2,297.89**		**472.60**		**3,229.48**		**1,496.87**		**3,789.49**		**1,791.47**		**2,512.66**		**1,910.57**		**6,507.52**		**6,895.17**		**2,709.08**		**1,560.58**		**2,641.00**		**2,807.50**		**1,316.30**		**811.44**	
Target VOCs (µg/m³)[3]	**16,612.00**		**871.93**		**3,440.00**		**7,129.60**		**1,633.90**		**2,239.60**		**0.00**		**4,029.60**		**2,432.20**		**1,922.50**		**290.20**		**4.60**		**1,182.30**		**3,481.70**		**1,672.50**		**2,017.40**		**1,686.20**		**3,015.00**		**5,908.00**		**2,584.80**		**1,461.50**		**1,612.00**		**2,388.00**		**1,249.00**		**699.60**	

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.
3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.
4. Due to COVID-19, no vapor sample was collected from SDS-1 during the April 2020 quarterly event.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m³ - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-3. SDS-1 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-1																																	
Date	7/10/2014		10/9/2014		1/7/2015		4/15/2015		7/8/2015		10/7/2015		1/7/2016		4/7/2016		7/12/2016		10/12/2016		1/12/2017		4/13/2017		7/20/2017		10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019		4/2/2019		7/9/2019		10/1/2019		1/21/2020	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	< 5.50		< 8.70		**0.33**	J	**0.26**	J	**0.25**	J	< 1.10		< 1.10		**0.83**	J	**0.27**	J	< 1.10		< 2.20		< 2.20		< 2.20		< 2.10		< 2.20		< 2.50		< 2.20		< 2.30		< 2.40		< 2.20		< 71.60		< 1.90		< 1.90	
1,1,2,2-Tetrachloroethane	< 6.90		< 11.00		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.30		< 2.80		< 1.60		< 1.40		< 1.40		< 1.50		< 1.40		< 45.00		< 1.20		< 1.20	
1,1,2-Trichloroethane	< 5.50		< 8.70		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 2.20		< 1.10		< 1.00		< 5.60		< 1.20		< 1.10		< 1.10		< 1.20		< 1.10		< 35.80		< 0.97		< 0.97	
1,1-Dichloroethane	< 4.00		< 6.50		**0.24**	J	< 0.81		**0.27**	J	**0.12**	J	< 0.81		< 0.81		**0.40**	J	**0.11**	J	< 1.70		< 1.60		< 1.60		< 1.50		< 1.70		< 1.80		< 1.70		< 1.70		< 1.80		< 1.70		< 53.10		< 1.40		< 1.40	
1,1-Dichloroethene	< 4.00		< 6.30		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 1.60		< 1.60		< 1.60		< 1.50		< 1.60		< 1.80		< 1.60		< 1.70		< 1.80		< 1.60		< 52.00		< 1.40		< 1.40	
1,2,4-Trichlorobenzene	< 19.00		< 30.00		**1.0**	J	< 3.70		< 3.70		< 3.70		< 3.70		< 3.70		< 3.70		< 3.70		< 7.60		< 7.30		< 7.30		< 7.00		< 7.60		< 8.40		< 7.60		< 15.50		< 16.50		< 15.20		< 486.00		< 13.20		< 13.20	
1,2,4-Trimethylbenzene	< 4.90		< 7.90		**0.26**	J	**0.22**	J	**0.19**	J	< 0.98		< 0.98		**0.51**	J	**0.47**	J	< 0.98		**5.7**		< 1.90		< 1.90		< 1.90		< 2.00		**7.4**		< 2.00		< 2.10		< 2.20		< 2.00		< 64.40		< 1.70		< 1.70	
1,2-Dibromoethane	< 7.70		< 12.00		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50		< 3.20		< 3.00		< 30		< 2.90		< 3.20		< 3.50		< 3.20		< 1.60		< 1.70		< 1.60		< 50.40		< 1.40		< 1.40	
1,2-Dichlorobenzene	< 6.00		< 9.60		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		**0.60**	J	< 1.20		< 1.20		< 2.50		< 2.40		< 5.90		< 2.30		< 2.50		< 2.70		< 2.50		< 2.50		< 2.70		< 2.70		< 78.70		< 2.10		< 2.10	
1,2-Dichloroethane	< 4.00		< 6.50		< 0.81		< 0.81		< 0.81		< 0.81		< 0.81		**4.5**		< 0.81		< 0.81		< 0.83		< 1.60		< 0.80		< 0.77		< 0.83		< 0.92		< 0.83		< 0.85		< 0.90		< 0.90		< 26.50		< 0.72		< 0.72	
1,2-Dichloropropane	< 4.60		< 7.40		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 1.90		< 1.80		< 1.80		< 1.80		< 1.90		< 2.10		< 1.90		< 1.90		< 2.10		< 2.10		< 60.60		< 1.60		< 1.60	
1,3,5-Trimethylbenzene	< 4.90		< 7.90		< 0.98		< 0.98		**0.15**	J	< 0.98		< 0.98		**0.34**	J	< 0.98		< 0.98		< 2.00		< 1.90		< 1.90		< 1.90		< 2.00		**3.7**		< 2.00		< 2.10		< 2.20		< 2.00		< 64.40		< 1.70		< 1.70	
1,3-butadiene	< 2.20		< 3.50		< 0.44		< 0.44		< 0.44		< 0.44		< 0.44		< 0.44		< 0.44		< 0.44		< 0.91		< 0.87		< 0.87		< 0.84		< 0.91		< 1.00		< 0.91		< 0.93		< 0.99		< 0.90		< 29.00		< 0.79		< 0.79	
1,3-Dichlorobenzene	**0.45**	BJ	< 9.60		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 2.50		< 2.40		< 5.90		< 2.30		< 2.50		< 2.70		< 2.50		< 2.50		< 2.70		< 2.50		< 78.70		< 2.10		< 2.10	
1,4-Dichlorobenzene	< 6.00		< 9.60		**0.13**	J	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 2.50		< 2.40		< 5.90		< 2.30		< 2.50		< 2.70		< 2.50		< 6.30		< 6.70		< 6.20		< 197.00		< 5.40		< 5.40	
1,4-Dioxane	< 90.00		< 140.00		< 18.00		< 18.00		< 18.00		< 18.00		< 18.00		< 18.00		< 18.00		< 18.00		< 7.40		< 7.10		< 7.10		< 6.80		< 7.40		< 8.20		< 7.40		< 7.50		< 8.00		< 7.40		< 236.00		< 6.40		< 6.40	
2-Chlorotoluene	< 5.20		< 8.30		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
2,2,4-trimethylpentane	< 4.70		< 7.50		< 0.93		< 0.93		< 0.93		< 0.93		< 0.93		< 0.93		**0.84**	J	< 0.93		< 4.80		< 4.60		< 4.60		< 4.40		< 4.80		< 5.30		< 4.80		< 4.90		< 5.20		< 4.80		< 153.00		< 4.10		< 4.10	
4-ethyltoluene	< 4.90		< 7.90		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98		**0.23**	J	< 0.98		< 0.98		< 2.00		< 1.90		< 1.90		< 1.90		< 2.00		**2.6**		< 2.00		< 5.20		< 5.50		< 5.00		< 161.00		< 4.40		< 4.40	
4-Isopropyltoluene	< 5.50		< 8.80		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 2.30		< 2.20		< 2.20		< 2.10		< 2.30		**4.6**		**6.9**		< 2.30		< 2.50		< 2.30		< 72.20		< 2.00		< 2.00	
Acetone	< 59.00		< 95.00		**10**	J	**29**		**12**	J	**26**		**7.5**	J	**16**		**11**	J	**7.6**	J	**74.6**		**27.5**		**44.0**		**155**		**19.6**		**22.2**		**30.6**		**54.1**		**22.5**		**9.5**		< 155.00		**19.1**		**59.3**	
Allyl chloride	< 7.80		< 13.00		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 3.20		< 3.10		< 3.10		< 3.00		< 3.20		< 3.60		< 3.20		< 3.30		< 3.50		< 3.20		< 103.00		< 2.80		< 2.80	
Benzene	< 3.20		< 5.10		**0.25**	J	**0.14**	J	**0.16**	J	< 0.64		**0.35**	J	**0.16**	J	**0.36**	J	< 0.64		**3.9**		< 1.30		**1.6**		< 0.61		< 0.66		< 0.73		< 0.66		< 0.67		< 0.67		< 0.71		< 0.65		< 21.00		< 0.57		< 0.57	
Benzyl chloride	< 5.20		< 8.30		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 2.10		< 2.00		< 2.00		< 1.90		< 2.00		< 2.40		< 2.10		< 5.40		< 5.80		< 5.30		< 170.00		< 4.60		< 4.60	
Bromodichloromethane	< 6.70		< 11.00		< 1.30		< 1.30		**0.22**	J	< 1.30		< 1.30		< 1.30		**0.23**	J	< 1.30		< 2.70		< 2.60		< 2.60		< 2.50		< 6.90		< 3.00		< 2.70		< 2.80		< 3.00		< 2.70		< 87.70		< 2.40		< 2.40	
Bromoform	< 10.00		< 17.00		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 4.20		< 4.10		< 10.20		< 3.90		< 4.20		< 4.70		< 4.20		< 10.80		< 11.50		< 10.60		< 339.00		< 9.20		< 9.20	
Bromomethane	< 3.90		< 6.20		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 1.60		< 1.50		< 1.50		< 1.50		< 1.60		< 1.80		< 1.60		< 1.60		< 1.60		< 1.70		< 1.60		< 50.90		< 1.40		< 1.40	
Carbon disulfide	< 7.80		< 12.00		**0.48**	J	< 1.60		**1.2**	J	**1.9**		< 1.60		**0.95**	J	**0.17**	J	< 1.60		< 1.30		< 1.20		< 1.20		< 1.20		< 1.30		**6.7**		< 1.30		**10.1**		< 1.40		< 1.30		< 40.80		< 1.10		< 1.10	
Carbon tetrachloride	< 1.30		< 2.00		**0.67**		**0.47**		**0.43**		**0.46**		**0.51**		**0.50**		**0.46**		**0.45**		< 1.30		< 1.20		< 1.20		< 1.20		< 6.50		< 7.20		< 6.50		< 2.60		< 2.80		< 2.60		< 82.60		< 2.20		< 2.20	
Chlorobenzene	< 4.60		< 7.40		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 1.90		< 1.80		< 1.80		< 1.80		< 1.90		< 2.10		< 1.90		< 1.90		< 2.00		< 1.00		< 60.40		< 1.60		< 1.60	
Chloroethane	< 6.60		< 11.00		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.10		< 1.00		< 1.00		< 1.00		< 1.10		< 1.20		< 1.10		< 1.10		< 1.20		< 1.10		< 34.60		< 0.94		< 0.94	
Chloroform	**17**		< 7.80		**1.1**		**1.2**		**22**		**4.8**		**11**		**5.7**		**13**		**4.0**		< 1.00		< 0.96		< 0.96		**5.9**		< 1.00		**1.3**		**11.6**		**3.1**		**1.2**		**2.6**		**34.1**		**5.1**		**1.3**	
Chloromethane	< 5.20		< 8.30		**0.37**	J	**0.35**	J	**0.32**	J	< 1.00		< 1.00		< 1.00		**0.29**	J	**0.19**	J	**1.8**		**0.94**		**1.1**		< 0.79		< 0.85		**0.97**		< 0.85		< 0.87		< 0.92		< 0.84		< 27.10		< 0.74		< 0.74	
cis-1,2-Dichloroethene	**13**		**10**		**11**		**9.6**		**12**		**11**		**8.6**		**8.8**		**9.1**		**9.3**		< 1.60		< 1.60		< 1.60		< 1.50		**8.5**		**9.3**		**8.6**		**7.0**		**7.4**		**7.5**		< 52.00		**7.4**		**4.9**	
cis-1,3-Dichloropropene	< 4.50		< 7.30		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 1.90		< 1.80		< 1.80		< 1.70		< 4.70		< 2.10		< 1.90		< 1.90		< 2.00		< 1.90		< 59.50		< 1.60		< 1.60	
Cyclohexane	**22**		< 5.50		**0.56**	J	**0.21**	J	**0.12**	J	< 0.69		**1.6**		**0.72**		**0.49**	J	< 0.69		**26.1**		**9.4**		**6.9**		**8.1**		**1.6**		**3.1**		**2.6**		**9.8**		< 3.80		< 3.50		< 113.00		< 3.10		< 3.10	
Dibromochloromethane	< 8.50		< 14.00		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 3.50		< 3.40		< 3.40		< 3.20		< 3.50		< 3.90		< 3.50		< 3.60		< 3.80		< 3.50		< 112.00		< 3.00		< 3.00	
Ethyl acetate	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 1.50		< 1.40		< 1.40		**1.6**		< 1.50		< 1.60		< 1.50		< 1.50		< 1.60		< 1.50		< 47.30		< 1.30		< 1.30	
Ethylbenzene	**0.38**	J	< 6.90		**0.56**	J	**0.24**	J	**0.22**	J	**0.69**	J	**0.42**	J	**0.68**	J	**0.86**	J	**0.82**	J	**2.8**		< 1.70		**2.9**		**7.5**		**2.2**		**4.4**		**1.9**		< 1.80		< 1.90		< 1.80		< 57.00		< 1.50		< 1.50	
Freon 11	**4.2**	J	< 9.00		**2.8**		**2.4**		**3.3**		**3.3**		**2.0**		**2.2**		**6.6**		**50**		**2.8**		< 2.20		< 2.20		< 2.10		< 2.30		< 2.60		**3.9**		**3.4**		< 2.50		**3.0**		< 73.50		**10.1**		**1.5**	J
Freon 113	**1.2**	J	< 12.00		**1.1**	J	**0.97**	J	**0.93**	J	**0.91**	J	**0.86**	J	< 1.50		**0.97**	J	< 1.50		< 3.20		< 3.10		< 3.00		< 3.00		< 3.20		< 3.50		< 3.20		< 3.20		< 3.40		< 3.10		< 101.00		< 2.70		< 2.70	
Freon 114	< 7.00		< 11.00		< 1.40		< 1.40		**3.8**		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 2.90		< 2.80		< 2.80		< 2.70		< 2.90		< 3.20		< 2.90		< 2.90		< 3.10		< 2.90		< 91.60		< 2.50		< 2.50	
Freon 12	**20**		**17**	J	**16**		**15**		**8.1**		**27**		**11**		**15**		**5.4**		**18**		**3.3**		**2.7**		**2.3**		< 1.90		**3.6**		**12.2**		**5.5**		**12.9**		**17.2**		**22.2**		< 65.10		**18.5**		**7.6**	
Freon 22	**1.6**	J	< 14.00		**1.3**	J	**1.6**	J	**1.6**	J	**1.1**	J	**1.5**	J	**1.4**	J	**1.0**	J	**1.2**	J	< 1.50		< 1.40		< 1.40		< 1.30		< 1.50		< 1.60		**2.5**		< 3.70		< 3.90		< 3.60		< 116.00		< 3.20		< 3.20	
Heptane	< 4.10		**11**		< 0.82		< 0.82		< 0.82		**0.23**	J	< 0.82		**0.50**	J	**0.74**	J	< 0.82		**6.8**		< 1.60		< 1.60		< 1.60		< 1.70		**2.7**		< 1.70		< 1.70		< 1.80		< 1.70		< 53.70		< 1.50		< 1.50	
Hexachloro-1,3-butadiene	< 11.00		< 17.00		**2.4**		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 4.40		< 4.20		< 10.50		< 4.10		< 4.40		< 4.90		< 4.40		< 11.20		< 11.90		< 10.90		< 350.00		< 9.50		< 9.50	
Hexane	< 3.50		< 5.60		< 0.70		< 0.70		< 0.70		< 0.71		< 0.71		< 0.71		**1.0**		< 0.71		**156**		**2.6**		**3.5**		**2.9**		**2.9**		**3.0**		< 1.40		**2.4**		< 1.60		< 1.40		< 46.20		< 1.30		< 1.30	
Isopropyl alcohol	**12**	J	**17**	J	**87**		**40**		**33**		**12**		**19**		**54**		**39**		**36**		**40.5**		**259**		**1860**	E	**669**		**49.4**		**165**		**84.4**		**266**		**247**		**251**		**312**		**2930**		**272**	
m&p-Xylene	< 11.00		< 17.00		**2.1**	J	**0.80**	J	**0.63**	J	**2.7**		**1.4**	J	**3.1**		**3.1**		**3.1**		**11.4**		**5.5**		**9.8**		**28.7**		**10.6**		**22.7**		**7.7**		< 3.60		< 3.90		< 3.60		< 114.00		< 3.10		< 3.10	
Methyl Butyl Ketone	< 10.00		< 16.00		< 2.00		< 2.00		< 2.00		< 2.10		< 2.10		< 2.10		**0.59**	J	**0.29**	J	< 8.40		< 8.10		< 8.10		< 7.80		< 8.40		< 9.30		< 8.40		< 8.60		< 9.10		< 9.10		< 268.00		< 7.30		< 7.30	
Methyl Ethyl Ketone	< 7.40		< 12.00		**1.6**		**3.0**		**2.4**		**2.6**		< 1.50		**3.2**		**2.5**		**0.96**	J	< 6.10		< 5.80		< 5.80		**8.0**		**14.5**		< 6.70		< 6.10		< 6.20		< 6.60		< 6.00		< 194.00		< 5.20		**4.8**	J
Methyl Isobutyl Ketone	< 10.00		< 16.00		< 2.00		< 2.00		< 2.00		**0.70**	J	< 2.10		< 2.10		< 2.10		**0.39**	J	< 8.40		< 8.10		< 8.10		< 7.80		< 10.50		< 9.30		< 8.40		< 8.60		< 9.10		< 8.40		< 268.00		< 7.30		< 7.30	
Methyl methacrylate	< 10.00		< 16.00		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 4.80		< 4.60		< 4.60		< 1.60		< 1.70		< 1.90		< 1.70		< 1.70		< 1.70		< 1.80		< 1.70		< 53.70		< 1.50		< 1.50	
Methyl tert-butyl ether	< 3.60		< 5.80		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 7.40		< 7.10		< 7.10		< 6.90		< 7.40		< 8.20		< 7.40		< 7.50		< 8.00		< 7.40		< 236.00		< 6.40		< 6.40	
Methylene chloride	**8.0**	J	**7.7**	J	**7.9**		**5.8**		**8.0**	B	**3.0**		**3.4**		**1.9**		**2.2**		**3.3**		**855**		**22.2**		**44.6**		**193**		**38.1**		**21.9**		**20.3**		**34.1**		**16.9**		**14.8**		< 228.00		< 6.20		**10.9**	
Naphthalene	< 13.00		< 21.00		**0.92**	J	< 2.60		< 2.60		< 2.60		< 2.60		< 2.60		< 2.60		< 2.60		< 5.40		< 5.20		< 5.20		< 5.00		< 5.40		< 6.00		< 5.40		< 5.50		< 5.80		< 5.30		< 172.00		< 4.70		< 4.70	
n-Butane	< 5.90		< 9.50		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		**2.0**		< 1.20		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Butylbenzene	< 5.50		< 8.80		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 5.60		< 5.40		< 5.40		< 5.20		< 5.60		< 6.20		< 5.60		< 5.70		< 6.10		< 5.60		< 180.00		< 4.90		< 4.90	
n-Propylbenzene	< 4.90		< 7.90		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98		< 5.00		< 4.80		< 4.80		< 4.70		< 5.00		< 5.60		< 5.00		< 5.20		< 5.50		< 5.00		< 161.00		< 4.40		< 4.40	
o-Xylene	< 4.30		< 6.90		**0.51**	J	**0.23**	J	**0.18**	J	**0.76**	J	**0.34**	J	**1.7**		**0.87**		**0.82**	J	**4.2**		**1.9**		**2.6**		**6.4**		< 1.80		**6.2**		**2.0**		< 1.80		< 1.90		< 1.80		< 57.00		< 1.50		< 1.50	
Propylene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 0.71		**2.8**		**1.9**		**3.0**		< 0.71		< 0.78		< 0.71		< 0.72		< 0.77		**0.79**		< 22.60		**0.81**		**0.92**	
sec-Butylbenzene	< 5.50		< 8.80		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 5.60		< 5.40		< 5.40		< 5.20		< 5.60		< 6.20		< 5.60		< 5.70		< 6.10		< 5.60		< 180.00		< 4.90		< 4.90	
Styrene	< 4.30		< 6.80		**0.16**	J	< 0.85		**0.10**	J	< 0.85		< 0.85		**0.21**	J	**0.18**	J	**0.21**	J	< 1.80		< 1.70		**1.7**		< 1.60		< 1.80		< 1.90		**1.8**		< 1.80		< 1.90		< 1.70		< 55.90		< 1.50		< 1.50	
tert-Butyl alcohol	< 76.00		< 120.00		**0.61**	J	< 15.00		**0.41**	J	< 15.00		< 15.00		< 15.00		< 15.00		< 15.00		< 6.20		< 6.00		< 60		< 5.80		< 6.20		< 6.90		< 6.20		< 6.30		< 6.70		< 6.20		< 199.00		< 5.40		< 5.40	
tert-Butylbenzene	< 5.50		< 8.80		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 2.80		< 2.70		< 2.70		< 2.60		< 2.80		< 3.10		< 2.80		< 2.30		< 2.50		< 2.30		< 72.20		< 2.00		< 2.00	
Tetrachloroethylene	**1300**		**1200**		**920**	D	**1200**	D	**980**	D	**1100**	D	**620**	D	**940**	D	**920**	D	**1400**	D	**22.2**		< 1.30		**1.6**		**3.3**		**1620**		**412**		**949**		**639**		**760**		**1680**		**1480**		**744**	
Tetrahydrofuran	< 74.00		< 120.00		< 15.00		< 15.00		< 15.00		< 15.00		< 15.00		< 15.00		< 15.00		< 15.00		< 1.20		< 1.20		< 1.20		**1.5**		< 1.20		< 1.30		< 1.20		< 1.20		**1.6**		< 1.20		< 38.70		< 1.00		< 1.00	
Toluene	**0.59**	J	< 6.00		**0.45**	J	**0.74**		**0.58**	J	**0.42**	J	< 0.75		**1.2**		**1.8**		**0.47**	J	**17**		**5.6**		**11.1**		**8.5**		< 1.60		**79.6**		**9.6**		**3.4**		< 1.70		< 1.50		< 49.40		**1.7**		**1.3**	J
trans-1,2-Dichloroethene	**1.7**	J	< 6.30		**1.3**		**1.2**		**0.94**		**1.1**		**1.1**		**1.1**		**0.85**		**0.88**		< 1.60		< 1.60		< 1.60		< 1.50		< 1.60		< 1.80		< 1.60		< 1.70		< 1.80		< 1.60		< 52.00		< 1.40		< 1.40	
trans-1,3-Dichloropropene	< 4.50		< 7.30		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 1.90		< 1.80		< 1.80		< 1.70		< 4.70		< 2.10		< 1.90		< 1.90		< 2.00		< 1.90		< 59.50		< 1.60		< 1.60	
Trichloroethene	**53**		**40**		**37**		**30**		**40**		**43**		**29**		**34**		**36**		**45**		**1.3**		< 1.10		**1.4**		< 1.00		**30.8**		**19.8**		**40**		**28.6**		**23.8**		**32.9**		**52.7**		**43.5**		**21.6**	
Vinyl acetate	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**6**		< 1.40		**2.3**		**4.7**		< 1.40		**5.0**		**2.1**		< 1.50		< 1.60		< 1.40		< 46.20		< 1.30		< 1.30	
Vinyl Bromide	< 4.40		< 7.00		< 0.87		< 0.87		< 0.87		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 4.50		< 4.30		< 4.30		< 4.20		< 4.50		< 10.00		< 9.00		< 1.80		< 1.90		< 1.80		< 57.30		< 1.60		< 1.60	
Vinyl chloride	< 0.51		< 0.82		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.53		< 0.50		< 0.50		< 0.49		< 0.53		< 0.58		< 0.53		< 0.54		< 0.57		< 0.52		< 16.80		< 0.46		< 0.46	
Cumulative VOCs (µg/m3)[2]	**1,455.12**		**1,302.70**		**1,110.10**		**1,343.43**		**1,133.80**		**1,243.79**		**719.58**		**1,100.03**		**1,062.74**		**1,583.09**		**1,241.40**		**340.14**		**1,999.30**		**1,097.10**		**1,803.80**		**820.07**		**1,191.00**		**1,073.90**		**1,097.60**		**2,024.29**		**2,078.80**		**4,516.21**		**1,125.32**	
Target VOCs (µg/m3)[3]	**1,367.70**		**1,250.00**		**969.30**		**1,240.80**		**1,032.94**		**1,155.10**		**658.70**		**983.90**		**965.95**		**1,455.18**		**23.50**		**0.00**		**3.00**		**3.30**		**1,659.30**		**441.10**		**997.60**		**674.60**		**791.20**		**1,720.40**		**1,732.70**		**1,530.90**		**770.50**	

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.

3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m^3 - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-4. SDS-2 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-2																															
Date	7/17/2008		8/13/2008		9/11/2008		10/10/2008		4/7/2009		7/11/2009		10/9/2009		1/21/2010		7/8/2010		1/7/2011		3/8/2011		4/4/2011		7/6/2011		10/22/2011		1/11/2012		4/3/2012		7/11/2012	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	**110**		**15**		**27**	J	**26**		**16**		**21**		**9.4**		**8**		**11**		**15**		**9.9**		**16**		**26**		**20**		**24**		**22**		**19**	
1,1,2,2-Tetrachloroethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00	
1,1,2-Trichloroethane	< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83	
1,1-Dichloroethane	< 0.62		**0.74**		**0.95**		**0.91**		**1.5**		**1.8**		**1.3**		**0.99**		**1.6**		**1.2**		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62	
1,1-Dichloroethene	< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60	
1,2,4-Trichlorobenzene	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10	
1,2,4-Trimethylbenzene	**4.1**		**1.9**		**1.9**		**0.9**		**0.75**		**5.3**		**1.5**		< 0.75		**5.3**		**1.2**		**2.3**		**1.4**		**3.9**		< 0.75		**0.95**		< 0.75		**11**	
1,2-Dibromoethane	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20	
1,2-Dichlorobenzene	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92	
1,2-Dichloroethane	**0.53**	J	< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62	
1,2-Dichloropropane	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70	
1,3,5-Trimethylbenzene	**2.5**		**1.1**		**2**		**0.55**	J	< 0.75		**1.8**		**0.5**	J	< 0.75		**1.8**		< 0.75		**0.65**	J	< 0.75		**1.7**		< 0.75		< 0.75		< 0.75		**3.4**	
1,3-butadiene	< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34	
1,3-Dichlorobenzene	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92	
1,4-Dichlorobenzene	**1.1**		**0.79**	J	**0.73**	J	< 0.92		< 0.92		**0.79**	J	**1.3**		< 0.92		< 0.92		< 0.92		< 0.92		**1.4**		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92	
1,4-Dioxane	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		**0.73**	J	< 1.10		< 1.10		< 1.10		< 1.10	
2-Chlorotoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
2,2,4-trimethylpentane	< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		**6.1**	
4-ethyltoluene	**1.1**		**0.55**	J	**1**		< 0.75		< 0.75		**1.8**		**0.55**	J	< 0.75		**0.8**		< 0.75		**0.6**	J	< 0.75		**1**		< 0.75		< 0.75		< 0.75		**3.5**	
4-Isopropyltoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Acetone	**57**		**45**		**27**	J	**13**		**49**		**37**		**16**		**34**		**150**		**27**		**38**		**32**		**23**		**120**		**230**		**9.7**		**140**	
Allyl chloride	**0.6**		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48	
Benzene	**0.65**		< 0.49		**0.42**	J	< 0.49		**0.39**	J	**0.32**	J	**0.49**		< 0.49		< 0.49		**1.1**		**0.55**		**0.49**		**0.45**	J	**0.58**		< 0.49		**4.4**		**0.39**	J
Benzyl chloride	< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88	
Bromodichloromethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00	
Bromoform	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60	
Bromomethane	< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59	
Carbon disulfide	**0.54**		**0.89**		**1.1**		**0.73**		**0.57**		**1.3**		**2.2**		< 0.47		**0.98**		< 0.47		< 0.47		< 0.47		**0.51**		**0.57**		**0.98**		**0.32**	J	**0.57**	
Carbon tetrachloride	< 0.96		< 0.96		**0.64**	J	< 0.96		**0.51**	J	< 0.96		**0.64**	J	**0.32**	J	< 0.96		**0.77**	J	< 0.96		< 0.96		**0.9**	J	**0.38**	J	**0.83**	J	< 0.96		< 0.96		**0.7**	J
Chlorobenzene	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70	
Chloroethane	< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40	
Chloroform	**4.4**		**2.7**		**5**		**3.7**		**2.5**		**5.6**		**10**		**1.9**		**4.3**		**3.3**		**1.2**		**1.7**		**3.4**		**2.7**		**1.9**		**1.3**		**3**	
Chloromethane	< 0.31		**0.38**		**0.55**		< 0.31		< 0.31		< 0.31		**0.9**		**0.29**	J	< 0.31		< 0.31		**0.36**		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31	
cis-1,2-Dichloroethene	< 0.60		< 0.60		**0.4**	J	< 0.60		**2.1**		**3.6**		**12**		**1.8**		**2.5**		**1.9**		< 0.60		**0.48**	J	**0.77**		< 0.60		< 0.60		< 0.60		**0.48**	J
cis-1,3-Dichloropropene	< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69	
Cyclohexane	**1.4**		**3.6**		**2.5**		**0.8**		**0.98**		**4.9**		< 0.52		**1**		< 0.52		< 0.52		**3.2**		**4.9**		**4.4**		**0.84**		**1.4**		**0.91**		**5.7**	
Dibromochloromethane	< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30	
Ethyl acetate	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92	
Ethylbenzene	**1.4**		**0.66**		**0.53**	J	< 0.66		< 0.66		**1**		**0.49**	J	< 0.66		**0.66**		**0.71**		**1.1**		**0.84**		**1.5**		**0.75**		**1.9**		**0.62**	J	**8.8**	
Freon 11	**8.4**		**6.6**		**8.3**		**3.1**		**240**		**14**		**4.5**		**3.7**		**22**		**18**		**64**		**25**		**210**		**220**		**860**		**120**		**73**	
Freon 113	**3.4**		**1.7**		**2.6**		**2.3**		**2.3**		**3.5**		**2.3**		**1.3**		**2.2**		**2.7**		**1.3**		**1.4**		< 1.20		**1.6**		**2.3**		**1.2**		**1.5**	
Freon 114	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		**1.6**		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10	
Freon 12	**40**		**30**		**56**		**76**		**26**		**95**		**28**		**26**		**59**		**49**		**15**		**32**		**230**		**200**		**64**		**38**		**65**	
Freon 22	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Heptane	**1.6**		**1.5**		< 0.62		< 0.62		**0.54**	J	< 0.62		< 0.62		**0.54**	J	< 0.62		< 0.62		**0.92**		**1.2**		**2.5**		< 0.62		**1.2**		**0.71**		**8.6**	
Hexachloro-1,3-butadiene	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60	
Hexane	< 0.54		**3**		< 0.54		< 0.54		< 0.54		**5.8**		**0.93**		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		**6**	
Isopropyl alcohol	**1,100**		**550**		**560**		**340**		**720**		**1,300**		**260**		**360**		**1,500**		**570**		**110**		**460**	E	**110**		**14**		**1,500**		**220**		**1,500**	
m&p-Xylene	**3.1**		**1.9**		**1.3**		**0.53**	J	**0.49**	J	**2.6**		**1.1**	J	< 1.30		**1.8**		**1.7**		**4.2**		**2.3**		**4.7**		**2.3**		**6.6**		**1.6**		**30**	
Methyl Butyl Ketone	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20	
Methyl Ethyl Ketone	**18**		**9.3**		**5.6**		**4.8**		**2.1**		**1.6**		**5.7**		**2.2**		**100**		**2.4**		**76**		**7.8**	J	**4.5**		**11**		**2.1**		**0.96**		< 0.90	
Methyl Isobutyl Ketone	< 1.20		**0.54**	J	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20	
Methyl methacrylate	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Methyl tert-butyl ether	< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55	
Methylene chloride	**4.6**		**22**		**6.7**		**6.1**		**5.8**		**20**		**13**		**12**		**14**		**2.6**		**28**		**26**		**39**		**3.3**		**9.5**		**8.5**		**39**	
Naphthalene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Butane	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Propylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
o-Xylene	**1.1**		**0.79**		**0.53**	J	< 0.66		< 0.66		**0.93**		**0.53**	J	< 0.66		**0.66**		**0.57**	J	**1.1**		**0.66**		**1.4**		**0.53**	J	**1.3**		< 0.66		**11**	
Propylene	< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26	
sec-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Styrene	**1.4**		**0.87**		**0.78**		**0.52**	J	**0.43**	J	**1.3**		**1**		< 0.65		**0.69**		**0.48**	J	< 0.65		**0.69**		**0.82**		< 0.65		**0.74**		< 0.65		< 0.65	
tert-Butyl alcohol	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
tert-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Tetrachloroethylene	**66**		**21**		**39**	J	**57**		**570**		**1,000**		**480**		**420**		**560**		**430**		**170**		**250**		**91**		**210**		**330**		**230**		**120**	
Tetrahydrofuran	**14**		**5.4**		**3.6**		**1.8**		< 0.45		< 0.45		**4.2**		**1.6**		**88**		< 0.45		**180**		**11**		**5.8**		**13**		<0.45		**0.84**		< 0.45	
Toluene	**5.1**		**4.4**		**1.7**		**0.96**		**1.7**		**4.2**		**2.3**		**0.8**		**2.5**		**2.2**		**1.7**		**4.4**		**5.2**		**0.54**	J	**1.3**		**1.1**		**66**	
trans-1,2-Dichloroethene	< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		**1.1**		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		**4.1**		**0.56**	J	<0.60		**2.3**		< 0.60	
trans-1,3-Dichloropropene	< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		**49**		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69	
Trichloroethene	**81**		**24**		**48**		**54**		**74**		**90**		< 8.20		**43**		**52**		**49**		**23**		**28**		**44**		**29**		**28**		**28**		**29**	
Vinyl acetate	< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54	
Vinyl Bromide	< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67	
Vinyl chloride	< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39	
Cumulative VOCs (µg/m3)[2]	**1,533.02**		**756.31**		**805.83**		**593.70**		**1,717.66**		**2,625.14**		**912.53**		**919.44**		**2,581.79**		**1,180.83**		**733.08**		**909.66**		**821.28**		**851.07**		**3,069.58**		**688.06**		**2,155.05**	
Target VOCs (µg/m3)[3]	**147.00**		**45.00**		**87.40**		**111.00**		**646.10**		**1,093.60**		**493.10**		**464.80**		**614.50**		**480.90**		**193.00**		**278.48**		**139.87**		**239.56**		**358.00**		**260.30**		**149.48**	

Sample Location	SDS-2																															
Date	7/15/2013		4/23/2013		7/11/2013		10/23/2013		2/7/2014		4/4/2014																					
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q																				
1,1,1-Trichloroethane	**21**		**22**		**20**		**13**		**18**		**12**																					
1,1,2,2-Tetrachloroethane	< 1.00		< 5.5		< 0.76		< 2.70		< 6.90		< 1.40																					
1,1,2-Trichloroethane	< 0.83		< 4.4		< 0.87		< 2.20		< 5.50		< 1.10																					
1,1-Dichloroethane	< 0.62		< 3.2		< 0.93		< 1.60		< 4.00		< 0.81																					
1,1-Dichloroethene	< 0.60		< 3.2		< 3.40		< 1.60		< 4.00		< 0.79																					
1,2,4-Trichlorobenzene	< 1.10		< 15		< 2.20		< 7.40		< 19.00		< 3.70																					
1,2,4-Trimethylbenzene	**1**		< 3.9		< 1.00		< 2.00		< 4.90		**0.33**	J																				
1,2-Dibromoethane	< 1.20		< 6.1		< 1.10		< 3.10		< 7.70		< 1.50																					
1,2-Dichlorobenzene	< 0.92		< 4.8		< 1.60		< 2.40		< 6.00		< 1.20																					
1,2-Dichloroethane	< 0.62		< 3.2		< 0.73		< 1.60		< 4.00		< 0.81																					
1,2-Dichloropropane	< 0.70		< 3.7		< 1.10		< 1.80		< 4.60		< 0.92																					
1,3,5-Trimethylbenzene	< 0.75		< 3.9		< 0.93		< 2.00		< 4.90		**0.11**	J																				
1,3-butadiene	< 0.34		< 1.8		< 0.55		< 0.88		< 2.20		< 0.44																					
1,3-Dichlorobenzene	< 0.92		< 4.8		< 1.10		< 2.40		< 6.00		< 1.20																					
1,4-Dichlorobenzene	< 0.92		< 4.8		< 1.10		< 2.40		< 6.00		< 1.20																					
1,4-Dioxane	< 1.10		< 72		< 2.50		< 36.00		< 90.00		< 18.00																					
2-Chlorotoluene	NS		NS		< 4.1		< 0.67		< 2.10		< 5.20		< 1.00																			
2,2,4-trimethylpentane	< 0.71		< 3.7		< 0.70		< 1.90		< 4.70		< 0.93																					
4-ethyltoluene	< 0.75		< 3.9		< 0.74		< 2.00		< 4.90		**0.16**	J																				
4-Isopropyltoluene	NS		< 4.4		< 1.10		< 2.20		< 5.50		< 1.10																					
Acetone	**8**		**49**		**21**	J	**11**	J	B	< 59.00		**15**																					
Allyl chloride	< 0.48		< 6.3		< 1.50		< 3.10		< 7.80		< 1.60																					
Benzene	**0.45**	J	< 2.6		< 0.58		< 1.30		**0.89**	J	**0.21**	J																				
Benzyl chloride	< 0.88		< 4.1		< 1.10		< 2.10		< 5.20		< 1.00																					
Bromodichloromethane	< 1.00		< 5.4		< 0.80		< 2.70		< 6.70		< 1.30																					
Bromoform	< 1.60		< 8.3		< 0.74		< 4.10		< 10.00		< 2.10																					
Bromomethane	< 0.59		< 3.1		< 1.00		< 1.60		< 3.90		< 0.78																					
Carbon disulfide	**0.32**	J	< 6.2		< 0.62		< 3.10		< 7.80		< 1.60																					
Carbon tetrachloride	**0.83**	J	< 0.96		< 0.82		**0.49**	J	< 1.30		**0.38**																					
Chlorobenzene	< 0.70		< 3.7		< 0.60		< 1.80		< 4.60		< 0.92																					
Chloroethane	< 0.40		< 5.3		< 0.87		< 2.60		< 6.60		< 1.30																					
Chloroform	**1.9**		**1.4**		**1.6**	J	**2.1**	J	**1.2**	J	**2.1**	J	**0.75**	J																		
Chloromethane	< 0.31		< 0.31		**1.3**	J	< 0.70		**0.85**	J	< 5.20		**0.72**	J																		
cis-1,2-Dichloroethene	< 0.60		< 0.60		< 3.2		< 3.30		< 1.60		< 4.00		< 0.79																			
cis-1,3-Dichloropropene	< 0.69		< 0.69		< 3.6		< 0.59		< 1.80		< 4.50		< 0.91																			
Cyclohexane	**1.6**		**1.9**		**2.4**	J	< 1.40		< 3.40		**13**																					
Dibromochloromethane	< 1.30		< 6.8		< 0.94		< 3.40		< 8.50		< 1.70																					
Ethyl acetate	NS		NS		NS		NS		NS		NS																					
Ethylbenzene	**0.66**		**0.56**		< 0.65		**0.23**	J	< 4.30		**0.78**	J																				
Freon 11	**29**		**19**		**680**		**31**		**9.4**		**4.80**																					
Freon 113	**1.9**		**1.4**		**1.2**	J	< 1.50		**1.1**	J	< 7.70		**0.70**	J																		
Freon 114	< 1.10		< 5.6		**3.1**	J	< 2.80		< 7.00		< 1.40																					
Freon 12	**270**		**39**		**37**		**36**		**67**		**42**		**18**																			
Freon 22	NS		NS		< 7.1		19		**1.7**	J	**1.6**	J	< 1.80																			
Heptane	**0.71**		**8.6**		< 0.62		< 0.62		< 3.3		**2.1**	J	< 1.60		< 4.10		< 0.82															
Hexachloro-1,3-butadiene	< 1.60		< 1.60		< 8.5		< 3.10		< 4.30		< 11.00		< 2.10																			
Hexane	**0.61**		< 2.8		< 0.70		**0.3**	J	**1.8**	J	**0.33**	J																				
Isopropyl alcohol	**150**		**220**		**350**		**230**		**130**		**350**		**150**	E																		
m&p-Xylene	< 1.30		**1**	J	< 8.7		< 0.96		< 4.30	J	< 11.00		**2.3**																			
Methyl Butyl Ketone	< 1.20		**1.5**	J	< 1.60		< 4.10		< 10.00		< 2.00																					
Methyl Ethyl Ketone	< 0.90		**0.84**	J	**5.2**	J	**2**	J	< 7.40		**2.2**																					
Methyl Isobutyl Ketone	< 1.20		< 8.2		< 1.40		< 4.10		< 10.00		**0.53**	J																				
Methyl methacrylate	NS		NS		< 8.2		< 0.66		< 4.10		< 10.00		< 2.00																			
Methyl tert-butyl ether	< 0.55		< 2.9		< 0.54		< 1.40		< 3.60		< 0.72																					
Methylene chloride	**9.5**		**8.5**		**39**		**4.9**		**5**	B	**4.9**	J	**4.4**																			
Naphthalene	NS		NS		< 10		< 2.00		< 5.20		< 13.00		< 2.60																			
n-Butane	NS		NS		NS		**1.1**	J	< 0.52		**2.1**	J	< 5.90		< 1.20																	
n-Butylbenzene	NS		NS		< 4.4		< 1.20		< 2.20	U	< 5.50		< 1.10																			
n-Propylbenzene	NS		NS		< 3.9		< 0.64		< 2.00		< 4.90		< 0.98																			
o-Xylene	**0.66**		**0.53**		< 3.5		< 0.69		< 1.70		< 4.30		**0.59**	J																		
Propylene	< 0.26		< 0.26		NS		NS		NS		NS																					
sec-Butylbenzene	NS		NS		< 4.4		< 0.82		< 2.20		< 5.50		< 1.10																			
Styrene	**0.74**		< 0.65		< 0.65		< 3.4		< 0.47		< 1.70		< 4.30		**0.36**	J																
tert-Butyl alcohol	NS		NS		NS		**17**	J	< 1.20		< 30.00		< 76.00		< 15.00																	
tert-Butylbenzene	NS		NS		NS		< 4.4		< 0.60		< 2.20		< 5.50		< 1.10																	
Tetrachloroethylene	**230**		**110**		**98**		**77**		**68**		**69**		**52**																			
Tetrahydrofuran	**0.84**		< 0.45

Table A-4. SDS-2 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-2																																	
Date	7/10/2014		10/9/2014		1/7/2015		4/15/2015		7/8/2015		10/7/2015		1/7/2016		4/7/2016		7/12/2016		10/12/2016		1/12/2017		4/13/2017		7/19/2017		10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019		4/2/2019		7/9/2019		10/1/2019		1/21/2020	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	**13**		**9.3**		**13**		**11**		**11**		**11**		**9.2**		**15**		**11**		**11**		**12.8**		**9.3**		**7.6**		**8.4**		**14.0**		**10.4**		**13.1**		**9.8**		**8.4**		**14.7**		**9.5**		**14.8**		**9.9**	
1,1,2,2-Tetrachloroethane	< 11.00		< 6.90		< 1.40		< 1.40		< 4.40		< 2.70		< 1.40		< 1.40		< 1.40		< 1.40		< 1.50		< 1.30		< 1.40		< 1.30		< 2.70		**1.9**		< 1.40		< 1.40		< 1.50		< 1.60		< 1.50		< 1.20		< 1.20	
1,1,2-Trichloroethane	< 8.70		< 5.50		< 1.10		< 1.10		< 3.50		< 2.20		< 1.10		< 1.10		< 1.10		< 1.10		< 1.20		< 2.10		< 1.10		< 0.99		< 5.40		**2.2**		< 1.10		< 1.10		< 1.20		< 1.20		< 1.20		< 0.93		< 0.93	
1,1-Dichloroethane	< 6.50		< 4.00		**0.13**	**J**	< 0.81		< 2.60		< 1.60		**0.12**	**J**	**0.17**	**J**	**0.10**	**J**	< 0.81		< 1.70		< 1.50		< 1.60		< 1.50		< 1.60		< 1.80		< 1.60		< 1.70		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
1,1-Dichloroethene	< 6.30		< 4.00		< 0.79		< 0.79		< 2.50		< 1.60		< 0.79		< 0.79		< 0.79		< 0.79		< 1.70		< 1.50		< 1.60		< 1.50		< 1.60		< 1.70		< 1.60		< 1.60		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
1,2,4-Trichlorobenzene	< 30.00		< 19.00		< 3.70		< 3.70		< 12.00		< 7.40		< 3.70		< 3.70		< 3.70		< 3.70		< 7.90		< 7.00		< 7.30		< 6.80		< 7.30		< 8.10		< 7.50		< 15.20		< 16.50		< 16.90		< 16.50		< 12.70		< 12.70	
1,2,4-Trimethylbenzene	< 7.90		< 4.90		**0.60**	**J**	**0.93**	**J**	< 3.20		< 2.00		**0.27**	**J**	**0.22**	**J**	**0.27**	**J**	< 0.98		**15.9**		**3.8**		**23.9**		< 1.80		< 1.90		**32.8**		**2.2**		< 2.00		< 2.20		< 2.20		< 2.20		< 1.70		< 1.70	
1,2-Dibromoethane	< 12.00		< 7.70		< 1.50		< 1.50		< 4.90		< 3.10		< 1.50		< 1.50		< 1.50		< 1.50		< 3.30		< 2.90		< 3.00		< 2.80		< 3.00		**5.8**		< 3.10		< 1.60		< 1.70		< 1.70		< 1.70		< 1.30		< 1.30	
1,2-Dichlorobenzene	< 9.60		< 6.00		< 1.20		< 1.20		< 3.90		< 2.40		< 1.20		< 1.20		< 1.20		< 1.20		< 2.60		< 2.30		< 5.90		< 2.20		< 2.40		< 2.60		< 2.40		< 2.50		< 2.70		< 2.70		< 2.70		< 2.00		< 2.00	
1,2-Dichloroethane	< 6.50		< 4.00		< 0.81		< 0.81		< 2.60		< 1.60		< 0.81		< 0.81		< 0.81		< 0.81		< 0.86		< 1.50		< 0.80		< 0.74		< 0.80		**2.7**		< 0.81		< 0.83		< 0.90		< 0.92		< 0.90		< 0.69		< 0.69	
1,2-Dichloropropane	< 7.40		< 4.60		< 0.92		< 0.92		< 3.00		< 1.80		< 0.92		< 0.92		< 0.92		< 0.92		< 2.00		< 1.80		< 1.80		< 1.70		< 1.80		< 2.00		< 1.90		< 1.90		< 2.10		< 2.10		< 2.10		< 1.60		< 1.60	
1,3,5-Trimethylbenzene	< 7.90		< 4.90		**0.26**	**J**	**0.23**	**J**	< 3.20		< 2.00		< 0.98		< 0.98		< 0.98		< 0.98		**2.5**		< 1.90		**8.2**		< 1.80		< 1.90		**5.5**		< 2.00		< 2.00		< 2.20		< 2.20		< 2.20		< 1.70		< 1.70	
1,3-butadiene	< 3.50		< 2.20		**0.20**	**J**	< 0.44		< 1.40		< 0.88		< 0.44		< 0.44		< 0.44		< 0.44		< 0.94		< 0.84		< 0.87		< 0.81		< 0.87		< 0.97		< 0.89		< 0.91		< 0.99		< 1.00		< 0.99		< 0.76		< 0.76	
1,3-Dichlorobenzene	< 9.60		< 6.00		< 1.20		< 1.20		< 3.90		< 2.40		< 1.20		< 1.20		< 1.20		< 1.20		< 2.60		< 2.30		< 5.90		< 2.20		< 2.40		< 2.60		< 2.40		< 2.50		< 2.70		< 2.70		< 2.70		< 2.00		< 2.00	
1,4-Dichlorobenzene	< 9.60		< 6.00		< 1.20		**0.75**	**J**	< 3.90		< 2.40		< 1.20		< 1.20		< 1.20		< 1.20		< 2.60		< 5.70		< 5.90		< 2.20		< 2.40		< 2.60		< 2.40		< 6.20		< 6.70		< 6.90		< 6.70		< 5.10		< 5.10	
1,4-Dioxane	< 140.00		< 90.00		< 18.00		< 18.00		< 58.00		< 36.00		< 18.00		< 18.00		< 18.00		< 18.00		< 7.70		< 6.80		< 7.10		< 6.60		< 7.10		< 7.90		< 7.20		< 7.40		< 8.00		< 8.20		< 8.00		< 6.10		< 6.10	
2-Chlorotoluene	< 8.30		< 5.20		< 1.00		< 1.00		< 3.30		< 2.10		< 1.00		< 1.00		< 1.00		< 1.00		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
2,2,4-trimethylpentane	< 7.50		< 4.70		< 0.93		< 0.93		< 3.00		**1.5**	**J**	< 0.93		< 0.93		< 0.93		< 0.93		< 5.00		< 4.40		< 4.60		< 4.30		< 4.60		< 5.10		< 4.70		< 4.80		< 5.20		< 5.30		< 5.20		< 4.00		< 4.00	
4-ethyltoluene	< 7.90		< 4.90		**0.24**	**J**	**0.34**	**J**	< 3.20		< 2.00		< 0.98		< 0.98		< 0.98		< 0.98		**4.5**		< 1.90		7.1		< 1.80		< 1.90		**11.5**		< 2.00		< 5.00		< 5.50		< 5.60		< 5.50		< 4.20		< 4.20	
4-Isopropyltoluene	< 8.80		< 5.50		< 1.10		< 1.10		< 3.50		< 2.20		< 1.10		< 1.10		< 1.10		< 1.10		**3.3**		< 2.10		< 2.20		< 2.00		< 2.20		**5.7**		**2.6**		< 2.30		< 2.50		< 2.50		< 2.50		< 1.90		< 1.90	
Acetone	**26**	**J**	< 59.00		**12**	**J**	**13**		**31**	**J**	**72**		**16**		**13**		**22**		**23**		**37.3**		**23.9**		**60.8**		**39.5**		**23.5**		**43.6**		**69**		**35.9**		**14.7**		**23.7**		**26.8**		**46.4**		**74.1**	
Allyl chloride	< 13.00		< 7.80		< 1.60		< 1.60		< 5.00		< 3.10		< 1.60		< 1.60		< 1.60		< 1.60		< 3.30		< 3.00		< 3.10		< 2.90		< 3.10		< 3.40		< 3.10		< 3.20		< 3.50		< 3.60		< 3.50		< 2.70		< 2.70	
Benzene	< 5.10		< 3.20		**0.35**	**J**	**0.33**	**J**	< 2.10		< 1.30		**0.91**		**0.22**	**J**	< 0.64		**0.23**	**J**	**0.87**		< 1.20		1.1		< 0.58		< 0.63		**7.5**		< 0.64		**1.9**		< 0.71		< 0.73		< 0.71		< 0.55		< 0.55	
Benzyl chloride	< 8.30		< 5.20		< 1.00		< 1.00		< 3.30		< 2.10		< 1.00		< 1.00		< 1.00		< 1.00		< 2.20		< 4.90		< 5.10		< 1.90		< 5.10		< 2.30		< 2.10		< 5.30		< 5.80		< 5.90		< 5.80		< 4.40		< 4.40	
Bromodichloromethane	< 11.00		< 6.70		< 1.30		< 1.30		< 4.30		< 2.70		< 1.30		< 1.30		< 1.30		< 1.30		< 2.90		< 2.50		< 2.60		< 2.40		< 6.60		< 2.90		< 2.70		< 2.70		< 3.00		< 3.00		< 3.00		< 2.30		< 2.30	
Bromoform	< 17.00		< 10.00		< 2.10		< 2.10		< 6.60		< 4.10		< 2.10		< 2.10		< 2.10		< 2.10		< 4.40		< 3.90		< 10.20		< 3.80		< 4.10		< 4.50		< 4.20		< 10.60		< 11.50		< 11.80		< 11.50		< 8.80		< 8.80	
Bromomethane	< 6.20		< 3.90		< 0.78		**0.24**	**J**	< 2.50		< 1.60		< 0.78		< 0.78		< 0.78		< 0.78		< 1.70		< 1.50		< 1.50		< 1.40		< 1.50		< 1.70		< 1.60		< 1.60		< 1.70		< 1.80		< 1.70		< 1.30		< 1.30	
Carbon disulfide	< 12.00		< 7.80		< 1.60		< 1.60		< 5.00		< 3.10		< 1.60		< 1.60		< 1.60		< 1.60		**3.9**		**3.8**		**1.2**		**3.0**		< 1.20		< 1.40		< 1.30		**7.1**		< 1.40		< 1.40		< 1.40		< 1.10		< 1.10	
Carbon tetrachloride	< 2.00		< 1.30		**0.62**		**0.47**		**0.32**	**J**	**0.43**	**J**	**0.51**		**0.51**		**0.44**		**0.44**		< 1.30		< 1.20		< 1.20		< 1.20		< 6.20		< 6.90		< 6.30		< 2.60		< 2.80		< 2.90		< 2.80		< 2.20		< 2.20	
Chlorobenzene	< 7.40		< 4.60		< 0.92		< 0.92		< 3.00		< 1.80		< 0.92		< 0.92		< 0.92		< 0.92		< 2.00		< 1.80		< 1.80		< 1.70		< 1.80		**3.2**		< 1.90		< 1.90		< 2.00		< 2.10		< 2.00		< 1.60		< 1.60	
Chloroethane	< 11.00		< 6.60		< 1.30		< 1.30		< 4.20		< 2.60		< 1.30		< 1.30		< 1.30		< 1.30		< 1.10		< 1.00		< 1.0		< 0.97		< 1.00		< 1.20		< 1.10		< 1.10		< 1.20		< 1.20		< 1.20		< 0.90		< 0.90	
Chloroform	< 7.80		< 4.90		**0.64**	**J**	**0.91**	**J**	**1.8**	**J**	**0.94**	**J**	**0.80**	**J**	**1.3**		**0.83**	**J**	**0.63**	**J**	< 2.10		< 0.93		< 0.96		**6.1**		< 0.96		**2.3**		**1.6**		**1.9**		**1.2**		**2.4**		**3.4**		**4.1**		**1.8**	
Chloromethane	< 8.30		< 5.20		**0.82**	**J**	**0.79**	**J**	**0.73**	**J**	< 2.10		< 1.00		< 1.00		**0.55**	**J**	**0.82**	**J**	< 0.88		< 0.79		< 0.81		< 0.76		< 0.81		< 0.90		**1.1**		**1.0**		< 0.92		< 0.94		< 0.92		< 0.71		< 0.71	
cis-1,2-Dichloroethene	< 6.30		< 4.00		< 0.79		**0.41**	**J**	< 2.50		< 1.60		< 0.79		< 0.79		< 0.79		< 0.79		< 1.70		< 1.50		< 1.60		< 1.50		< 1.60		**5.5**		< 1.60		< 1.60		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
cis-1,3-Dichloropropene	< 7.30		< 4.50		< 0.91		< 0.91		< 2.90		< 1.80		< 0.91		< 0.91		< 0.91		< 0.91		< 1.90		< 1.70		< 1.80		< 1.70		< 4.50		**2**		< 1.80		< 1.90		< 2.00		< 2.10		< 2.00		< 1.60		< 1.60	
Cyclohexane	**23**		**1.9**	**J**	**3.1**		< 0.69		**0.87**	**J**	< 1.40		**3.4**		**2.1**		**1.3**		**1.3**		**4.9**		**2.4**		**7.7**		**4.5**		**10.0**		**16.4**		**46.2**		**31.8**		< 3.80		< 3.90		**4.7**		< 2.90		< 2.90	
Dibromochloromethane	< 14.00		< 8.50		< 1.70		< 1.70		< 5.50		< 3.40		< 1.70		< 1.70		< 1.70		< 1.70		< 3.60		< 3.20		< 3.40		< 3.10		< 3.40		< 3.70		< 3.40		< 3.50		< 3.80		< 3.90		< 3.80		< 2.90		< 2.90	
Ethyl acetate	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 1.50		**1.5**		< 1.4		< 1.30		< 1.40		**6.1**		< 1.50		< 1.50		< 1.60		< 1.60		< 1.60		< 1.20		< 1.20	
Ethylbenzene	**0.55**	**J**	< 4.30		**0.58**	**J**	**0.78**	**J**	**0.38**	**J**	**0.77**	**J**	**0.56**	**J**	**0.42**	**J**	**0.65**	**J**	**0.69**	**J**	**6.7**		**2**		**8.8**		**6.0**		**1.8**		**19.8**		**2.2**		< 1.80		< 1.90		< 2.00		< 1.90		< 1.50		< 1.50	
Freon 11	**6.2**	**J**	< 5.60		**4.0**		**2.8**		**7.2**		**3.2**		**2.9**		**2.8**		**13**		**17**		**2.9**		**3.1**		**2.9**		**3.9**		< 2.20		**3.8**		**9.7**		**8.5**		< 2.50		**3.2**		**5.2**		**16.8**		**2.7**	
Freon 113	< 12.00		< 7.70		**0.93**	**J**	**0.90**	**J**	< 4.90		< 3.10		**0.85**	**J**	**0.89**	**J**	< 1.50		< 1.50		< 3.40		< 3.00		< 3.10		< 2.90		< 3.10		< 3.40		< 3.10		< 3.20		< 3.40		< 3.50		< 3.40		< 2.60		< 2.60	
Freon 114	< 11.00		< 7.00		< 1.40		< 1.40		< 4.50		< 2.80		< 1.40		< 1.40		< 1.40		< 1.40		< 3.00		< 2.70		< 2.80		< 2.60		< 2.80		< 3.10		< 2.80		< 2.90		< 3.10		< 3.20		< 3.10		< 2.40		< 2.40	
Freon 12	**37**		**39**		**30**		**11**		**36**		**81**		**37**		**23**		**17**		**51**		**18.7**		**15.4**		**31.1**		**60.0**		**31.7**		**17.4**		**17.4**		**67.2**		**16.6**		**14.8**		**31.7**		**98.3**		**21.7**	
Freon 22	< 14.00		**1.4**	**J**	**1.3**	**J**	**1.6**	**J**	**2.4**	**J**	< 3.50		< 1.80		**1.9**		**3.1**		**1.5**	**J**	< 1.50		< 1.30		< 1.40		< 1.30		**11.5**		< 1.50		< 1.40		< 3.60		< 3.90		< 4.00		< 3.90		< 3.00		< 3.00	
Heptane	< 6.60		< 4.10		< 0.82		< 0.82		< 2.60		< 1.60		**0.31**	**J**	< 0.82		< 0.82		**0.25**	**J**	< 1.70		< 1.60		1.7		< 1.50		< 1.60		**3.1**		< 1.60		< 1.70		< 1.80		< 1.90		< 1.80		< 1.40		< 1.40	
Hexachloro-1,3-butadiene	< 17.00		< 11.00		< 2.10		< 2.10		< 6.80		< 4.30		< 2.10		< 2.10		< 2.10		< 2.10		< 4.60		< 4.10		< 10.50		< 3.90		< 4.20		< 4.70		< 4.30		< 10.90		< 11.90		< 12.10		< 11.90		< 9.10		< 9.10	
Hexane	< 5.60		< 3.50		**0.35**	**J**	**0.84**		< 2.30		**1.8**		**0.38**	**J**	< 0.71		< 0.71		< 0.71		**4.4**		**1.8**		**7.1**		**4.0**		**2.8**		**2.9**		< 1.40		**2.8**		< 1.60		< 1.60		< 1.60		< 1.20		< 1.20	
Isopropyl alcohol	**480**		**230**		**180**	**D**	**340**	**D**	**700**	**D**	**650**	**D**	**280**	**D**	**300**	**D**	**340**	**E**	**190**	**D**	**474**		**173**		**346**		**310**		**94.5**		**260**		**498**		**301**		**201**		**322**		**212**		**326**		**349**	
m&p-Xylene	**0.88**	**J**	< 11.00		**1.8**	**J**	**2.6**		**0.93**	**J**	**2.7**	**J**	**1.5**	**J**	**1.2**	**J**	**2.2**		**2.4**		**21.5**		**7.1**		**41.7**		**23.3**		**8.6**		**35.7**		**6.6**		< 3.60		< 3.90		< 4.00		< 3.90		< 3.00		< 3.00	
Methyl Butyl Ketone	< 16.00		< 10.00		< 2.00		< 2.00		< 6.60		< 4.10		< 2.10		< 2.10		< 2.10		< 2.10		< 8.70		< 7.80		< 8.10		< 7.50		< 8.10		**21.6**		< 8.20		< 8.40		< 9.10		< 9.30		< 9.10		< 7.00		< 7.00	
Methyl Ethyl Ketone	< 12.00		< 7.40		**1.3**	**J**	**2.7**		**1.2**	**J**	< 2.90		< 1.50		< 1.50		**0.82**	**J**	**1.6**		**22.8**		< 5.60		< 5.80		< 5.40		**8.3**		**8.9**		< 5.90		< 6.10		< 6.60		**7.0**		< 6.60		< 5.00		< 5.00	
Methyl Isobutyl Ketone	< 16.00		< 10.00		< 2.00		< 2.00		< 6.60		< 4.10		**0.33**	**J**	< 2.10		< 2.10		< 2.10		< 8.70		< 7.80		< 8.10		< 7.50		< 10.10		**9.6**		< 8.20		< 8.40		< 9.10		< 9.30		< 9.10		< 7.00		< 7.00	
Methyl methacrylate	< 16.00		< 10.00		< 2.10		< 2.10		< 6.60		< 4.10		< 2.10		< 2.10		< 2.10		< 2.10		< 5.00		< 4.40		< 4.60		< 1.50		< 1.60		**5.5**		< 1.60		< 1.70		< 1.80		< 1.90		< 1.80		< 1.40		< 1.40	
Methyl tert-butyl ether	< 5.80		< 3.60		< 0.72		< 0.72		< 2.30		< 1.40		< 0.72		< 0.72		< 0.72		< 0.72		< 7.70		< 6.90		< 7.10		< 6.60		< 7.10		< 7.90		< 7.20		< 7.40		< 8.00		< 8.20		< 8.00		< 6.10		< 6.10	
Methylene chloride	**9.3**	**J**	**11**		**15**		**6.1**		**11**	**B**	**5.3**		**2.6**		**1.2**	**J**	**0.73**	**J**	**2.9**		**66.7**		**14.8**		**48.6**		**108**		**34.2**		**31**		**22.8**		**51.7**		**16.6**		**27.3**		**26.9**		**6.5**		**10.9**	
Naphthalene	< 21.00		< 13.00		< 2.60		**1.5**	**J**	**1.4**	**J**	< 5.20		< 2.60		< 2.60		< 2.60		< 2.60		**12.1**		< 5.00		< 5.20		< 4.80		< 5.20		**6.3**		< 5.30		< 5.40		< 5.80		< 6.00		< 5.80		< 4.50		< 4.50	
n-Butane	< 9.50		< 5.90		**1.9**		**0.81**	**J**	< 3.80		**0.79**	**J**	**2.3**		< 1.20		**0.64**	**J**	**1.1**	**J**	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Butylbenzene	< 8.80		< 5.50		< 1.10		< 1.10		< 3.50		< 2.20		< 1.10		< 1.10		< 1.10		< 1.10		< 5.90		< 5.20		< 5.4		< 5.00		< 5.40		< 6.00		< 5.50		< 5.60		< 6.10		< 6.20		< 6.10		< 4.70		< 4.70	
n-Propylbenzene	< 7.90		< 4.90		< 0.98		< 0.98		< 3.20		< 2.00		< 0.98		< 0.98		< 0.98		< 0.98		< 5.20		< 4.70		< 4.80		< 4.50		< 4.80		**7.4**		< 5.00		< 5.00		< 5.50		< 5.60		< 5.50		< 4.20		< 4.20	
o-Xylene	< 6.90		< 4.30		**0.49**	**J**	**0.74**	**J**	< 2.80		**0.72**	**J**	**0.42**	**J**	**0.33**	**J**	**0.52**	**J**	**0.67**	**J**	**3.7**		**2.5**		**17.9**		**5.7**		< 1.70		**3.9**		< 1.70		< 1.80		< 1.90		< 2.00		< 1.90		< 1.50		< 1.50	
Propylene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 0.74		< 0.65		< 0.68		< 0.63		< 0.68		< 0.75		**2.5**		**2.2**		**1.6**		**0.98**		< 0.77		**1.3**		<0.31	
sec-Butylbenzene	< 8.80		< 5.50		< 1.10		< 1.10		< 3.50		< 2.20		< 1.10		< 1.10		< 1.10		< 1.10		< 5.90		< 5.20		< 5.40		< 5.00		< 5.40		< 6.00		< 5.50		< 5.60		< 6.10		< 6.20		< 6.10		< 4.70		< 4.70	
Styrene	< 6.80		< 4.30		**0.31**	**J**	< 0.85		< 2.70		**0.43**	**J**	**0.42**	**J**	**0.47**	**J**	**0.31**	**J**	**0.32**	**J**	**2.3**		< 1.60		< 1.70		< 1.60		< 1.70		**3.3**		**2**		< 1.70		< 1.90		< 1.90		< 1.90		< 1.50		< 1.50	
tert-Butyl alcohol	< 120.00		< 76.00		< 15.00		< 15.00		< 49.00		< 30.00		< 15.00		< 15.00		< 15.00		< 15.00		< 6.50		< 5.80		< 6.00		< 5.50		< 6.00		< 6.60		< 6.10		< 6.20		< 6.70		< 6.90		< 6.70		< 5.20		< 5.20	
tert-Butylbenzene	< 8.80		< 5.50		< 1.10		< 1.10		< 3.50		< 2.20		< 1.10		< 1.10		< 1.10		< 1.10		< 2.90		< 2.60		< 2.70		< 2.50		< 2.70		< 3.00		< 2.70		< 2.30		< 2.50		< 2.50		< 2.50		< 1.90		< 1.90	
Tetrachloroethylene	**60**		**52**		**39**		**41**		**48**		**46**		**32**		**50**		**43**		**46**		**31.9**		**11**		**17.9**		**11.3**		**37.6**		**46.1**		**44.9**		**45.3**		**42.3**		**61.9**		**37.4**		**54.1**		**35.0**	
Tetrahydrofuran	< 120.00		< 74.00		< 15.00		< 15.00		**1.9**	**J**	< 29.00		< 15.00		< 15.00		< 15.00		< 15.00		**3.7**		**1.5**		< 1.2		**1.7**		< 1.20		**3.3**		**1.5**		**1.5**		**1.7**		**2.6**		< 1.30		< 1.00		< 1.00	
Toluene	< 6.00		**0.72**	**J**	**1.2**		**3.9**		**1.3**	**J**	**2.3**		**1.3**		**0.73**	**J**	**0.63**	**J**	**0.70**	**J**	**4.20**		**7.30**		**19**		**7.2**		**2.9**		**14.7**		**4.6**		**3.7**		< 1.70		< 1.70		< 1.70		**1.4**		**1.5**	**J**
trans-1,2-Dichloroethene	< 6.30		< 4.00		**0.7**	**J**	**0.30**	**J**	< 2.50		< 1.60		< 0.79		< 0.79		< 0.79		< 0.79		< 1.70		< 1.50		< 1.60		< 1.50		< 1.60		**2.1**		< 1.60		< 1.60		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
trans-1,3-Dichloropropene	< 7.30		< 4.50		< 0.91		< 0.91		< 2.90		< 1.80		< 0.91		< 0.91		< 0.91		< 0.91		< 1.90		< 1.70		< 1.80		< 1.70		< 4.50		**5.4**		< 1.80		< 1.90		< 2.00		< 2.10		< 2.00		< 1.60		< 1.60	
Trichloroethene	**25**		**19**		**16**		**16**		**20**		**23**		**15**		**20**		**20**		**21**		**16.1**		**10.2**		**9.7**		**9.6**		**14.6**		**24**		**22.8**		**17.1**		**13.0**		**23.2**		**17.3**		**25.3**		**12.5**	
Vinyl acetate	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**3.4**		< 1.30		< 1.40		**2.6**		< 1.40		**4.1**		**3.5**		< 1.40		< 1.60		< 1.60		< 1.60		< 1.20		< 1.20	
Vinyl Bromide	< 7.00		< 4.40		< 0.87		< 0.87		< 2.80		< 1.80		< 0.88		< 0.88		< 0.88		< 0.88		< 4.70		< 4.20		< 4.30		< 4.00		< 4.30		< 9.60		< 8.80		< 1.80		< 1.90		< 2.00		< 1.90		< 1.50		< 1.50	
Vinyl chloride	< 0.82		< 0.51		< 0.10		< 0.10		< 0.33		< 0.20		< 0.10		< 0.10		< 0.10		< 0.10		< 0.55		< 0.49		< 0.50		< 0.47		< 0.50		< 0.56		< 0.51		< 0.53		< 0.57		< 0.58		< 0.57		< 0.44		< 0.44	
Cumulative VOCs (µg/m3)[2]	**680.93**		**364.32**		**326.82**		**462.97**		**877.43**		**903.88**		**409.08**		**435.46**		**479.09**		**374.55**		**781.07**		**294.40**		**670.00**		**614.80**		**296.00**		**705.00**		**790.60**		**590.4**		**317.1**		**503.8**		**377.5**		**595.0**		**519.1**	
Target VOCs (µg/m3)[3]	**85.00**		**71.00**		**55.70**		**57.71**		**68.00**		**69.00**		**47.00**		**70.00**		**63.00**		**67.00**		**48.00**		**21.20**		**27.60**		**20.90**		**52.20**		**77.70**		**67.70**		**62.4**		**55.3**		**85.1**		**54.7**		**79.4**		**47.5**	

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.
3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier

µg/m^3 - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-5. SDS-3 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-3																																					
Date	7/17/2008		8/13/2008		9/11/2008		10/10/2008		4/7/2009		7/1/2009		10/9/2009		1/21/2010		7/8/2010		1/7/2011		3/8/2011		4/4/2011		7/6/2011		10/22/2011		1/11/2012		4/5/2012		7/11/2012		10/17/2012		1/15/2013		4/23/2013		7/11/2013		10/23/2013		2/7/2014		4/4/2014		7/10/2014		10/9/2014		1/7/2015		4/15/2015	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q

Table A-5. SDS-3 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-3																													
Date	7/8/2015		10/7/2015		1/7/2016		4/7/2016		7/12/2016		10/12/2016		1/12/2017		4/13/2017		7/19/2017		10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019		4/2/2019		7/9/2019		10/1/2019		1/21/2020	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	**0.35**	J	< 1.10		< 1.10		< 1.10		**0.30**	J	**0.29**	J	< 2.30		< 2.20		< 2.20		< 1.90		< 2.20		< 2.30		< 2.30		< 2.20		< 2.40		< 2.40		< 2.40		< 1.90		< 1.90	
1,1,2,2-Tetrachloroethane	< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.50		< 1.40		< 1.40		< 1.20		< 2.70		< 1.50		< 1.50		< 1.40		< 1.50		< 1.50		< 1.50		< 1.20		< 1.20	
1,1,2-Trichloroethane	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.20		< 2.20		< 1.10		< 0.96		< 5.40		< 1.20		< 1.20		< 1.10		< 1.20		< 1.20		< 1.20		< 0.93		< 0.93	
1,1-Dichloroethane	**0.15**	J	**0.19**	J	**0.15**	J	**0.11**	J	**0.20**	J	< 0.81		< 1.70		< 1.60		< 1.60		< 1.40		< 1.60		< 1.70		< 1.70		< 1.70		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
1,1-Dichloroethene	< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 1.70		< 1.60		< 1.60		< 1.40		< 1.60		< 1.70		< 1.70		< 1.60		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
1,2,4-Trichlorobenzene	< 3.70		< 3.70		< 3.70		< 3.70		< 3.70		< 3.70		< 7.90		< 7.30		< 7.30		< 6.60		< 7.30		< 7.90		< 7.90		< 15.20		< 16.50		< 16.40		< 16.50		< 12.70		< 12.70	
1,2,4-Trimethylbenzene	**1.2**		**0.68**	J	**0.34**	J	< 0.98		**1.2**		**0.62**	J	< 2.10		**13.6**		< 1.9		< 1.70		< 1.90		< 2.10		**2.5**		< 2.00		< 2.20		< 2.20		< 2.20		< 1.70		< 1.70	
1,2-Dibromoethane	< 1.50		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50		< 3.30		< 3.00		< 3.00		< 2.70		< 3.00		< 3.30		< 3.30		< 1.60		< 1.70		< 1.70		< 1.70		< 1.30		< 1.30	
1,2-Dichlorobenzene	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 2.60		< 2.40		< 5.90		< 2.10		< 2.40		< 2.60		< 2.60		< 2.50		< 2.70		< 2.70		< 2.70		< 2.00		< 2.00	
1,2-Dichloroethane	< 0.81		< 0.81		< 0.81		< 0.81		< 0.81		< 0.81		< 0.86		< 1.60		< 0.80		< 0.71		< 0.80		< 0.86		< 0.86		< 0.83		< 0.90		< 0.90		< 0.90		< 0.69		< 0.69	
1,2-Dichloropropane	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 2.00		< 1.80		< 1.80		< 1.60		< 1.80		< 2.00		< 2.00		< 1.90		< 2.10		< 2.00		< 2.10		< 1.60		< 1.60	
1,3,5-Trimethylbenzene	**0.64**	J	**0.40**	J	**0.22**	J	< 0.98		**0.61**	J	**0.33**	J	< 2.10		**5.7**		< 1.9		< 1.70		< 1.90		< 2.10		< 2.10		< 2.00		< 2.20		< 2.20		< 2.20		< 1.70		< 1.70	
1,3-butadiene	**0.41**	J	**0.52**		**0.34**	J	**0.38**	J	**0.33**	J	**0.26**	J	< 0.94		< 0.87		< 0.87		< 0.78		< 0.87		< 0.94		< 0.94		< 0.91		< 0.99		< 0.98		< 0.99		< 0.76		< 0.76	
1,3-Dichlorobenzene	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 2.60		< 2.40		< 5.90		< 2.10		< 2.40		< 2.60		< 2.60		< 2.50		< 2.70		< 2.70		< 2.70		< 2.00		< 2.00	
1,4-Dichlorobenzene	**0.21**	J	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 2.60		< 5.90		< 5.90		< 2.10		< 2.40		< 2.60		< 2.60		< 6.20		< 6.70		< 6.70		< 6.70		< 5.10		< 5.10	
1,4-Dioxane	**2.1**	J	< 18.00		< 18.00		< 18.00		< 18.00		< 18.00		< 18.00		< 7.70		< 7.10		< 7.10		< 6.40		< 7.10		< 7.70		< 7.70		< 7.40		< 8.00		< 8.00		< 8.00		< 6.10		< 6.10	
2-Chlorotoluene	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
2,2,4-trimethylpentane	< 0.93		< 0.93		< 0.93		< 0.93		**0.53**	J	< 0.93		< 5.00		< 4.60		< 4.60		< 4.10		< 4.60		< 5.00		< 5.00		< 4.80		< 5.20		< 5.20		< 5.20		< 4.00		< 4.00	
4-ethyltoluene	**0.26**	J	< 0.98		< 0.98		< 0.98		**0.26**	J	< 0.98		< 2.10		**4**		< 1.90		< 1.70		< 1.90		< 2.10		< 2.10		< 5.00		< 5.50		< 5.40		< 5.50		< 4.20		< 4.20	
4-Isopropyltoluene	**0.56**	J	< 1.10		< 1.10		< 1.10		**0.25**	J	< 1.10		< 2.40		< 2.20		< 2.20		< 1.90		< 2.20		**3.1**		< 2.40		< 2.30		< 2.50		< 2.40		< 2.50		< 1.90		< 1.90	
Acetone	**42**		**25**		**12**		**47**		**28**		**21**		**51**		**50.2**		**43.5**		**47.9**		**17.7**		**27.3**		**92.3**		**30.6**		**20.5**		**21.7**		**37.7**		**28.2**		**23.2**	
Allyl chloride	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 3.30		< 3.10		< 3.10		< 2.80		< 3.10		< 3.30		< 3.30		< 3.20		< 3.50		< 3.50		< 3.50		< 2.70		< 2.70	
Benzene	**0.78**		**0.61**	J	**1.4**		**0.13**	J	**0.76**		**0.93**		**3.3**		**2.5**		**1.1**		**1.0**		**1.8**		**2.7**		**2.2**		**2.3**		**1.7**		**0.77**		**1.6**		**0.64**		<0.34	
Benzyl chloride	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 2.20		< 5.10		< 5.10		< 1.80		< 5.10		< 2.20		< 2.20		< 5.30		< 5.80		< 5.70		< 5.80		< 4.40		< 4.40	
Bromodichloromethane	< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 2.90		< 2.60		< 2.60		< 2.40		< 6.60		< 2.90		< 2.90		< 2.70		< 3.00		< 3.00		< 3.00		< 2.30		< 2.30	
Bromoform	< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 4.40		< 4.10		< 10.2		< 3.70		< 4.10		< 4.40		< 4.40		< 10.60		< 11.50		< 11.40		< 11.50		< 8.80		< 8.80	
Bromomethane	< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 1.70		< 1.50		< 1.50		< 1.40		< 1.50		< 1.70		< 1.70		< 1.60		< 1.70		< 1.70		< 1.70		< 1.30		< 1.30	
Carbon disulfide	**15**		< 1.60		< 1.60		< 1.60		< 1.60		**0.17**	J	**3.2**		< 1.20		< 1.20		< 1.10		< 1.20		**11.4**		< 1.30		< 1.30		< 1.40		< 1.40		**3.1**		< 1.10		< 0.48	
Carbon tetrachloride	**0.48**		**0.50**		**0.50**		**0.32**		**0.49**		**0.48**		< 1.30		< 1.20		< 1.20		< 1.10		< 6.20		< 6.70		< 6.70		< 2.60		< 2.80		< 2.80		< 2.80		< 2.20		< 0.94	
Chlorobenzene	**0.52**	J	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 2.00		< 1.80		< 1.80		< 1.60		< 1.80		< 2.00		< 2.00		< 1.90		< 2.00		< 2.00		< 2.00		< 1.60		< 0.60	
Chloroethane	< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.10		< 1.00		< 1.00		< 0.94		< 1.00		< 1.10		< 1.10		< 1.10		< 1.20		< 1.20		< 1.20		< 0.90		< 0.90	
Chloroform	**5.2**		**0.93**	J	**0.46**	J	< 0.98		**2.4**		**0.92**	J	< 2.10		< 0.96		**3.1**		**6.8**		< 0.96		**1.4**		**2.2**		**1.3**		< 1.10		< 1.10		**3.5**		**2.4**		**0.55**	J		
Chloromethane	**1.2**		< 1.00		< 1.00		< 1.00		**0.66**	J	**0.90**	J	< 0.88		< 0.81		< 0.81		< 0.73		**0.94**		**1.4**		**1.4**		**1.3**		< 0.92		< 0.92		< 0.92		**0.77**		**0.47**	J		
cis-1,2-Dichloroethene	**0.74**	J	**0.71**	J	**0.54**	J	**0.48**	J	**0.56**	J	**0.34**	J	< 1.70		< 1.60		< 1.40		< 1.40		< 1.60		< 1.70		< 1.70		< 1.60		< 1.80		< 1.80		< 1.80		< 1.40		< 0.48	
cis-1,3-Dichloropropene	< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 1.90		< 1.80		< 1.80		< 1.60		< 4.50		< 1.90		< 1.90		< 1.90		< 2.00		< 2.00		< 2.00		< 1.60		< 1.60	
Cyclohexane	**1.7**		**1.9**		**1.4**		**2.6**		**1.7**		**0.43**	J	**3.7**		**5.2**		**3.9**		**5.7**		< 1.40		**2.2**		**4.8**		< 3.50		< 3.80		< 3.80		< 3.80		< 2.90		< 0.77	
Dibromochloromethane	< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 3.60		< 3.40		< 3.40		< 3.00		< 3.40		< 3.60		< 3.60		< 3.50		< 3.80		< 3.80		< 3.80		< 2.90		< 2.90	
Ethyl acetate	NS		NS		NS		NS		NS		NS		< 1.50		**1.8**		**1.9**		**1.3**		< 1.40		< 1.50		< 1.50		**1.6**		< 1.60		< 1.60		< 1.60		< 1.20		< 1.20	
Ethylbenzene	**0.69**	J	**0.78**	J	**0.53**	J	< 0.87		**0.94**		**0.98**		**2.2**		**5.4**		**1.8**		**4.4**		**2.4**		< 1.90		< 1.90		< 1.80		< 1.90		< 1.90		< 1.90		< 1.50		< 1.50	
Freon 11	**1.9**		**1.9**		**1.5**		**1.6**		**3.1**		**5.0**		< 2.40		< 2.20		< 2.20		< 2.00		< 2.20		< 2.40		**2.9**		< 2.30		< 2.50		< 2.50		< 2.50		**2.7**		**1.2**	J		
Freon 113	**0.96**	J	**1.1**	J	**1.0**	J	**0.86**	J	**0.93**	J	**1.1**	J	< 3.40		< 3.10		< 3.10		< 2.80		< 3.10		< 3.30		< 3.30		< 3.20		< 3.40		< 3.40		< 3.40		< 2.60		< 2.60	
Freon 114	< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 3.00		< 2.80		< 2.80		< 2.50		< 2.80		< 3.00		< 3.00		< 2.90		< 3.10		< 3.10		< 3.10		< 2.40		< 2.40	
Freon 12	**2.5**	J	**2.8**		**2.8**		**2.5**	J	**2.1**	J	**2.3**	J	< 2.10		**2.9**		**2.3**		**2.1**		< 2.00		**2.2**		**4.9**		**2.2**		< 2.20		**2.4**		< 2.20		**3.1**		<1.6	
Freon 22	**1.3**	J	**1.3**	J	**1.4**	J	**2.7**		**0.91**	J	**1.3**	J	**4.5**		**2**		< 1.4		**3.0**		< 1.40		< 1.50		**6.8**		< 3.60		< 3.90		< 3.90		< 3.90		< 3.00		< 3.00	
Heptane	< 0.82		**0.36**	J	**0.35**	J	< 0.82		**1.1**		**0.38**	J	**2.5**		< 1.60		< 1.60		**2.9**		< 1.60		**2.3**		**2.6**		< 1.70		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
Hexachloro-1,3-butadiene	< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 4.60		< 4.20		< 10.50		< 3.80		< 4.20		< 4.60		< 4.60		< 10.90		< 11.90		< 11.80		< 11.90		< 9.10		< 9.10	
Hexane	**0.37**	J	**0.30**	J	**0.65**	J	< 0.71		**0.82**		**0.35**	J	**8.2**		**5.9**		**2.4**		**30.9**		**3**		< 1.50		**42**		**3.4**		< 1.60		< 1.60		< 1.60		< 1.20		< 1.20	
Isopropyl alcohol	**190**	D	**110**	D	**79**		**150**	D	**250**	E	**180**	D	**492**		**458**		**369**		**413**		**52.7**		**290**		**144**		**225**		**67.8**		**142**		**101**		**352**		**53.7**	
m&p-Xylene	**2.2**		**2.5**		**1.6**	J	< 2.20		**3.3**		**3.5**		**7.6**		**27.9**		**5.6**		**15.9**		**11.8**		**6**		**5.9**		**4**		< 3.90		< 3.90		< 3.90		< 3.00		< 3.00	
Methyl Butyl Ketone	**0.81**	J	< 2.10		< 2.10		< 2.10		**0.44**	J	< 2.10		< 8.70		< 8.10		< 8.10		< 7.20		< 8.10		< 8.70		< 8.70		< 8.40		< 9.10		< 9.10		< 9.10		< 7.00		< 7.00	
Methyl Ethyl Ketone	**5.5**		< 1.50		< 1.50		< 1.50		**3.4**		**1.1**	J	< 6.30		< 5.80		< 5.80		< 5.20		< 5.80		< 6.30		< 6.30		**8.2**		< 6.60		< 6.50		**6.7**		< 5.00		< 5.00	
Methyl Isobutyl Ketone	< 2.00		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 8.70		**8.7**		< 8.10		< 7.20		< 10.10		< 8.70		< 8.70		< 8.40		< 9.10		< 9.10		< 9.10		< 7.00		< 7.00	
Methyl methacrylate	**0.82**	J	**0.40**	J	< 2.10		< 2.10		< 2.10		< 2.10		< 5.00		< 4.60		< 4.60		**2.5**		< 1.60		< 1.70		< 1.70		< 1.70		< 1.80		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
Methyl tert-butyl ether	< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 7.70		< 7.10		< 7.10		< 6.40		< 7.10		< 7.70		< 7.70		< 7.40		< 8.00		< 8.00		< 8.00		< 6.10		< 6.10	
Methylene chloride	**90**	B	**55**		**19**		**64**		**28**		**19**		**140**		**52**		**53.1**		**444**		**80.2**		**59.2**		**379**		**149**		**42.5**		**237**		**33.4**		**156**		**36.6**	
Naphthalene	**0.54**	J	< 2.60		< 2.60		< 2.60		< 2.60		< 2.60		**6.6**		< 5.20		< 5.20		< 4.60		< 5.20		< 5.60		< 5.60		< 5.40		< 5.80		< 5.80		< 5.80		< 4.50		< 4.50	
n-Butane	**1.5**		**1.5**		**2.9**		**1.3**		**1.7**		**1.5**		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Butylbenzene	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 5.90		< 5.40		< 5.40		< 4.90		< 5.40		< 5.90		< 5.90		< 5.60		< 6.10		< 6.10		< 6.10		< 4.70		< 4.70	
n-Propylbenzene	**0.28**	J	< 0.98		< 0.98		< 0.98		**0.26**	J	< 0.98		< 5.20		< 4.80		< 4.80		< 4.40		< 4.80		< 5.20		< 5.20		< 5.00		< 5.50		< 5.40		< 5.50		< 4.20		< 4.20	
o-Xylene	**0.83**	J	**0.84**	J	**0.54**	J	< 0.87		**1.1**		**1.2**		**2.5**		**13.4**		**1.7**		**3.7**		**2.5**		**2.1**		< 1.90		< 1.80		< 1.90		< 1.90		< 1.90		< 1.50		< 1.50	
Propylene	NS		NS		NS		NS		NS		NS		< 0.74		< 0.68		2.5		**2.9**		< 0.68		< 0.74		< 0.74		**1.8**		< 0.77		< 0.76		**0.86**		< 0.59		< 0.31	
sec-Butylbenzene	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 5.90		< 5.40		< 5.40		< 4.90		< 5.40		< 5.90		< 5.90		< 5.60		< 6.10		< 6.10		< 6.10		< 4.70		< 4.70	
Styrene	**0.83**	J	**1.0**		**0.33**	J	< 0.85		**0.68**	J	**0.63**	J	< 1.80		< 1.70		**1.8**		**2.6**		< 1.70		< 1.80		**2.3**		< 1.70		< 1.90		< 1.90		< 1.90		**1.8**		<.75	
tert-Butyl alcohol	**1.2**	J	< 15.00		< 15.00		< 15.00		< 15.00		< 15.00		< 6.50		< 6.00		< 6.00		< 5.40		< 6.00		< 6.50		< 6.50		< 6.20		< 6.70		< 6.70		< 6.70		< 5.20		< 5.20	
tert-Butylbenzene	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 2.90		< 2.70		< 2.70		< 2.40		< 2.70		< 2.90		< 2.90		< 2.30		< 2.50		< 2.40		< 2.50		< 1.90		< 1.90	
Tetrachloroethylene	**17**		**16**		**11**		**0.95**	J	**14**		**16**		**12.5**		**3.3**		**5.2**		**2.7**		**13.5**		**9.5**		**6.1**		**19.4**		**11.2**		**12.7**		**14.7**		**18.4**		**11.5**	
Tetrahydrofuran	< 15.00		< 15.00		< 15.00		< 15.00		< 15.00		< 15.00		**2.6**		**1.5**		< 1.20		< 1.00		< 1.20		**1.8**		< 1.30		**3.6**		< 1.30		**2.1**		< 1.30		< 1.00		< 1.00	
Toluene	**5.8**		**2.2**		**1.6**		< 0.75		**3.2**		**1.7**		**5.9**		**6.9**		**6.6**		**50.5**		**4.5**		**24.3**		**22.2**		**7.7**		**3.2**		**5.4**		**2.3**		**5.5**		**0.81**	J		
trans-1,2-Dichloroethene	**0.13**	J	< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 1.70		< 1.60		< 1.60		< 1.40		< 1.60		< 1.70		< 1.70		< 1.60		< 1.80		< 1.80		< 1.80		< 1.40		< 1.40	
trans-1,3-Dichloropropene	< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 1.90		< 1.80		< 1.80		< 1.60		< 4.50		< 1.90		< 1.90		< 1.90		< 2.00		< 2.00		< 2.00		< 1.60		< 1.60	
Trichloroethene	**16**		**16**		**11**		**5.1**		**12**		**12**		**7.8**		**3.9**		**4.6**		**1.3**		**6.8**		**5.8**		**2.6**		**7**		**4.9**		**6.0**		**5.9**		**9.1**		**5.1**	
Vinyl acetate	NS		NS		NS		NS		NS		NS		**4.7**		**2.5**		< 1.40		< 1.20		< 1.40		**2.7**		< 1.50		< 1.40		< 1.60		< 1.60		< 1.60		< 1.20		< 1.20	
Vinyl Bromide	< 0.87		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 4.70		< 4.30		< 4.30		< 3.90		< 4.30		< 9.30		< 9.30		< 1.80		< 1.90		< 1.90		< 1.90		< 1.50		< 1.50	
Vinyl chloride	< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.55		< 0.50		< 0.50		< 0.45		< 0.50		< 0.55		< 0.55		< 0.53		< 0.57		< 0.57		< 0.57		< 0.44		< 0.28	
Cumulative VOCs (µg/m3)[2]	**414.16**		**245.41**		**152.55**		**280.03**		**366.23**		**274.71**		**760.80**		**677.30**		**510.10**		**1,045.10**		**197.84**		**455.40**		**726.70**		**468.10**		**151.80**		**430.07**		**210.76**		**580.61**		**133.13**	
Target VOCs (µg/m3)[3]	**33.87**		**32.71**		**22.54**		**6.53**		**26.56**		**28.34**		**20.30**		**7.20**		**9.80**		**4.00**		**20.30**		**15.30**		**8.70**		**26.40**		**16.10**		**18.70**		**20.60**		**27.50**		**16.60**	

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.
3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m^3 - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-6. SDS-4 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-4																																			
Date	1/7/2011		3/8/2011		4/4/2011		7/6/2011		10/22/2011		1/11/2012		4/3/2012		7/11/2012		10/17/2012		1/15/2013		4/23/2013		7/11/2013		10/23/2013		2/7/2014		4/4/2014		7/10/2014		10/9/2014		1/7/2015		4/15/2015		7/8/2015		10/7/2015		1/7/2016		4/7/2016		7/12/2016		10/12/2016		1/12/2017	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q

Table A-6. SDS-4 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-4																					
Date	4/13/2017		7/19/2017		10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019		4/2/2019		7/9/2019		10/1/2019		1/21/2020	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	< 2.10		< 2.20		< 2.10		< 2.20		< 2.30		< 2.40		< 2.30		< 2.40		< 2.20		< 2.30		< 2.00		< 2.00	
1,1,2,2-Tetrachloroethane	< 1.30		< 1.40		< 1.30		< 2.70		< 1.50		< 1.50		< 1.40		< 1.50		< 1.40		< 1.40		< 1.20		< 1.20	
1,1,2-Trichloroethane	< 2.10		< 1.10		< 1.00		< 5.40		< 1.20		< 1.20		< 1.10		< 1.20		< 1.10		< 1.10		< 0.99		< 0.99	
1,1-Dichloroethane	< 1.50		< 1.60		< 1.50		< 1.60		< 1.70		< 1.80		< 1.70		< 1.80		< 1.70		< 1.70		< 1.50		< 1.50	
1,1-Dichloroethene	< 1.50		< 1.60		< 1.50		< 1.60		< 1.70		< 1.80		< 1.70		< 1.80		< 1.60		< 1.70		< 1.40		< 1.40	
1,2,4-Trichlorobenzene	< 7.00		< 7.30		< 7.00		< 7.30		< 7.90		< 8.30		< 15.50		< 16.50		< 15.20		< 15.50		< 13.50		< 13.50	
1,2,4-Trimethylbenzene	< 1.90		**2.4**		< 1.90		< 1.90		**7.6**		**3.4**		< 2.10		< 2.20		< 2.00		**4.4**		**3.6**		<8.9	
1,2-Dibromoethane	< 2.90		< 3.00		< 2.90		< 3.00		< 3.30		< 3.40		< 1.60		< 1.70		< 1.60		< 1.60		< 1.40		< 1.40	
1,2-Dichlorobenzene	< 2.30		< 5.90		< 2.30		< 2.40		< 2.60		< 2.70		< 2.50		< 2.70		< 2.50		< 2.50		< 2.20		< 2.20	
1,2-Dichloroethane	< 1.50		< 0.80		< 0.77		< 0.80		< 0.86		< 0.90		< 0.85		< 0.90		< 0.83		**1.8**		< 0.74		< 0.74	
1,2-Dichloropropane	< 1.80		< 1.80		< 1.80		< 1.80		< 2.00		< 2.10		< 1.90		< 2.10		< 1.90		< 1.90		< 1.70		< 1.70	
1,3,5-Trimethylbenzene	< 1.90		< 1.90		< 1.90		< 1.90		**3**		< 2.20		< 2.10		< 2.20		< 2.00		**2.8**		**2.7**		**1.4**	**J**
1,3-butadiene	< 0.84		< 0.87		< 0.84		< 0.87		< 0.94		< 0.99		< 0.93		< 0.99		< 0.90		< 0.93		< 0.81		< 0.81	
1,3-Dichlorobenzene	< 2.30		< 5.90		< 2.30		< 2.40		< 2.60		< 2.70		< 2.50		< 2.70		< 2.50		< 2.50		< 2.20		< 2.20	
1,4-Dichlorobenzene	< 5.70		< 5.90		< 2.30		< 2.40		< 2.60		< 2.70		< 6.30		< 6.70		< 6.20		< 6.30		< 5.50		< 5.50	
1,4-Dioxane	< 6.80		< 7.10		< 6.80		< 7.10		< 7.70		< 8.00		< 7.50		< 8.00		< 7.40		< 7.50		< 6.60		< 6.60	
2-Chlorotoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
2,2,4-trimethylpentane	< 4.40		< 4.60		< 4.40		< 4.60		< 5.00		< 5.20		< 4.90		< 5.20		< 4.80		< 4.90		< 4.20		< 4.20	
4-ethyltoluene	< 1.90		< 1.90		< 1.90		< 1.90		< 2.10		< 2.20		< 5.20		< 5.50		< 5.00		< 5.20		< 4.50		< 4.50	
4-Isopropyltoluene	< 2.10		< 2.20		< 2.10		< 2.20		**4.8**		**3.3**		< 2.30		< 2.50		< 2.30		< 2.30		< 2.00		< 2.00	
Acetone	**89.8**		**61.6**		**74.1**		**20.2**		**53.8**		**129**		**79**		**29.9**		**59**		**73.5**		**40.7**		**87.3**	
Allyl chloride	< 3.00		< 3.10		< 3.00		< 3.10		< 3.30		< 3.50		< 3.30		< 3.50		< 3.20		< 3.30		< 2.80		< 2.80	
Benzene	< 1.20		**1.4**		< 0.61		< 0.63		**1.4**		**1.9**		< 0.67		< 0.71		< 0.65		< 0.67		< 0.58		< 0.58	
Benzyl chloride	< 4.90		< 5.10		< 2.00		< 5.10		< 2.20		< 2.30		< 5.40		< 5.80		< 5.30		< 5.40		< 4.70		< 4.70	
Bromodichloromethane	< 2.50		< 2.60		< 2.50		< 6.60		< 2.90		< 3.00		< 2.80		< 3.00		< 2.70		< 2.80		< 2.40		< 2.40	
Bromoform	< 3.90		< 10.20		< 3.90		< 4.10		< 4.40		< 4.60		< 10.80		< 11.50		< 10.60		< 10.80		< 9.40		< 9.40	
Bromomethane	< 1.50		< 1.50		< 1.50		< 1.50		< 1.70		< 1.70		< 1.60		< 1.70		< 1.60		< 1.60		< 1.40		< 1.40	
Carbon disulfide	< 1.20		< 1.20		< 1.20		< 1.20		**9.5**		< 1.40		< 1.30		< 1.40		< 1.30		**2.2**		< 1.10		**2.9**	
Carbon tetrachloride	< 1.20		< 1.20		< 1.20		< 6.20		< 6.70		< 7.00		< 2.60		< 2.80		< 2.60		< 2.60		< 2.30		< 2.30	
Chlorobenzene	< 1.80		< 1.80		< 1.80		< 1.80		< 2.00		< 2.00		< 1.90		< 2.00		< 1.90		< 1.90		< 1.70		< 1.70	
Chloroethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.10		< 1.20		< 1.10		< 1.20		< 1.10		< 1.10		< 0.96		< 0.96	
Chloroform	< 0.93		**2.1**		**7**		< 0.96		< 1.00		**2.7**		**1.6**		< 1.10		**1.9**		**7.6**		**3.1**		**1.3**	
Chloromethane	< 0.79		**1.1**		**0.85**		< 0.81		< 0.88		**1.5**		< 0.87		**0.97**		< 0.84		< 0.87		**1.6**		**0.53**	**J**
cis-1,2-Dichloroethene	< 1.50		< 1.60		**1.9**		< 1.60		< 1.70		< 1.80		< 1.70		< 1.80		**1.9**		**1.9**		**1.5**		**1.3**	**J**
cis-1,3-Dichloropropene	< 1.70		< 1.80		< 1.70		< 4.50		< 1.90		< 2.00		< 1.90		< 2.00		< 1.90		< 1.90		< 1.70		< 1.70	
Cyclohexane	**3.6**		**7.1**		**5.5**		**1.7**		**5.7**		**13**		**42.2**		< 3.80		**5.6**		**5.0**		< 3.10		**2.6**	**J**
Dibromochloromethane	< 3.20		< 3.40		< 3.20		< 3.40		< 3.60		< 3.80		< 3.60		< 3.80		< 3.50		< 3.60		< 3.10		< 3.10	
Ethyl acetate	**1.5**		< 1.40		< 1.40		< 1.40		< 1.50		< 1.60		< 1.50		< 1.60		< 1.50		< 1.50		< 1.30		< 1.30	
Ethylbenzene	< 1.60		**2.6**		**6.0**		**1.9**		**2.7**		**2.2**		< 1.80		< 1.90		< 1.80		< 1.80		< 1.60		< 1.60	
Freon 11	< 2.10		< 2.20		< 2.10		< 2.20		< 2.40		**3.3**		**2.4**		< 2.50		< 2.30		< 2.30		**6.1**		**1.4**	**J**
Freon 113	< 3.00		< 3.10		< 3.00		< 3.10		< 3.30		< 3.40		< 3.20		< 3.40		< 3.10		< 3.20		< 2.80		< 2.80	
Freon 114	< 2.70		< 2.80		< 2.70		< 2.80		< 3.00		< 3.10		< 2.90		< 3.10		< 2.90		< 2.90		< 2.50		< 2.50	
Freon 12	**3.1**		**2.6**		**2.4**		< 2.00		**2.3**		**2.3**		**2.1**		< 2.20		**2.4**		< 2.10		**2.6**		**2.1**	**J**
Freon 22	< 1.30		< 1.40		< 1.30		< 1.40		< 1.50		**7.9**		< 3.70		< 3.90		< 3.60		< 3.70		< 3.20		< 3.20	
Heptane	< 1.60		< 1.60		< 1.60		< 1.60		**2.5**		**2.8**		< 1.70		< 1.80		< 1.70		< 1.70		< 1.50		< 1.50	
Hexachloro-1,3-butadiene	< 4.10		< 10.50		< 4.10		< 4.20		< 4.60		< 4.80		< 11.20		< 11.90		< 10.90		< 11.20		< 9.70		< 9.70	
Hexane	**9.4**		**3.1**		**2.8**		**2.4**		< 1.50		**52.6**		**2.4**		< 1.60		< 1.40		< 1.50		< 1.30		< 1.30	
Isopropyl alcohol	**586**		**700**		**402**		**452**		**563**		**337**		**466**		**456**		**428**		**372**		**1060**		**340**	
m&p-Xylene	**4.8**		**9.3**		**23.7**		**9.4**		**15.2**		**7.3**		**4.1**		< 3.90		< 3.60		**4.8**		< 3.20		< 3.20	
Methyl Butyl Ketone	< 7.80		< 8.10		< 7.80		< 8.10		< 8.70		< 9.10		< 8.60		< 9.10		< 6.00		< 8.60		< 7.40		< 7.40	
Methyl Ethyl Ketone	< 5.60		< 5.80		< 5.60		**6.8**		< 6.30		< 6.60		**6.7**		< 6.60		< 8.40		**27.2**		< 5.40		**3.1**	**J**
Methyl Isobutyl Ketone	< 7.80		< 8.10		< 7.80		< 10.10		< 8.70		< 9.10		< 8.60		< 9.10		< 8.40		< 8.60		< 7.40		< 7.40	
Methyl methacrylate	< 4.40		< 4.60		< 1.60		< 1.60		< 1.70		< 1.80		< 1.70		< 1.80		< 1.70		< 1.70		< 1.50		< 1.50	
Methyl tert-butyl ether	< 6.90		< 7.10		< 6.90		< 7.10		< 7.70		< 8.00		< 7.50		< 8.00		< 7.40		< 7.50		< 6.60		< 6.60	
Methylene chloride	**135**		**44.1**		**164**		**46.9**		**27.2**		**385**		**77.4**		**23.7**		**63.5**		**34.2**		**35.4**		**38.3**	
Naphthalene	< 5.00		< 5.20		< 5.00		< 5.20		< 5.60		< 5.80		< 5.50		< 5.80		< 5.30		< 5.50		< 4.80		< 4.80	
n-Butane	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Butylbenzene	< 5.20		< 5.40		< 5.20		< 5.40		< 5.90		< 6.10		< 5.70		< 6.10		< 5.60		< 5.70		< 5.00		< 5.00	
n-Propylbenzene	< 4.70		< 4.80		< 4.70		< 4.80		< 5.20		< 5.50		< 5.20		< 5.50		< 5.00		< 5.20		< 4.50		< 4.50	
o-Xylene	**1.7**		**2.7**		**5.9**		**1.9**		**6**		**2.4**		**1.9**		< 1.90		< 1.80		**2.6**		< 1.60		**0.86**	**J**
Propylene	**3.6**		**2.4**		< 0.65		< 0.68		< 0.74		< 0.77		**1.7**		**1.6**		**1.8**		< 0.72		< 0.63		< 0.63	
sec-Butylbenzene	< 5.20		< 5.40		< 5.20		< 5.40		< 5.90		< 6.10		< 5.70		< 6.10		< 5.60		< 5.70		< 5.00		< 5.00	
Styrene	< 1.60		< 1.70		< 1.60		< 1.70		< 1.80		**2.7**		**1.8**		< 1.90		< 1.70		< 1.80		**2.0**		<0.83	
tert-Butyl alcohol	< 5.80		< 6.00		< 5.80		< 6.00		< 6.50		< 6.70		< 6.30		< 6.70		< 6.20		< 6.30		< 5.50		< 5.50	
tert-Butylbenzene	< 2.60		< 2.70		< 2.60		< 2.70		< 2.90		< 3.00		< 2.30		< 2.50		< 2.30		< 2.30		< 2.00		< 2.00	
Tetrachloroethylene	**35.8**		**36.4**		**33.1**		**203**		**103**		**76.4**		**118**		**113**		**161**		**126**		**194**		**136**	
Tetrahydrofuran	**1.5**		< 1.20		**1.1**		< 1.20		< 1.30		< 1.30		**1.7**		< 1.30		< 1.20		< 18.20		< 1.10		< 1.10	
Toluene	**5.9**		**6.1**		**9.2**		**3.3**		**21.5**		**18.9**		**7.8**		**3.9**		**2.9**		**7.9**		**3.1**		**2.4**	
trans-1,2-Dichloroethene	< 1.50		< 1.60		< 1.50		< 1.60		< 1.70		< 1.80		< 1.70		< 1.80		< 1.60		< 1.70		< 1.40		< 1.40	
trans-1,3-Dichloropropene	< 1.70		< 1.80		< 1.70		< 4.50		< 1.90		< 2.00		< 1.90		< 2.00		< 1.90		< 1.90		< 1.70		< 1.70	
Trichloroethene	**3.8**		**4.5**		**4.4**		**8.4**		**7.5**		**4.9**		**8.1**		**6.9**		**8.2**		**8.1**		**11.2**		**7.3**	
Vinyl acetate	< 1.30		< 1.40		**2.5**		< 1.40		**1.8**		< 1.60		< 1.50		< 1.60		< 1.40		< 1.50		< 1.30		< 1.30	
Vinyl Bromide	< 4.20		< 4.30		< 4.20		< 4.30		< 9.30		< 9.70		< 1.80		< 1.90		< 1.80		< 1.80		< 1.60		< 1.60	
Vinyl chloride	< 0.49		< 0.50		< 0.49		< 0.50		< 0.55		< 0.57		< 0.54		< 0.57		< 0.52		< 0.54		< 0.47		< 0.30	
Cumulative VOCs (µg/m³)[2]	**885.50**		**889.40**		**746.45**		**757.90**		**838.50**		**1,062.80**		**824.90**		**635.97**		**736.20**		**677.30**		**1,367.60**		**628.79**	
Target VOCs (µg/m³)[3]	**39.60**		**40.90**		**39.40**		**211.40**		**110.50**		**81.30**		**126.10**		**119.90**		**171.10**		**134.10**		**206.70**		**144.60**	

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.
3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.
4. Due to COVID-19, no vapor sample was collected from SDS-4 during the April 2020 quarterly event.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m³ - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-7. SDS-5 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

| Sample Location | SDS-5 | | |

Table A-7. SDS-5 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-5																					
Date	10/12/2016		1/12/2017		4/13/2017		7/19/2017		10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019		4/2/2019	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	**1.4**		< 2.30		< 2.20		< 2.20		< 2.00		< 2.10		< 2.40		< 2.20		< 2.30		< 2.70		< 2.20	
1,1,2,2-Tetrachloroethane	< 1.40		< 1.50		< 1.40		< 1.40		< 1.30		< 2.60		< 1.50		< 1.40		< 1.40		< 1.70		< 1.40	
1,1,2-Trichloroethane	< 1.10		< 1.20		< 2.20		< 1.10		< 0.99		< 5.20		< 1.20		< 1.10		< 1.10		< 1.30		< 1.10	
1,1-Dichloroethane	**0.36**	J	< 1.70		< 1.70		< 1.60		< 1.50		< 1.50		< 1.80		< 1.60		< 1.70		< 2.00		< 1.70	
1,1-Dichloroethene	< 0.79		< 1.70		< 1.60		< 1.60		< 1.50		< 1.50		< 1.70		< 1.60		< 1.70		< 1.90		< 1.60	
1,2,4-Trichlorobenzene	< 3.70		< 7.90		< 7.60		< 7.30		< 6.80		< 7.00		< 8.10		< 7.50		< 15.50		< 18.10		< 15.20	
1,2,4-Trimethylbenzene	**0.49**	J	< 2.10		**3.1**		< 1.90		< 1.80		< 1.90		< 2.10		**3.6**		< 2.10		< 2.40		< 2.00	
1,2-Dibromoethane	< 1.50		< 3.30		< 3.20		< 3.00		< 2.80		< 2.90		< 3.40		< 3.10		< 1.60		< 1.90		< 1.60	
1,2-Dichlorobenzene	< 1.20		< 2.60		< 2.50		< 5.90		< 2.20		< 2.30		< 2.60		< 2.40		< 2.50		< 2.90		< 2.50	
1,2-Dichloroethane	< 0.81		< 0.86		< 1.70		< 0.80		< 0.74		< 0.77		< 0.88		< 0.81		< 0.85		< 0.99		< 0.83	
1,2-Dichloropropane	< 0.92		< 2.00		< 1.90		< 1.80		< 1.70		< 1.80		< 2.00		< 1.90		< 1.90		< 2.30		< 1.90	
1,3,5-Trimethylbenzene	< 0.98		< 2.10		< 2.00		< 1.90		< 1.80		< 1.90		< 2.10		**2.6**		< 2.10		< 2.40		< 2.00	
1,3-butadiene	< 0.44		< 0.94		< 0.91		< 0.87		< 0.81		< 0.84		< 0.97		< 0.89		< 0.93		< 1.10		< 0.90	
1,3-Dichlorobenzene	< 1.20		< 2.60		< 2.50		< 5.90		< 2.20		< 2.30		< 2.60		< 2.40		< 2.50		< 2.90		< 2.50	
1,4-Dichlorobenzene	< 1.20		< 2.60		< 6.20		< 5.90		< 2.20		< 2.30		< 2.60		< 2.40		< 6.30		< 7.30		< 6.20	
1,4-Dioxane	**2.7**	J	< 7.70		< 7.40		< 7.10		< 6.60		< 6.80		< 7.90		< 7.20		< 7.50		< 8.80		< 7.40	
2-Chlorotoluene	< 1.00		NS		NS		NS		< 0.00		NS		NS		NS		NS		NS		NS	
2,2,4-trimethylpentane	< 0.93		< 5.00		< 4.80		< 4.60		< 4.30		< 4.40		< 5.10		< 4.70		< 4.90		< 5.70		< 4.80	
4-ethyltoluene	< 0.98		< 2.10		< 2.00		< 1.90		< 1.80		< 1.90		< 2.10		< 2.00		< 5.20		< 6.00		< 5.00	
4-Isopropyltoluene	**0.62**	J	< 2.40		< 2.30		< 2.20		< 2.00		< 2.10		**3.3**		**3.3**		< 2.30		< 2.70		< 2.30	
Acetone	**27**		**59**		**32.3**		**30.7**		**40.9**		**15.1**		**22.6**		**35.7**		**35.9**		**20**		**17.6**	
Allyl chloride	< 1.60		< 3.30		< 3.20		< 3.10		< 2.90		< 3.00		< 3.40		< 3.10		< 3.30		< 3.80		< 3.20	
Benzene	**0.48**	J	**1.7**		< 1.30		< 0.63		**0.61**		< 0.61		< 0.70		**1.2**		< 0.67		< 0.78		< 0.65	
Benzyl chloride	< 1.00		< 2.20		< 5.30		< 5.10		< 1.90		< 4.90		< 2.30		< 2.10		< 5.40		< 6.30		< 5.30	
Bromodichloromethane	< 1.30		< 2.90		< 2.70		< 2.60		< 2.40		< 6.40		< 2.90		< 2.70		< 2.80		< 3.30		< 2.70	
Bromoform	< 2.10		< 4.40		< 4.20		< 10.20		< 3.80		< 3.90		< 4.50		< 4.20		< 10.80		< 12.60		< 10.60	
Bromomethane	< 0.78		< 1.70		< 1.60		< 1.50		< 1.40		< 1.50		< 1.70		< 1.60		< 1.60		< 1.90		< 1.60	
Carbon disulfide	< 1.60		< 1.30		< 1.30		< 1.20		< 1.10		< 1.20		**5.5**		< 1.30		< 1.30		< 1.50		< 1.30	
Carbon tetrachloride	**0.42**		< 1.30		< 1.30		< 1.20		< 1.20		< 6.00		< 6.90		< 6.30		< 2.60		< 3.10		< 2.60	
Chlorobenzene	< 0.92		< 2.00		< 1.90		< 1.80		< 1.70		< 1.80		< 2.00		< 1.90		< 1.90		< 2.20		< 1.90	
Chloroethane	< 1.30		< 1.10		< 1.10		< 1.00		< 0.97		< 1.00		< 1.20		< 1.10		< 1.10		< 1.30		< 1.10	
Chloroform	**4.4**		**1.3**		< 1.00		< 0.96		**23.0**		< 0.93		**11.7**		**9.5**		**11.2**		< 1.20		**2.0**	
Chloromethane	**0.84**	J	**1.2**		**0.95**		**1.1**		**1.2**		< 0.79		< 0.90		< 0.83		< 0.87		< 1.00		< 0.84	
cis-1,2-Dichloroethene	**0.37**	J	< 1.70		< 1.60		**5.3**		< 1.50		< 1.50		< 1.70		< 1.60		< 1.70		< 1.90		< 1.60	
cis-1,3-Dichloropropene	< 0.91		< 1.90		< 1.90		< 1.80		< 1.70		< 4.30		< 2.00		< 1.80		< 1.90		< 2.20		< 1.90	
Cyclohexane	**2.6**		**3.3**		**17.2**		**6.9**		**9.3**		**3.4**		**4.4**		**9.9**		< 3.60		< 4.20		**4.0**	
Dibromochloromethane	< 1.70		< 3.60		< 3.50		< 3.40		< 3.10		< 3.20		< 3.70		< 3.40		< 3.60		< 4.20		< 3.50	
Ethyl acetate	NS		**2.1**		**2**		< 1.40		**2.0**		< 1.40		**1.6**		< 1.50		**4.6**		< 1.80		**4.1**	
Ethylbenzene	**0.98**		**2.6**		**3.3**		< 1.70		< 1.60		< 1.60		< 1.90		**2.6**		< 1.80		< 2.10		< 1.80	
Freon 11	**2.7**		< 2.40		**4.2**		< 2.20		< 2.10		< 2.10		< 2.50		< 2.30		< 2.30		< 2.70		< 2.30	
Freon 113	**0.82**	J	< 3.40		< 3.20		< 3.10		< 2.90		< 3.00		< 3.40		< 3.10		< 3.20		< 3.70		< 3.10	
Freon 114	< 1.40		< 3.00		< 2.90		< 2.80		< 2.60		< 2.70		< 3.10		< 2.80		< 2.90		< 3.40		< 2.90	
Freon 12	**2.2**	J	< 2.10		**2.7**		**2.4**		**2.3**		< 1.90		**2.4**		**2.5**		**2.4**		< 2.40		**2.3**	
Freon 22	**1.4**	J	**6.2**		**3.1**		< 1.40		**3.8**		< 1.30		< 1.50		< 1.40		< 3.70		< 4.30		< 3.60	
Heptane	< 0.82		**2.1**		**2.8**		< 1.60		**3.5**		< 1.60		**3.5**		**1.8**		< 1.70		< 2.00		**2.5**	
Hexachloro-1,3-butadiene	< 2.10		< 4.60		< 4.40		< 10.50		< 3.90		< 4.10		< 4.70		< 4.30		< 11.20		< 13.00		< 10.90	
Hexane	**0.37**	J	**8.4**		**2.9**		**1.9**		**3.6**		**2.4**		< 1.50		**6.3**		**9.5**		< 1.70		**2**	
Isopropyl alcohol	**180**	D	**601**		**616**		**553**		**927**		**581**		**289**		**366**		**392**		**172**		**302**	
m&p-Xylene	**4.4**		**10.2**		**12.1**		< 3.40		< 3.20		**7.8**		**5**		**10.5**		**3.8**		**5.3**		< 3.60	
Methyl Butyl Ketone	**0.95**	J	< 8.70		< 8.40		< 8.10		< 7.50		< 7.80		< 8.90		< 8.20		< 8.60		< 10.00		< 8.40	
Methyl Ethyl Ketone	**4.0**		**16.4**		< 6.10		< 5.80		< 5.40		< 5.60		< 6.40		< 5.90		**9.6**		**17.5**		**28.4**	
Methyl Isobutyl Ketone	**0.81**	J	< 8.70		< 8.40		< 8.10		< 7.50		< 9.70		< 8.90		< 8.20		< 8.60		< 10.00		< 8.40	
Methyl methacrylate	< 2.10		< 5.00		< 4.80		< 4.60		**2.3**		< 1.60		< 1.80		< 1.60		< 1.70		< 2.00		< 1.70	
Methyl tert-butyl ether	< 0.72		< 7.70		< 7.40		< 7.10		< 6.60		< 6.90		< 7.90		< 7.20		< 7.50		< 8.80		< 7.40	
Methylene chloride	**170**	D	**156**		**223**		**201**		**865**		**1490**		**392**		**239**		**173**		**88.2**		**224**	
Naphthalene	< 2.60		**5.7**		< 5.40		< 5.20		< 4.80		< 5.00		< 5.70		< 5.30		< 5.50		< 6.40		< 5.30	
n-Butane	**1.5**		NS		NS		NS		< 0.00		NS		NS		NS		NS		NS		NS	
n-Butylbenzene	< 1.10		< 5.90		< 5.60		< 5.40		< 5.00		< 5.20		< 6.00		< 5.50		< 5.70		< 6.70		< 5.60	
n-Propylbenzene	< 0.98		< 5.20		< 5.00		< 4.80		< 4.50		< 4.70		< 5.40		< 5.00		< 5.20		< 6.00		< 5.00	
o-Xylene	**1.5**		**3.1**		**3.4**		< 1.70		< 1.60		< 1.60		< 1.90		**3.7**		< 1.80		< 2.10		< 1.80	
Propylene	NS		< 0.74		< 0.71		< 0.68		< 0.63		< 0.65		< 0.75		**1.2**		**0.99**		< 0.84		< 0.70	
sec-Butylbenzene	< 1.10		< 5.90		< 5.60		< 5.40		< 5.00		< 5.20		< 6.00		< 5.50		< 5.70		< 6.70		< 5.60	
Styrene	**0.61**	J	< 1.80		< 1.80		< 1.70		**2.5**		< 1.60		< 1.90		**2.2**		< 1.80		< 2.10		< 1.70	
tert-Butyl alcohol	< 15.00		< 6.50		< 6.20		< 6.00		< 5.50		< 5.80		< 6.60		< 6.10		< 6.30		< 7.40		< 6.20	
tert-Butylbenzene	< 1.10		< 2.90		< 2.80		< 2.70		< 2.50		< 2.60		< 3.00		< 2.70		< 2.30		< 2.70		< 2.30	
Tetrachloroethylene	**3.9**		**2.7**		< 1.40		< 1.30		< 1.20		< 1.30		**2**		**4.6**		**10.5**		**2.4**		**3.8**	
Tetrahydrofuran	**4.8**	J	**3.4**		**3.7**		< 1.20		**18.0**		**5.7**		**2.8**		**3.9**		< 1.20		< 1.40		**2.5**	
Toluene	**1.7**		**6.6**		**9.4**		**5.7**		**18.7**		**4.2**		**18.9**		**10.4**		**10.6**		**3.2**		**9.2**	
trans-1,2-Dichloroethene	< 0.79		< 1.70		< 1.60		< 1.60		< 1.50		< 1.50		< 1.70		< 1.60		< 1.70		< 1.90		< 1.60	
trans-1,3-Dichloropropene	< 0.91		< 1.90		< 1.90		< 1.80		< 1.70		< 4.30		< 2.00		< 1.80		< 1.90		< 2.20		< 1.90	
Trichloroethene	**7.7**		**5.8**		< 1.10		< 1.10		< 0.99		**2.6**		**3.6**		**6.8**		**6.3**		**4.5**		**5.5**	
Vinyl acetate	NS		**6.3**		**2.3**		< 1.40		**1.9**		< 1.30		< 1.50		**2.6**		< 1.50		< 1.70		< 1.40	
Vinyl Bromide	< 0.88		< 4.70		< 4.50		< 4.30		< 4.00		< 4.20		< 9.60		< 8.80		< 1.80		< 2.10		< 1.80	
Vinyl chloride	< 0.10		< 0.55		< 0.53		**2.7**		< 0.47		< 0.49		< 0.56		< 0.51		< 0.54		< 0.62		< 0.52	
Cumulative VOCs (µg/m³)[2]	**432.02**		**905.10**		**944.45**		**810.70**		**1,925.61**		**2,112.20**		**768.30**		**729.90**		**674.39**		**313.10**		**609.90**	
Target VOCs (µg/m³)[3]	**11.97**		**8.50**		**0.00**		**8.00**		**0.00**		**2.60**		**5.60**		**11.40**		**16.80**		**6.90**		**9.30**	

Sample Location	SDS-5									
Date	7/9/2019		10/1/2019		1/21/2020					
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q				
1,1,1-Trichloroethane	< 2.40		< 1.90		< 0.65					
1,1,2,2-Tetrachloroethane	< 1.50		< 1.20		< 1.20					
1,1,2-Trichloroethane	< 1.20		< 0.93		< 0.93					
1,1-Dichloroethane	< 1.80		< 1.40		< 1.40					
1,1-Dichloroethene	< 1.80		< 1.40		< 1.40					
1,2,4-Trichlorobenzene	< 16.50		< 12.70		< 12.70					
1,2,4-Trimethylbenzene	< 2.20		< 1.70		< 0.95					
1,2-Dibromoethane	< 1.70		< 1.30		< 1.30					
1,2-Dichlorobenzene	< 2.70		< 2.00		< 2.00					
1,2-Dichloroethane	< 0.90		< 0.69		< 0.69					
1,2-Dichloropropane	< 2.10		< 1.60		< 1.60					
1,3,5-Trimethylbenzene	< 2.20		< 1.70		< 0.84					
1,3-butadiene	< 0.99		< 0.76		< 0.76					
1,3-Dichlorobenzene	< 2.70		< 2.00		< 2.00					
1,4-Dichlorobenzene	< 6.70		< 5.10		< 5.10					
1,4-Dioxane	< 8.00		< 6.10		< 6.10					
2-Chlorotoluene	NS		NS		NS					
2,2,4-trimethylpentane	< 5.20		< 4.00		< 4.00					
4-ethyltoluene	< 5.50		< 4.20		< 4.20					
4-Isopropyltoluene	< 2.50		< 1.90		< 1.90					
Acetone	**24.2**		**34.6**		**49**					
Allyl chloride	< 3.50		< 2.70		< 2.70					
Benzene	< 0.71		< 0.55		< 0.32					
Benzyl chloride	< 5.80		< 4.40		< 4.40					
Bromodichloromethane	< 3.00		< 2.30		< 2.30					
Bromoform	< 11.50		< 8.80		< 8.80					
Bromomethane	< 1.70		< 1.30		< 1.30					
Carbon disulfide	**10.9**		< 1.10		< 0.46					
Carbon tetrachloride	< 2.80		< 2.20		< 0.90					
Chlorobenzene	< 2.00		< 1.60		< 0.58					
Chloroethane	< 1.20		< 0.90		< 0.55					
Chloroform	**14.6**		**7.9**		**0.87**	J				
Chloromethane	< 0.92		< 0.71		< 0.33					
cis-1,2-Dichloroethene	< 1.80		< 1.40		< 0.46					
cis-1,3-Dichloropropene	< 2.00		< 1.60		< 1.60					
Cyclohexane	< 3.80		< 2.90		**3.4**	J				
Dibromochloromethane	< 3.80		< 2.90		< 2.90					
Ethyl acetate	< 1.60		**2.7**		<0.4					
Ethylbenzene	< 1.90		< 1.50		< 0.64					
Freon 11	< 2.50		< 1.90		< 1.90					
Freon 113	< 3.40		< 2.60		< 2.60					
Freon 114	< 3.10		< 2.40		< 2.40					
Freon 12	< 2.20		**2.6**		**2.3**					
Freon 22	< 3.90		< 3.00		< 3.00					
Heptane	< 1.80		< 1.40		**1.5**	J				
Hexachloro-1,3-butadiene	< 11.90		< 9.10		< 4.10					
Hexane	< 1.90		< 1.20		**0.76**	J				
Isopropyl alcohol	**172**		**287**		**219**					
m&p-Xylene	< 3.90		< 3.00		< 3.00					
Methyl Butyl Ketone	< 9.10		< 7.00		< 7.00					
Methyl Ethyl Ketone	**23.2**		**22.2**		**8.8**					
Methyl Isobutyl Ketone	< 9.10		< 7.00		< 7.00					
Methyl methacrylate	< 1.80		< 1.40		< 1.40					
Methyl tert-butyl ether	< 8.00		< 6.10		< 6.10					
Methylene chloride	**153**		**261**		**202**					
Naphthalene	< 5.80		< 4.50		< 2.80					
n-Butane	NS		NS		NS					
n-Butylbenzene	< 6.10		< 4.70		< 4.70					
n-Propylbenzene	< 5.50		< 4.20		< 4.20					
o-Xylene	< 1.90		< 1.50		< 1.50					
Propylene	< 0.77		< 0.59		< 0.59					
sec-Butylbenzene	< 6.10		< 4.70		< 4.70					
Styrene	< 1.90		< 1.50		< 1.50					
tert-Butyl alcohol	< 6.70		< 5.20		< 5.20					
tert-Butylbenzene	< 2.50		< 1.90		< 1.90					
Tetrachloroethylene	**6.2**		**4.0**		**2.5**					
Tetrahydrofuran	**2.2**		< 1.00		< 1.00					
Toluene	**3.7**		**10.4**		**1.9**					
trans-1,2-Dichloroethene	< 1.80		< 1.40		< 1.40					
trans-1,3-Dichloropropene	< 2.00		< 1.60		< 1.60					
Trichloroethene	**7.4**		**9.2**		**4.4**					
Vinyl acetate	< 1.60		< 1.20		< 0.57					
Vinyl Bromide	< 1.90		< 1.50		< 1.50					
Vinyl chloride	< 0.57		< 0.44		< 0.26					
Cumulative VOCs (µg/m³)[2]	**419.30**		**641.60**		**496.43**					
Target VOCs (µg/m³)[3]	**13.60**		**13.20**		**6.90**					

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.
3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.
4. Due to COVID-19, no vapor sample was collected from SDS-5 during the April 2020 quarterly event.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m^3 - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-8. SDS-6 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-6																																			
Date	1/7/2011		3/8/2011		4/4/2011		7/6/2011		10/22/2011		1/11/2012		4/3/2012		7/11/2012		10/17/2012		1/15/2013		4/23/2013		7/11/2013		10/23/2013		2/7/2014		4/4/2014		7/10/2014		10/9/2014		1/7/2015		4/15/2015		7/8/2015		10/7/2015		1/7/2016		4/7/2016		7/12/2016		10/12/201	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	
1,1,1-Trichloroethane	**19**		**12**		**19**		**42**		**21**		**40**		**11**		**21**		**16**		**21**		**24**		**24**		< 19.00		< 24.00		**0.48**	**J**	< 8.70		< 19.00		< 4.60		< 5.50		**0.44**	**J**	< 1.10		< 5.40		< 4.90		**0.26**	**J**	< 5.30	
1,1,2,2-Tetrachloroethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 14		< 1.30		< 23.00		< 30.00		< 2.70		< 11.00		< 24.00		< 5.80		< 6.90		< 1.40		< 1.40		< 6.70		< 6.20		< 1.40		< 6.60	
1,1,2-Trichloroethane	< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 11		< 1.50		< 19.00		< 24.00		< 2.20		< 8.70		< 19.00		< 4.60		< 5.50		< 1.10		< 1.10		< 5.40		< 4.90		< 1.10		< 5.30	
1,1-Dichloroethane	**2.1**		**5.2**		**8.8**		**13**		**8.8**		**12**		**3.7**		**6**		**3.4**		**8.4**		**8.4**		< 1.60		< 14.00		< 18.00		**0.54**	**J**	< 6.50		< 14.00		< 3.40		< 4.10		**0.87**		**0.50**	**J**	< 4.00		< 3.70		**0.55**	**J**	< 3.90	
1,1-Dichloroethene	< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 7.9		< 5.80		< 14.00		< 17.00		< 1.60		< 6.30		< 14.00		< 3.40		**0.63**	**J**	< 0.79		< 0.79		< 3.90		< 3.60		< 0.79		< 3.80	
1,2,4-Trichlorobenzene	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 37		< 3.80		< 63.00		< 82.00		< 7.40		< 30.00		< 64.00		< 16.00		< 19.00		< 3.70		< 3.70		< 18.00		< 17.00		< 3.70		< 18.00	
1,2,4-Trimethylbenzene	**27**		**9.1**		**7.5**		**12**		**4.5**		**4.8**		**2.5**		**5.1**		**4.1**		**4.1**		< 9.8		< 1.80		< 17.00		< 22.00		**1.7**	**J**	**1.8**	**J**	< 17.00		**0.69**	**J**	**0.61**	**J**	**1.8**		**1.1**		< 4.80		**1.4**	**J**	**2.3**		< 4.80	
1,2-Dibromoethane	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 15		< 1.80		< 26.00		< 34.00		< 3.10		< 12.00		< 26.00		< 6.50		< 7.70		< 1.50		< 1.50		< 7.60		< 7.00		< 1.50		< 7.50	
1,2-Dichlorobenzene	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 12		< 2.70		< 21.00		< 26.00		< 2.40		< 9.60		< 21.00		< 5.10		< 6.00		< 1.20		< 1.20		< 5.90		< 5.40		< 1.20		< 5.80	
1,2-Dichloroethane	< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 8.1		< 1.20		< 14.00		< 18.00		< 1.60		< 6.50		< 14.00		< 3.40		< 4.10		< 0.81		< 0.81		< 4.00		< 3.70		< 0.81		< 3.90	
1,2-Dichloropropane	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 9.2		< 1.80		< 16.00		< 20.00		< 1.80		< 7.40		< 16.00		< 3.90		< 4.60		< 0.92		< 0.92		< 4.50		< 4.20		< 0.92		< 4.50	
1,3,5-Trimethylbenzene	**15**		**2**		**3.5**		**5.1**		**2.8**		**1.9**		**1**		**3.1**		**1.6**		**2.4**		< 9.8		< 1.60		< 17.00		< 22.00		**0.81**	**J**	**0.88**	**J**	< 17.00		< 4.20		< 4.90		**1.0**		**0.51**	**J**	< 4.80		< 4.40		**1.1**		< 4.80	
1,3-butadiene	< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 4.4		< 0.95		< 7.60		< 9.70		< 0.88		< 3.50		< 7.60		< 1.90		< 2.20		< 0.44		< 0.44		< 2.20		< 2.00		< 0.44		< 2.10	
1,3-Dichlorobenzene	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 12		< 2.00		< 21.00		< 26.00		< 2.40		**0.80**	**BJ**	< 21.00		< 5.10		< 6.00		< 1.20		< 1.20		< 5.90		< 5.40		< 1.20		< 5.80	
1,4-Dichlorobenzene	**9.3**		**1.9**		**7**		**1.7**		**1.3**		**7.4**		< 0.92		**7.4**		< 0.92		< 0.92		< 12		< 1.90		< 21.00		< 26.00		< 2.40		< 9.60		< 21.00		< 5.10		< 6.00		< 1.20		< 1.20		< 5.90		< 5.40		< 1.20		< 5.80	
1,4-Dioxane	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		**1.8**		< 1.10		< 1.10		< 180		< 4.30		< 310.00		< 400.00		< 36.00		< 140.00		< 310.00		< 77.00		< 90.00		< 18.00		**2.7**	**J**	< 88.00		< 81.00		< 18.00		< 87.00	
2-Chlorotoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 10		< 1.20		< 16.00		< 23.00		< 2.10		< 8.30		< 18.00		< 4.40		< 5.20		< 1.00		< 1.00		< 5.10		< 4.70		< 1.00		< 5.00	
2,2,4-trimethylpentane	**0.95**		**0.81**		**1.4**		**1.2**		**0.71**		**0.76**		< 0.71		**0.71**		**0.62**	**J**	< 0.71		< 9.3		< 1.20		< 16.00		< 21.00		**0.34**	**J**	< 7.50		< 16.00		< 4.00		< 4.70		**0.21**	**J**	**0.42**	**J**	< 4.60		< 4.20		**0.70**	**J**	< 4.50	
4-ethyltoluene	**23**		**2.6**		**4**		**4.8**		**1.7**		**2**		**1**		**2.5**		**1.6**		**1.6**		< 9.8		< 1.30		< 17.00		< 22.00		**1.1**	**J**	**0.90**	**J**	< 17.00		< 4.20		< 4.90		**1.3**		**0.58**	**J**	< 4.80		< 4.40		**1.4**		< 4.80	
4-Isopropyltoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 11		< 1.90		< 19.00		< 24.00		< 2.20		< 8.80		< 19.00		< 4.70		< 5.50		**0.23**	**J**	< 1.10		< 5.40		< 5.00		**0.27**	**J**	< 5.30	
Acetone	**40**		**83**		**33**		< 0.72		< 0.72		**52**		**40**		**76**		**48**		**37**		**34**	**J**	**59**	**J**	**42**	**J B**	< 260.00		**32**		**24**	**J**	< 200.00		**17**	**J**	**26**	**J**	**19**		**44**		**44**	**J**	**20**	**J**	**12**		**23**	
Allyl chloride	< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 16		< 2.50		< 27.00		< 34.00		< 3.10		< 13.00		< 27.00		< 6.70		< 7.90		< 1.60		< 1.60		< 7.70		< 7.10		< 1.60		< 7.60	
Benzene	**1.3**		**0.91**		**1.1**		**0.78**		**0.52**		**1.3**		**1.2**		**1.8**		**1.8**		**2**		< 6.4		**3.8**	**J**	< 11.00		< 14.00		**0.67**	**J**	**0.74**	**J**	< 11.00		< 2.70		**0.97**	**J**	**0.59**	**J**	**0.70**		**1.6**	**J**	< 2.90		**0.48**	**J**	**0.85**	
Benzyl chloride	< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 10		< 1.90		< 18.00		< 23.00		< 2.10		< 8.30		< 18.00		< 4.40		< 5.20		< 1.00		< 1.00		< 5.10		< 4.70		< 1.00		< 5.00	
Bromodichloromethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 13		< 1.40		< 23.00		< 29.00		< 2.70		< 11.00		< 23.00		< 5.70		< 6.70		< 1.30		< 1.30		< 6.60		< 6.10		< 1.30		< 6.50	
Bromoform	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 21		< 1.30		< 35.00		< 45.00		< 4.10		< 17.00		< 36.00		< 8.80		< 10.00		< 2.10		< 2.10		< 10.00		< 9.40		< 2.10		< 10.00	
Bromomethane	< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 7.8		< 1.80		< 13.00		< 17.00		< 1.60		< 6.20		< 13.00		< 3.30		< 3.90		< 0.78		< 0.78		< 3.80		< 3.50		< 0.78		< 3.80	
Carbon disulfide	**0.85**		< 0.47		**0.47**		**0.47**		**1**		0.47		< 0.47		**0.51**		< 0.47		< 0.47		< 16		< 1.10		< 27.00		< 34.00		**0.74**	**J**	**19**		< 27.00		< 6.60		< 7.80		**0.29**	**J**	**1.1**	**J**	< 7.70		< 7.10		< 1.60		< 7.60	
Carbon tetrachloride	< 0.96		< 0.96		< 0.96		**0.77**	**J**	**0.38**	**J**	**0.7**	**J**	< 0.96		< 0.96		< 0.96		< 0.96		< 2.5		< 1.40		< 4.30		< 5.50		**0.36**	**J**	< 2.00		< 4.30		< 1.10		< 1.30		**0.40**		**0.48**		< 1.20		< 1.10		**0.45**		< 1.20	
Chlorobenzene	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 9.2		< 1.00		< 16.00		< 20.00		< 1.80		< 7.40		< 16.00		< 3.90		< 4.60		< 0.92		< 0.92		< 4.50		< 4.20		< 0.92		< 4.50	
Chloroethane	< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 13		< 1.50		< 23.00		< 29.00		< 2.60		< 11.00		< 23.00		< 5.60		< 6.60		< 1.30		< 1.30		< 6.50		< 6.00		< 1.30		< 6.40	
Chloroform	**1.8**		**9.6**		**16**		**25**		**16**		**23**		**8**		**15**		**8.8**		**11**		**16**		**18**		**6.5**	**J**	**50**		**1.6**	**J**	**1.9**	**J**	< 17.00		< 4.20		< 4.90		**1.2**		**0.96**	**J**	< 4.80		< 4.40		**0.82**	**J**	**4.0**	
Chloromethane	< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		**1.2**		< 0.31		**2.3**	**J**	< 1.20		**1.4**	**J**	< 23.00		**1.0**	**J**	< 8.30		< 18.00		**1.1**	**J**	**2.0**	**J**	**0.88**	**J**	**2.5**		< 5.10		< 4.70		**0.69**	**J**	**1.4**	
cis-1,2-Dichloroethene	< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 7.9		< 5.70		< 14.00		< 17.00		< 1.60		< 6.30		< 14.00		< 3.40		< 4.00		< 0.79		< 0.79		< 3.90		< 3.60		< 0.79		< 3.80	
cis-1,3-Dichloropropene	< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 9.1		< 1.00		< 16.00		< 20.00		< 1.80		< 7.30		< 16.00		< 3.90		< 4.50		< 0.91		< 0.91		< 4.50		< 4.10		< 0.91		< 4.40	
Cyclohexane	**27**		**10**		**22**		**36**		**5.1**		**6.9**		< 0.52		< 0.52		< 0.52		< 0.52		**13**		**8.7**	**J**	**6.5**	**J**	< 15.00		**6.0**		**6.2**		**11**	**J**	**5.5**		**20**		**10**		**6.1**		**19**		**13**		**3.5**		**9.3**	
Dibromochloromethane	< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 17		< 1.60		< 29.00		< 37.00		< 3.40		< 14.00		< 29.00		< 7.30		< 8.50		< 1.70		< 1.70		< 8.30		< 7.70		< 1.70		< 8.20	
Ethyl acetate	< 0.92		< 0.92		**3.2**		**11**		< 0.92		< 0.92		**3.1**		< 0.92		**1.1**		< 0.92		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Ethylbenzene	**3**		**2.7**		**2**		**3.3**		**1.8**		**2.8**		**1.3**		**2.6**		**0.88**		**0.75**		**2**	**J**	< 1.10		< 15.00		< 19.00		**1.1**	**J**	**1.2**	**J**	< 15.00		**0.73**	**J**	< 4.40		**0.70**	**J**	**0.88**		**1.7**	**J**	**0.81**	**J**	**1.3**		**1.0**	
Freon 11	**2.1**		**3.6**		**2.6**		**6**		**17**		**91**		**26**		**24**		**16**		**6.9**		**7.1**	**J**	**35**		**33**		< 25.00		**1.3**	**J**	**1.9**	**J**	< 19.00		**1.8**	**J**	**1.8**	**J**	**1.5**		**1.5**		< 5.50		< 5.10		**1.8**		**2.7**	
Freon 113	**13**		**35**		**34**		**74**		**50**		**79**		**41**		**80**		**48**		**47**		**55**		56		**4.3**	**J**	< 34.00		**0.69**	**J**	< 12.00		< 26.00		< 6.50		< 7.70		**0.78**	**J**	**0.67**	**J**	< 7.50		< 6.90		**0.67**	**J**	< 7.40	
Freon 114	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		**1.1**		**1.3**		**1.7**		< 1.10		< 14		< 2.40		< 24.00		< 31.00		< 2.80		< 11.00		< 24.00		< 6.00		< 7.00		< 1.40		< 1.40		< 6.90		< 6.30		< 1.40		< 6.80	
Freon 12	**3.6**		**5.4**		**5.4**		**5.3**		**12**		**24**		< 0.75		**11**		**14**		**8.5**		**4.6**	**J**	**8.6**	**J**	**9.9**	**J**	< 54.00		**2.1**	**J**	**3.2**	**J**	< 43.00		**2.8**	**J**	**2.8**	**J**	**2.1**	**J**	**3.0**		**3.1**	**J**	**2.5**	**J**	**2.4**	**J**	**2.4**	
Freon 22	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**5.8**	**J**	< 1.40		< 30.00		**6.7**	**J**	**5.0**		**3.5**	**J**	**5.2**	**J**	**4.5**	**J**	**7.1**	**J**	**2.1**		**3.0**		**1.9**	**J**	**1.7**	**J**	**1.3**	**J**	**1.4**	
Heptane	< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		**6.5**		**1.7**		**1.5**		**2.1**		**1.7**		**3.6**	**J**	< 1.20		< 14.00		< 18.00		**4.4**		< 6.60		< 14.00		< 3.50		**1.2**	**J**	< 0.82		**1.6**		**1.1**	**J**	**2.0**	**J**	**2.2**		< 4.00	
Hexachloro-1,3-butadiene	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 21		< 5.30		< 36.00		< 47.00		< 4.30		< 17.00		< 37.00		< 9.10		< 11.00		< 2.10		< 2.10		< 10.00		< 9.60		< 2.10		< 10.00	
Hexane	< 0.54		< 0.54		< 0.54		< 0.54		**1.3**		**2.4**		< 0.54		**2.1**		**2.5**		**1.7**		**2.4**	**J**	< 1.20		< 12.00		< 16.00		**6.1**		< 5.60		< 12.00		**2.3**	**J**	**2.4**	**J**	**0.86**		**0.96**		< 3.50		**2.2**	**J**	**0.52**	**J**	< 3.40	
Isopropyl alcohol	**650**		**320**		**450**	**E**	**140**		**570**		**590**		**170**		**110**		**300**		**1,100**		**650**		**1100**		**1300**		**1900**		**1300**	**E**	**460**		**900**		**1300**	**D**	**1000**	**D**	**360**	**D**	**310**	**D**	**1400**	**D**	**1000**	**D**	**370**	**E**	**740**	
m&p-Xylene	**12**		**9.9**		**7.8**		**10**		**6.3**		**10**		**4.3**		**9.3**		**2.8**		**2.3**		**5.1**	**J**	< 1.60		< 37.00		< 48.00		**4.1**	**J**	**3.0**	**J**	< 37.00		**2.4**	**J**	**2.2**	**J**	**2.3**		**2.9**		**4.2**	**J**	**2.5**	**J**	**4.1**		**3.1**	
Methyl Butyl Ketone	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 20		< 2.80		< 35.00		< 45.00		< 4.10		< 16.00		< 35.00		< 8.70		< 10.00		< 2.00		**1.3**	**J**	< 10.00		< 9.30		< 2.10		< 9.90	
Methyl Ethyl Ketone	**12**		**140**		**15**		**43**		**2.2**		<0.90		**1.3**		**2.1**		< 0.90		< 0.90		**2.7**	**J**	**4.4**	**J**	**2.6**	**J**	< 32.00		**5.9**		< 12.00		< 25.00		< 6.30		< 7.40		**3.5**		**5.1**		< 7.20		< 6.60		**1.3**	**J**	**2.1**	
Methyl Isobutyl Ketone	< 1.20		**1.3**		< 1.20		**1.4**		< 1.20		< 1.20		< 1.20		**3**		< 1.20		< 1.20		< 20		< 2.40		< 35.00		< 45.00		**0.58**	**J**	< 16.00		< 35.00		< 8.70		< 10.00		< 2.00		**5.3**		< 10.00		< 9.30		< 2.10		< 9.90	
Methyl methacrylate	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 20		< 1.10		< 35.00		< 45.00		**0.45**	**J**	< 16.00		< 35.00		< 8.70		< 10.00		**0.45**	**J**	**1.2**	**J**	< 10.00		< 9.30		< 2.10		< 9.90	
Methyl tert-butyl ether	< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 7.2		< 0.92		< 12.00		< 16.00		< 1.40		< 5.80		< 12.00		< 3.10		< 3.60		< 0.72		< 0.72		< 3.50		< 3.30		< 0.72		< 3.50	
Methylene chloride	**570**		**580**		**450**	**E**	**320**		**660**		**2,500**		**950**		620		**990**		**5,700**		**670**	**B**	**540**	**B**	**750**	**B**	**590**		**260**		**350**		**220**		**740**	**D**	**1500**	**D**	**170**	**DB**	**110**		**370**		**220**		**60**		**220**	
Naphthalene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 26		< 3.40		< 45.00		< 58.00		< 5.20		< 21.00		< 45.00		< 11.00		< 13.00		**1.7**	**J**	**1.3**	**J**	< 13.00		< 12.00		**2.2**	**J**	< 13.00	
n-Butane	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**12**		< 0.89		**3.8**	**J**	< 26.00		**2.8**		**7.0**	**J**	< 20.00		**5.4**		**6.7**		**8.7**		**7.3**		< 5.80		< 5.40		**2.8**		**2.1**	
n-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 11		< 2.10		< 19.00		< 24.00		< 2.20		< 8.80		< 19.00		< 4.70		< 5.50		**0.82**	**J**	< 1.10		< 5.40		< 5.00		**0.93**	**J**	< 5.30	
n-Propylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 9.8		< 1.10		< 17.00		< 22.00		< 2.00		< 7.90		< 17.00		< 4.20		< 4.90		**0.88**	**J**	**0.52**	**J**	< 4.80		< 4.40		**1.0**		< 4.80	
o-Xylene	**6.6**		**3.7**		**3.2**		**3.8**		**2.3**		**2.9**		**1.4**		**3**		**1**		**1.1**		**1.8**	**J**	< 1.20		< 15.00		< 19.00		**1.3**	**J**	**1.2**	**J**	< 15.00		< 3.70		**0.94**	**J**	**0.93**		**0.97**		**1.4**	**J**	**0.95**	**J**	**1.4**		**1.0**	
Propylene	< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
sec-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 11		< 1.40		< 19.00		< 24.00		< 2.20		< 8.80		< 19.00		< 4.70		< 5.50		< 1.10		< 1.10		< 5.40		< 5.00		< 1.10		< 5.30	
Styrene	< 0.65		< 0.65		< 0.65		< 0.65		**0.82**		<0.65		< 0.65		0.91		< 0.65		**1.5**		< 8.5		< 0.80		< 15.00		< 19.00		**0.49**	**J**	< 6.80		< 15.00		< 3.60		< 4.30		**0.62**	**J**	**0.82**	**J**	< 4.20		**1.2**	**J**	**0.84**	**J**	**0.90**	
tert-Butyl alcohol	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 150		< 2.10		< 260.00		< 330.00		< 30.00		< 120.00		< 260.00		< 65.00		< 76.00		**0.91**	**J**	< 15.00		< 75.00		< 69.00		< 15.00		< 74.00	
tert-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 11		< 1.00		< 19.00		< 24.00		< 2.20		< 8.80		< 19.00		< 4.70		< 5.50		< 1.10		< 1.10		< 5.40		< 5.00		< 1.10		< 5.30	
Tetrachloroethylene	**8.3**		**7.6**		**13**		**39**		**29**		**38**		**9.2**		**17**		**12**		**19**		**22**		**31**		**27**		**18**	**J**	**12**		**21**		**7.8**	**J**	**6.7**		**6.5**	**J**	**17**		**9.0**		**7.4**		**8.7**		**14**		**7.5**	
Tetrahydrofuran	**7.8**		**260**		**9.6**		**100**		**18**		**58**		**25**		**16**		**3.6**		**8.1**		**33**	**J**	**34**	**J**	< 250.00		**42**	**J**	**13**	**J**	< 120.00		< 250.00		**2.6**	**J**	**4.7**	**J**	**4.8**	**J**	< 15.00		**30**	**J**	< 66.00		**21**		< 71.00	
Toluene	**31**		**18**		**28**		**42**		**11**		**16**		**15**		**15**		**12**		**7.7**		**14**		**16**		**8.8**	**J**	**14**	**J**	**14**		**7.4**		**7.0**	**J**	**3.8**		**8.1**		**10**		**9.1**		**10**		**5.9**		**7.7**		**5.6**	
trans-1,2-Dichloroethene	**1**		< 0.60		**3**		< 0.60		**22**		<0.60		**2.7**		< 0.60		< 0.60		< 0.60		**6.6**	**J**	< 1.60		< 14.00		< 17.00		**5.3**		< 6.30		< 14.00		< 3.40		< 4.00		< 0.79		< 0.79		< 3.90		< 3.60		< 0.79		< 3.80	
trans-1,3-Dichloropropene	< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 9.1		< 1.20		< 16.00		< 20.00		< 1.80		< 7.30		< 16.00		< 3.90		< 4.50		< 0.91		< 0.91		< 4.50		< 4.10		< 0.91		< 4.40	
Trichloroethene	< 0.82		**5.5**		**7.4**		**18**		**10**		**19**		**6.3**		**14**		**8.8**		**12**		**16**		**19**		**10**		**4.3**	**J**	**2.5**		< 1.70		< 3.70		**1.6**		**2.0**		**3.9**		**2.0**		**1.6**		**1.5**		**2.6**		< 1.00	
Vinyl acetate	< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Vinyl Bromide	< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 8.7		< 1.40		< 15.00		< 19.00		< 1.70		< 7.00		< 15.00		< 3.70		< 4.40		< 0.87		< 0.88		< 4.30		< 4.00		< 0.88		< 4.20	
Vinyl chloride	< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 1.0		< 0.40		< 1.70		< 2.20		< 0.20		< 0.82		< 1.80		< 0.43		< 0.51		< 0.10		< 0.10		< 0.50		< 0.46		< 0.10		< 0.49	
Cumulative VOCs (µg/m3)[2]	**1,487.70**		**1,529.82**		**1,157.97**		**959.62**		**1,477.53**		**3,592.83**		**1,327.80**		**1,073.73**		**1,503.60**		**7,005.75**		**1,611.40**		**1,957.50**		**2,205.80**		**2,625.00**		**1,690.45**		**915.62**		**1,151.00**		**2,098.92**		**2,596.65**		**632.76**		**540.07**		**1,897.00**		**1,284.36**		**524.58**		**1,028.35**	
Target VOCs (µg/m3)[3]	**9.30**		**13.10**		**23.40**		**57.00**		**61.00**		**57.00**		**18.20**		**31.00**		**20.80**		**31.00**		**44.60**		**50.00**		**37.00**		**22.30**		**19.80**		**21.00**		**7.80**		**8.30**		**9.13**		**20.90**		**11.00**		**9.00**		**10.20**		**16.60**		**7.50**	

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.

3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.

-**BOLD

Table A-8. SDS-6 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-6																			
Date [6]	1/12/2017		4/13/2017		7/19/2017		10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019		4/2/2019		7/9/2019		10/1/2019		1/21/2020	
Volatile Organic Compounds[1]	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane		< 2.30		< 2.30		< 2.20		< 2.10		< 2.20		< 2.40		< 2.30		< 2.30		< 2.30		< 2.20		< 2.30		< 1.90		< 0.61	
1,1,2,2-Tetrachloroethane		< 1.50		< 1.50		< 1.40		< 1.30		< 2.80		< 1.50		< 1.40		< 1.40		< 1.50		< 1.40		< 1.50		< 1.20		< 1.20	
1,1,2-Trichloroethane		< 1.20		< 2.30		< 1.10		< 1.00		< 5.60		< 1.20		< 1.10		< 1.10		< 1.20		< 1.10		< 1.20		< 0.93		< 0.93	
1,1-Dichloroethane		< 1.70		< 1.70		< 1.60		< 1.50		< 1.70		< 1.80		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.40		< 1.40	
1,1-Dichloroethene		< 1.70		< 1.70		< 1.60		< 1.50		< 1.60		< 1.80		< 1.70		< 1.70		< 1.70		< 1.60		< 1.70		< 1.40		< 1.40	
1,2,4-Trichlorobenzene		< 7.90		< 7.90		< 7.30		< 7.00		< 7.60		< 8.30		< 7.80		< 15.50		< 15.80		< 15.20		< 15.80		< 12.70		< 12.70	
1,2,4-Trimethylbenzene		**2.8**		< 2.10		**2.2**		< 1.90		< 2.00		< 2.20		2.9		**2.1**		< 2.10		**2.2**		**5.0**		**2.1**		**1.4**	J
1,2-Dibromoethane		< 3.30		< 3.30		< 3.00		< 2.90		< 3.20		< 3.40		< 3.20		< 1.60		< 1.60		< 1.60		< 1.60		< 1.30		< 1.30	
1,2-Dichlorobenzene		< 2.60		< 2.60		< 5.90		< 2.30		< 2.50		< 2.70		< 2.50		< 2.50		< 2.60		< 2.50		< 2.60		< 2.00		< 2.00	
1,2-Dichloroethane		< 0.86		< 1.70		< 0.80		< 0.77		< 0.83		< 0.90		< 0.85		< 0.85		< 0.86		< 0.83		**10.6**		< 0.69		< 0.30	
1,2-Dichloropropane		< 2.00		< 2.00		< 1.80		< 1.80		< 1.90		< 2.10		< 1.90		< 1.90		< 2.00		< 1.90		< 2.00		< 1.60		< 1.60	
1,3,5-Trimethylbenzene		< 2.10		< 2.10		< 1.90		< 1.90		< 2.00		< 2.20		< 2.10		< 2.10		< 2.10		< 2.00		< 2.10		< 1.70		< 1.70	
1,3-butadiene		< 0.94		< 0.94		< 0.87		< 0.84		< 0.91		< 0.99		< 0.93		< 0.93		< 0.94		< 0.90		< 0.94		< 0.76		< 0.76	
1,3-Dichlorobenzene		< 2.60		< 2.60		< 5.90		< 2.30		< 2.50		< 2.70		< 2.50		< 2.50		< 2.60		< 2.50		< 2.60		< 2.00		< 2.00	
1,4-Dichlorobenzene		< 2.60		< 6.40		< 5.90		< 2.30		< 2.50		< 2.70		< 2.50		< 6.30		< 6.40		< 6.20		< 6.40		< 5.10		< 5.10	
1,4-Dioxane		< 7.70		< 7.70		< 7.10		< 6.80		< 7.40		< 8.00		< 7.50		< 7.50		< 7.70		< 7.40		< 7.70		< 6.10		< 6.10	
2-Chlorotoluene		NS		NS		NS		< 0.00		NS		NS		NS		NS		NS		NS		NS		NS		NS	
2,2,4-trimethylpentane		< 5.00		< 5.00		< 4.60		< 4.40		< 4.80		< 5.20		< 4.90		< 4.90		< 5.00		< 4.80		< 5.00		< 4.00		< 4.00	
4-ethyltoluene		< 2.10		< 2.10		< 1.90		< 1.90		< 2.00		< 2.20		2.3		< 5.20		< 5.20		< 5.00		< 5.20		< 4.20		< 4.20	
4-Isopropyltoluene		< 2.40		< 2.40		< 2.20		< 2.10		< 2.30		**3.4**		**13.4**		< 2.30		< 2.40		< 2.30		< 2.40		< 1.90		< 1.90	
Acetone	J	**34.6**		**25.9**		**41.4**		**45.4**		**7.7**		**15.5**		**80.6**		**33.5**		**13.7**		**21.4**		**183**		**25**		**115**	
Allyl chloride		< 3.30		< 3.30		< 3.10		< 3.00		< 3.20		< 3.50		< 3.30		< 3.30		< 3.30		< 3.20		< 3.30		< 2.70		< 2.70	
Benzene	J	**2.9**		< 1.40		< 0.630		< 0.61		**1.1**		**0.92**		**1.7**		< 0.67		< 0.68		< 0.65		< 0.68		< 0.55		< 0.55	
Benzyl chloride		< 2.20		< 5.50		< 5.10		< 2.00		< 5.30		< 2.30		< 2.20		< 5.40		< 5.50		< 5.30		< 5.50		< 4.40		< 4.40	
Bromodichloromethane		< 2.90		< 2.90		< 2.60		< 2.50		< 6.90		< 3.00		< 2.80		< 2.80		< 2.90		< 2.70		< 2.90		< 2.30		< 2.30	
Bromoform		< 4.40		< 4.40		< 10.20		< 3.90		< 4.20		< 4.60		< 4.30		< 10.80		< 11.00		< 10.60		< 11.00		< 8.80		< 8.80	
Bromomethane		< 1.70		< 1.70		< 1.50		< 1.50		< 1.60		< 1.70		< 1.60		< 1.60		< 1.70		< 1.60		< 1.70		< 1.30		< 1.30	
Carbon disulfide		< 1.30		< 1.30		< 1.20		< 1.20		< 1.30		**1.8**		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.10		< 1.10	
Carbon tetrachloride		< 1.30		< 1.30		< 1.20		< 1.20		< 6.50		< 7.00		< 6.60		< 2.60		< 2.70		< 2.60		< 2.70		< 2.20		< 2.20	
Chlorobenzene		< 2.00		< 2.00		< 1.80		< 1.80		< 1.90		< 2.00		< 1.90		< 1.90		< 2.00		< 1.90		< 2.00		< 1.60		< 1.60	
Chloroethane		< 1.10		< 1.10		< 1.00		< 1.00		< 1.10		< 1.20		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 0.90		< 0.90	
Chloroform	J	< 2.10		< 1.00		< 0.96		**20.3**		< 1.00		**11.4**		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		**28.8**		<0.39	
Chloromethane	J	**0.89**		**1.2**		**1.1**		**1.4**		< 0.85		< 0.92		< 0.87		< 0.87		< 0.88		< 0.84		< 0.88		**0.84**		**1.2**	
cis-1,2-Dichloroethene		< 1.70		< 1.70		< 1.60		< 1.50		< 1.60		< 1.80		< 1.70		< 1.70		< 1.70		< 1.60		< 1.70		< 1.40		< 1.40	
cis-1,3-Dichloropropene		< 1.90		< 1.90		< 1.80		< 1.70		< 4.70		< 2.00		< 1.90		< 1.90		< 1.90		< 1.90		< 1.90		< 1.60		< 1.60	
Cyclohexane		**4.1**		**6.4**		**7.5**		**12.9**		**4.0**		**8.9**		**25.6**		< 3.60		**5.7**		**6.4**		**16.4**		< 2.90		**9**	
Dibromochloromethane		< 3.60		< 3.60		< 3.40		< 3.20		< 3.50		< 3.80		< 3.60		< 3.60		< 3.60		< 3.50		< 3.60		< 2.90		< 2.90	
Ethyl acetate		**2.8**		< 1.50		< 1.40		**1.7**		< 1.50		< 1.60		< 1.50		**5.5**		< 1.50		**5.5**		**11.6**		**2.9**		<0.38	
Ethylbenzene	J	**2.4**		< 1.80		**3.2**		**9.2**		**2.6**		< 1.90		< 1.80		< 1.80		< 1.90		< 1.80		**4.9**		< 1.50		< 0.60	
Freon 11	J	< 2.40		**3.8**		< 2.20		< 2.10		< 2.30		< 2.50		< 2.30		< 2.30		< 2.40		< 2.30		< 2.40		< 1.90		**1.3**	J
Freon 113		< 3.40		< 3.40		< 3.10		< 3.00		< 3.20		< 3.40		< 3.20		< 3.20		< 3.30		< 3.10		< 3.30		< 2.60		< 2.60	
Freon 114		< 3.00		< 3.00		< 2.80		< 2.70		< 2.90		< 3.10		< 2.90		< 2.90		< 3.00		< 2.90		< 3.00		< 2.40		< 2.40	
Freon 12	J	**2.8**		**2.7**		**2.4**		**2.3**		< 2.00		**2.4**		**2.7**		< 2.10		**2.1**		**2.0**		< 2.10		**2.7**		**2.3**	
Freon 22	J	**3.7**		< 1.50		< 1.40		**3.8**		< 1.50		< 1.60		**3.1**		< 3.70		< 3.80		< 3.60		< 3.80		< 3.00		< 3.00	
Heptane		**2.3**		< 1.70		< 1.60		**2.5**		< 1.70		**2.9**		**3.7**		< 1.70		< 1.70		**3.2**		< 1.70		< 1.40		< 1.40	
Hexachloro-1,3-butadiene		< 4.60		< 4.60		< 10.50		< 4.10		< 4.40		< 4.80		< 4.50		< 11.20		< 11.40		< 10.90		< 11.40		< 9.10		< 9.10	
Hexane		**5.2**		**4.6**		**3.6**		**2.7**		**3.2**		< 1.60		< 1.50		**8.8**		< 1.50		**1.5**		**4.0**		**1.4**		**1.2**	J
Isopropyl alcohol	D	**950**		**363**		**401**		**690**		**91.1**		**535**		**722**		**913**		**651**		**1410**		**928**		**775**		**602**	
m&p-Xylene	J	**8.3**		< 3.70		**10.8**		**34.7**		**11.6**		**6.6**		**12.4**		< 3.60		**4.6**		< 3.60		< 19.40		< 3.00		< 3.00	
Methyl Butyl Ketone		< 8.70		< 8.70		< 8.10		< 7.80		< 8.40		< 9.10		< 8.60		< 8.60		< 8.70		< 8.40		< 8.70		< 7.00		< 7.00	
Methyl Ethyl Ketone	J	< 6.30		< 6.30		< 5.80		**9.3**		< 6.10		< 6.60		< 6.20		< 6.20		< 6.30		**10.2**		**118**		< 5.00		**8.9**	
Methyl Isobutyl Ketone		< 8.70		< 8.70		< 8.10		< 7.80		< 10.50		< 9.10		< 8.60		< 8.60		< 8.70		< 8.40		< 8.70		< 7.00		< 7.00	
Methyl methacrylate		< 5.00		< 5.00		< 4.60		< 1.60		< 1.70		< 1.80		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.40		< 1.40	
Methyl tert-butyl ether		< 7.70		< 7.70		< 7.10		< 6.90		< 7.40		< 8.00		< 7.50		< 7.50		< 7.70		< 7.40		< 7.70		< 6.10		< 1.30	
Methylene chloride		**283**		**384**		**181**		**714**		**282**		**340**		**721**		**461**		**439**		**1030**		**342**		**700**		**421**	
Naphthalene		**23.4**		< 5.60		< 5.20		< 5.00		< 5.40		< 5.80		< 5.50		< 5.50		< 5.60		< 5.30		< 5.60		< 4.50		< 2.60	
n-Butane	J	NS		NS		NS		< 0.00		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Butylbenzene		< 5.90		< 5.90		< 5.40		< 5.20		< 5.60		< 6.10		< 5.70		< 5.70		< 5.90		< 5.60		< 5.90		< 4.70		< 4.70	
n-Propylbenzene		< 5.20		< 5.20		< 4.80		< 4.70		< 5.00		< 5.50		< 5.20		< 5.20		< 5.20		< 5.00		< 5.20		< 4.20		< 4.20	
o-Xylene	J	**2.8**		< 1.80		**2.9**		**8.0**		**2.2**		**2.3**		**4**		< 1.80		< 1.90		< 1.80		**5.7**		< 1.50		< 0.68	
Propylene		< 0.74		< 0.74		< 0.68		< 0.65		< 0.71		< 0.77		**1.5**		**1.1**		**1.2**		**1.2**		**0.74**		< 0.59		< 0.59	
sec-Butylbenzene		< 5.90		< 5.90		< 5.40		< 5.20		< 5.60		< 6.10		< 5.70		< 5.70		< 5.90		< 5.60		< 5.90		< 4.70		< 4.70	
Styrene	J	**1.90**		< 1.80		< 1.70		< 1.60		< 1.80		< 1.90		**2.6**		< 1.80		< 1.80		< 1.70		**5.0**		< 1.50		**0.84**	J
tert-Butyl alcohol		< 6.50		< 6.50		< 6.00		< 5.80		< 6.20		< 6.70		< 6.30		< 6.30		< 6.50		< 6.20		**6.7**		< 5.20		< 5.20	
tert-Butylbenzene		< 2.90		< 2.90		< 2.70		< 2.60		< 2.80		< 3.00		< 2.80		< 2.30		< 2.40		< 2.30		< 2.40		< 1.90		< 1.90	
Tetrachloroethylene		**4.3**		< 1.40		**1.8**		**3.8**		**3.5**		**2.4**		**5.3**		**10.3**		**2.2**		**5.3**		**5.3**		**6.1**		**3**	
Tetrahydrofuran		**5.3**		**9.5**		< 1.20		**7.5**		**11.8**		**10**		**11**		**6.7**		**7.8**		**17.5**		**17.5**		< 1.00		< 1.00	
Toluene		**10.2**		**6.3**		**6.7**		**17.5**		**6.3**		**20.1**		**33.4**		**14.3**		**6.3**		**21.3**		**21.3**		**12.9**		**5.2**	
trans-1,2-Dichloroethene		< 1.70		< 1.70		< 1.60		< 1.50		< 1.60		< 1.80		< 1.70		< 1.70		< 1.70		< 1.60		< 1.70		< 1.40		< 1.40	
trans-1,3-Dichloropropene		< 1.90		< 1.90		< 1.80		< 1.70		< 4.70		< 2.00		< 1.90		< 1.90		< 1.90		< 1.90		< 1.90		< 1.60		< 1.60	
Trichloroethene		< 1.20		< 1.20		< 1.10		< 1.00		< 2.20		**1.4**		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		**1.0**		<0.5	
Vinyl acetate		< 1.50		< 1.50		< 1.40		**3.1**		< 1.40		< 1.60		**1.7**		< 1.50		< 1.50		< 1.40		< 1.50		< 1.20		< 0.53	
Vinyl Bromide		< 4.70		< 4.70		< 4.30		< 4.20		< 4.50		< 9.70		< 9.20		< 1.80		< 1.90		< 1.80		< 1.90		< 1.50		< 1.50	
Vinyl chloride		< 0.55		< 0.55		< 0.50		< 0.49		< 0.53		< 0.57		< 0.54		< 0.54		< 0.55		< 0.52		< 0.55		< 0.44		< 0.25	
Cumulative VOCs (µg/m3)[2] [5]		**1,353.69**		**807.40**		**665.60**		**1,590.10**		**427.10**		**965.02**		**1,654.40**		**1,456.30**		**1,133.60**		**2,537.80**		**1,685.74**		**1,558.74**		**1,172.34**	
Target VOCs (µg/m3)[3]		**4.30**		**0.00**		**1.80**		**3.80**		**3.50**		**3.80**		**5.30**		**10.30**		**2.20**		**5.30**		**5.30**		**7.10**		**3.00**	

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.
3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.
4. Due to COVID-19, no vapor sample was collected from SDS-6 during the April 2020 quarterly event.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m^3 - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-9. SDS-7 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-7																																			
Date	1/7/2011		3/8/2011		4/4/2011		7/6/2011		10/22/2011		1/11/2012		4/3/2012		7/11/2012		10/17/2012		1/15/2013		4/23/2013		7/11/2013		10/23/2013		2/7/2014		4/4/2014		7/10/2014		10/9/2014		1/7/2015		4/15/2015		7/8/2015		10/7/2015		1/7/2016		4/7/2016		7/12/2016	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	**23**		**10**		**9.5**		**21**		**11**		**29**		**12**		**18**		**16**		**21**		**16**		**11**		**1.8**	J	< 5.50		**0.48**	J	**0.57**	J	< 4.40		**0.65**	J	< 1.10		**0.54**	J	< 1.10		**0.72**	J	**0.83**	J	**0.50**	J
1,1,2,2-Tetrachloroethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 5.5		< 0.76		< 8.30		< 6.90		< 1.40		< 1.70		< 5.50		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40	
1,1,2-Trichloroethane	< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 0.83		< 4.4		< 0.87		< 6.60		< 5.50		< 1.10		< 1.40		< 4.40		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10	
1,1-Dichloroethane	**0.45**	J	< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 3.2		< 0.93		< 4.90		< 4.00		< 0.81		< 1.00		< 3.20		< 0.81		< 0.81		< 0.81		< 0.81		< 0.81		< 0.81	
1,1-Dichloroethene	< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 0.60		< 3.2		< 3.40		< 4.80		< 4.00		< 0.79		< 0.99		< 3.20		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79	
1,2,4-Trichlorobenzene	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 15		< 2.20		< 22.00		< 19.00		< 3.70		< 4.60		< 15.00		< 3.70		< 3.70		< 3.70		< 3.70		< 3.70		< 3.70	
1,2,4-Trimethylbenzene	**2.6**		**4**		**2**		**4**		**0.55**	J	**0.8**		**0.8**		**0.85**		**0.9**		**0.65**	J	< 3.9		< 1.00		< 6.00		< 4.90		**19**		**0.27**	J	< 3.90		**0.17**	J	**0.54**	J	**0.42**	J	< 0.98		**0.33**	J	**0.29**	J	**0.22**	J
1,2-Dibromoethane	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 6.1		< 1.10		< 9.30		< 7.70		< 1.50		< 1.90		< 6.10		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50	
1,2-Dichlorobenzene	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 4.8		< 1.60		< 7.30		< 6.00		< 1.20		< 1.50		< 4.80		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20	
1,2-Dichloroethane	< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 0.62		< 3.2		< 0.73		< 4.90		< 4.00		< 0.81		< 1.00		< 3.20		< 0.81		< 0.81		< 0.81		< 0.81		< 0.81		< 0.81		< 0.81	
1,2-Dichloropropane	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 3.7		< 1.10		< 5.60		< 4.60		< 0.92		< 1.20		< 3.70		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92	
1,3,5-Trimethylbenzene	**1.1**		**1.1**		**0.7**	J	**2.2**		< 0.75		< 0.75		< 0.75		**1**		**0.7**	J	< 0.75		< 3.9		< 0.93		< 6.00		< 4.90		**3.6**		**0.13**	J	< 3.90		< 0.98		< 0.98		**0.18**	J	< 0.98		< 0.98		< 0.98		< 0.98		< 0.98	
1,3-butadiene	< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 0.34		< 1.8		< 0.55		< 2.70		< 2.20		< 0.44		< 0.55		< 1.80		< 0.44		< 0.44		< 0.44		< 0.44		< 0.44		< 0.44		< 0.44	
1,3-Dichlorobenzene	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 4.8		< 1.10		< 7.30		< 6.00		**0.58**	J	**0.28**	BJ	< 4.80		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20	
1,4-Dichlorobenzene	**2.3**		< 0.92		**2.1**		**0.73**	J	< 0.92		**1.3**		< 0.92		**4.8**		< 0.92		< 0.92		< 4.8		< 1.10		< 7.30		< 6.00		**0.15**	J	< 1.50		< 4.80		**0.42**	J	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20	
1,4-Dioxane	< 1.10		< 1.10		< 1.10		**0.92**	J	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 72		< 2.50		< 110.00		< 90.00		**2.9**	J	< 23.00		< 72.00		< 18.00		< 18.00		**0.75**	J	**2.4**	J	< 18.00		< 18.00		< 18.00	
2-Chlorotoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 4.1		< 0.67		< 6.30		< 5.20		< 1.00		< 1.30		< 4.10		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00	
2,2,4-trimethylpentane	< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 0.71		< 3.7		< 0.70		< 5.70		< 4.70		< 0.93		< 1.20		< 3.70		< 0.93		< 0.93		< 0.93		< 0.93		< 0.93		< 0.93		< 0.93	
4-ethyltoluene	**1.1**		**1.2**		**0.75**		**1.3**		< 0.75		< 0.75		< 0.75		< 0.75		< 0.75		< 0.75		< 3.9		< 0.74		< 6.00		< 4.90		**3.3**		**0.11**	J	< 3.90		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98		< 0.98	
4-Isopropyltoluene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 4.4		< 1.10		< 6.70		< 5.50		**38**		< 1.40		< 4.40		< 1.10		< 1.10		**0.26**	J	< 1.10		< 1.10		< 1.10		< 1.10	
Acetone	**17**		**100**	J	**17**		**22**		**21**		**27**		**20**		**20**		**19**		< 0.72		**39**	J	**34**	J	**13**	J B	< 59.00		**200**	D	**6.8**	J	< 48.00		**8.0**	J	**17**		**12**		**23**		**24**		**6.0**	J	**5.6**	J
Allyl chloride	< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 0.48		< 6.3		< 1.50		< 9.50		< 7.80		< 1.60		< 2.00		< 6.30		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60	
Benzene	**1.3**		**0.58**		**0.78**		**1**		**0.42**	J	**0.75**		**0.36**	J	< 0.49		**0.42**	J	< 0.49		< 2.6		< 0.58		< 3.90		< 3.20		**1.6**		**0.093**	J	< 2.60		**0.21**	J	**0.31**	J	**0.20**	J	**0.19**	J	**0.69**		**0.15**	J	< 0.64			
Benzyl chloride	< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 4.1		< 1.10		< 6.30		< 5.20		< 1.00		< 1.30		< 4.10		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00	
Bromodichloromethane	< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 1.00		< 5.4		< 0.80		< 8.10		< 6.70		< 1.30		< 1.70		< 5.40		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30	
Bromoform	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 8.3		< 0.74		< 13.00		< 10.00		< 2.10		< 2.60		< 8.30		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10	
Bromomethane	< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 0.59		< 3.1		< 1.00		< 4.70		< 3.90		< 0.78		< 0.97		< 3.10		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78		< 0.78	
Carbon disulfide	**1.7**		**0.66**		**0.63**		**0.82**		**0.73**		**0.95**		< 0.47		**0.57**		< 0.47		< 0.47		**21**		< 0.62		**4.4**	J	< 7.80		**32**		< 1.90		< 6.20		< 1.60		**1.7**		**1.1**	J	**3.4**		**1.8**		< 1.60		**0.14**	J
Carbon tetrachloride	< 0.96		< 0.96		< 0.96		**0.96**		**0.58**	J	**0.83**	J	< 0.96		< 0.96		< 0.96		< 0.96		< 1.0		< 0.82		< 1.50		< 1.30		**0.39**		**0.45**		< 1.00		**0.48**		**0.54**		**0.54**		**0.47**		**0.58**		**0.47**		**0.47**			
Chlorobenzene	< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 0.70		< 3.7		< 0.60		< 5.60		< 4.60		< 0.92		< 1.20		< 3.70		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92	
Chloroethane	< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 0.40		< 5.3		< 0.87		< 8.00		< 6.60		**0.40**	J	< 1.60		< 5.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30	
Chloroform	**8.9**		**6.6**		**8.8**		**19**		**12**		**23**		**14**		**22**		**15**		**16**		**17**		**12**		**5**	J	**7.5**		< 0.98		**1.5**		< 3.90		**0.94**	J	**2.4**		**3.1**		**1.5**		**2.1**		**3.3**		**1.3**	
Chloromethane	< 0.31		< 0.31		< 0.31		**3.9**		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		< 0.31		**0.87**	JB	< 0.70		**4.8**	J	< 5.20		**0.89**	J	< 1.30		< 4.10		**0.39**	J	**0.50**	J	**0.34**	J	< 1.00		< 1.00		< 1.00		**0.27**	J		
cis-1,2-Dichloroethene	**0.81**		**0.52**	J	**0.44**	J	0.73		**0.81**		**1.6**		< 0.60		**0.85**		**0.89**		**0.48**	J	< 3.2		< 3.30		< 4.80		< 4.00		**0.23**	J	**0.34**	J	< 3.20		< 0.79		**0.35**	J	**0.33**	J	< 0.79		< 0.79		< 0.79		**0.25**	J		
cis-1,3-Dichloropropene	< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 3.6		< 0.59		< 5.50		< 4.50		< 0.91		< 1.10		< 3.60		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91	
Cyclohexane	**4.9**	J	< 0.52		**7.6**		**6.1**		**0.98**		**10**		**7.2**		< 0.52		< 0.52		< 0.52		**3.8**		< 0.65		**2.2**	J	< 3.40		**2.9**		**0.82**	J	**2.0**	J	**1.1**		**6.2**		**0.78**		< 0.69		**2.9**		**2.7**		**0.54**	J
Dibromochloromethane	< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 1.30		< 6.8		< 0.94		< 10.00		< 8.50		< 1.70		< 2.10		< 6.80		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70	
Ethyl acetate	< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		< 0.92		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Ethylbenzene	**0.66**		**1.2**		**0.49**	J	**1.1**		**0.62**	J	**1.3**		**0.49**	J	< 6.60		< 0.66		< 0.66		< 3.5		< 0.65		< 5.30		< 4.30		**4.3**		**0.19**	J	< 3.50		**0.47**	J	**0.22**	J	**0.27**	J	**0.50**	J	**1.0**		**0.32**	J	**0.56**	J
Freon 11	**1.9**		**1.5**		**2.3**		**2.4**		**1.8**		**5.1**		**1.9**		**2.1**		**4.5**		**2.1**		**1.8**	J	**4.5**	J	**16**		< 5.60		**1.2**		**1.3**	J	< 4.50		**1.7**		**1.8**		**1.2**		**1.3**		**1.5**		**1.5**		**1.4**	
Freon 113	**4.5**		**3.1**		**3.3**		**4.4**		**4.1**		**6.9**		**3.9**		**3.4**		**4**		**3.3**		**4.3**	J	**3.9**	J	< 9.30		< 7.70		**0.53**	J	**0.60**	J	< 6.10		**0.74**	J	**0.69**	J	**0.54**	J	< 1.50		**0.61**	J	< 1.50		< 1.50	
Freon 114	< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		**0.92**	J	< 5.6		< 1.40		< 8.50		< 7.00		< 1.40		< 1.70		< 5.60		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40		< 1.40	
Freon 12	**3.8**		**4.9**		**4.6**		**8.9**		**3.7**		**6.3**		< 0.75		**3.2**		**6.6**		**3.3**		**3.5**	J	**3.8**	J	**4**	J	**3.1**	J	**2.3**	J	**2.5**	J	**2.9**	J	**2.6**		**3.2**		**2.2**	J	**2.8**		**3.0**		**2.5**		**2.0**	J
Freon 22	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 7.1		< 0.81		< 11.00		**2.0**	J	**2.1**		**1.4**	J	**7.7**		**1.7**	J	**3.0**		**0.86**	J	**2.2**		**1.5**	J	**1.0**	J	**1.1**	J
Heptane	< 0.62		< 0.62		**0.83**		**0.96**		< 0.62		< 0.62		< 0.62		< 0.62		**0.46**	J	< 0.62		< 3.3		< 0.70		< 5.00		< 4.10		**7.7**		< 1.00		< 3.30		< 0.82		**0.33**	J	< 0.82		**0.55**	J	**0.61**	J	< 0.82		**0.22**	J
Hexachloro-1,3-butadiene	< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 1.60		< 8.5		< 3.10		< 13.00		< 11.00		< 2.10		< 2.70		< 8.50		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10		< 2.10	
Hexane	< 0.54		< 0.54		**1.3**		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 2.8		< 0.70		< 4.30		< 3.50		**4.2**		< 0.88		< 2.80		**0.31**	J	< 0.70		< 0.70		< 0.71		**0.52**	J	< 0.71		< 0.71	
Isopropyl alcohol	**170**		**150**		**62**	E	**51**		**140**		**230**		**260**		**70**		**220**		**220**		**230**		**390**		**370**		**400**		**230**	D	**70**		**250**		**220**	D	**160**	D	**55**		**55**		**180**	D	**110**	D	**76**	
m&p-Xylene	**1.7**		**4.5**		**1.5**		**3.5**		**1.9**		**4.1**		**1.5**		**1.2**	J	< 1.30		< 1.30		< 8.7		< 0.96		< 13.00		< 11.00		**17**		**0.55**	J	< 8.70		**1.7**	J	**0.51**	J	**0.79**	J	**1.8**	J	**3.5**		**1.0**	J	**1.8**	J
Methyl Butyl Ketone	< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 8.2		< 1.60		< 12.00		< 10.00		< 2.00		< 2.60		< 8.20		< 2.00		< 2.00		< 2.00		**0.83**	J	< 2.10		< 2.10		**0.40**	J
Methyl Ethyl Ketone	**3.1**		**130**		**7.5**	J	**10**		**1.3**		**2.2**		**0.81**	J	**0.69**	J	< 0.90		< 0.90		**3.9**	J	< 0.74		**1.7**	J	< 7.40		**38**		**1.4**	J	< 5.90		**0.94**	J	**3.1**		**2.9**		**3.4**		**3.7**		< 1.50		**1.5**			
Methyl Isobutyl Ketone	< 1.20		< 1.20		< 1.20		**1.7**		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 1.20		< 8.2		< 1.40		< 12.00		< 10.00		**3.7**		< 2.60		< 8.20		< 2.00		< 2.00		< 2.00		**0.60**	J	**0.45**	J	< 2.10		**0.39**	J		
Methyl methacrylate	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 8.2		< 0.66		< 12.00		< 10.00		**2.0**	J	< 2.60		< 8.20		< 2.10		< 2.10		< 2.00		< 2.10		< 2.10		< 2.10		< 2.10			
Methyl tert-butyl ether	< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 0.55		< 2.9		< 0.54		< 4.40		< 3.60		< 0.72		< 0.90		< 2.90		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72		< 0.72	
Methylene chloride	**110**		**250**		**92**	E	**40**		**97**		**500**		**65**		**27**		**290**		**380**		**220**	B	**120**	B	**140**	B	**99**		**82**		**40**		**88**		**120**		**160**	D	**19**		**29**		**33**		**20**		**8.9**	
Naphthalene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 10		< 2.00		< 16.00		< 13.00		**2.1**	J	< 3.30		**9.3**	J	< 2.60		< 2.60		**0.37**	J	< 2.60		< 2.60		< 2.60		< 2.60		< 2.60	
n-Butane	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		**3.7**	J	< 0.52		**1.7**	J	< 5.90		< 1.20		**1.6**		**5.6**		**1.5**		**1.9**		**4.6**		**1.9**		**2.7**		< 1.20		**0.54**	J
n-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 4.4		< 1.20		< 6.70		< 5.50		< 1.10		< 1.40		< 4.40		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10	
n-Propylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 3.9		< 0.64		< 6.00		< 4.90		**2.0**		< 1.20		< 3.90		< 0.98		< 0.98		**0.15**	J	< 0.98		< 0.98		< 0.98		< 0.98	
o-Xylene	**0.79**		**1.5**		**0.53**	J	**1.3**		**0.49**	J	**0.93**		< 0.66		< 0.66		< 0.66		< 0.66		< 3.5		< 0.69		< 5.30		< 4.30		**5.1**		**0.19**	J	< 3.50		**0.43**	J	**0.17**	J	**0.24**	J	**0.46**	J	**1.0**		**0.27**	J	**0.46**	J
Propylene	< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		< 0.26		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
sec-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 4.4		< 0.82		< 6.70		< 5.50		< 1.10		< 1.40		< 4.40		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10	
Styrene	**0.69**		< 0.65		< 0.65		**0.52**	J	< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 0.65		< 3.4		< 0.47		< 5.20		< 4.30		**0.41**	J	**0.17**	J	< 3.40		< 0.85		**0.50**	J	**0.17**	J	< 0.85		**0.24**	J	**0.32**	J	**0.23**	J
tert-Butyl alcohol	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 61		< 1.20		< 92.00		< 76.00		< 15.00		< 19.00		**30**	J	< 15.00		< 15.00		**0.66**	J	< 15.00		< 15.00		< 15.00		< 15.00	
tert-Butylbenzene	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		< 4.4		< 0.60		< 6.70		< 5.50		< 1.10		< 1.40		< 4.40		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10	
Tetrachloroethylene	**40**		**8**		**6.9**		**15**		**14**		**28**		**11**		**11**		**11**		**11**		**9.5**		**7.7**	J	**4.2**	J	**3.0**	J	**4.0**		**1.8**		**1.7**	J	**1.6**		**2.0**		**1.8**		**1.5**		**1.9**		**2.0**		**1.5**	
Tetrahydrofuran	**40**		**390**		**11**		**25**		**22**		**33**		**27**		**3.1**		**1.3**		**0.99**		**67**		**43**	J	**9.1**	J	**26**	J	**41**		< 18.00		**4.6**	J	< 15.00		**1.1**	J	< 15.00		< 15.00		**6.8**	J	< 15.00		< 15.00			
Toluene	**5.9**		**1.9**		**4.1**		**6.2**		**1.2**		**5.3**		**3.2**		**0.61**		**1.6**		**0.54**	J	**2.1**	J	**1.3**	J	**0.81**	J	**1.4**	J	**12**		**0.36**	J	**1.8**	J	**2.0**		**2.3**		**0.82**		**0.62**	J	**1.6**		**0.56**	J	**0.51**	J
trans-1,2-Dichloroethene	< 0.60		< 0.60		**0.73**		< 0.60		**5.2**		**0.77**		**15**		< 0.60		< 0.60		< 0.60		**19**		< 0.91		< 4.80		< 4.00		**4.3**		**0.20**	J	< 3.20		< 0.79		**0.49**	J	< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79		< 0.79	
trans-1,3-Dichloropropene	< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 0.69		< 3.6		< 0.68		< 5.50		< 4.50		< 0.91		< 1.10		< 3.60		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91		< 0.91	
Trichloroethene	**36**		**44**		**19**		**56**		**26**		**53**		**26**		**42**		**29**		**35**		**32**		**24**		**7.4**		**2.6**		**1.7**		**3.4**		**2.2**		**1.6**		**2.1**		**3.1**		**1.8**		**1.7**		**1.7**		**2.2**	
Vinyl acetate	< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		< 0.54		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Vinyl Bromide	< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 0.67		< 3.5		< 0.83		< 5.30		< 4.40		< 0.87		< 1.10		< 3.50		< 0.87		< 0.87		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88		< 0.88	
Vinyl chloride	< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.39		< 0.41		< 0.23		< 0.62		< 0.51		< 0.10		< 0.13		< 0.41		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10		< 0.10	
Cumulative VOCs (µg/m3)[2]	**484.20**		**1,114.96**		**268.38**		**312.64**		**367.38**		**972.13**		**470.16**		**232.37**		**621.37**		**695.28**		**694.47**		**655.20**		**586.11**		**544.60**		**774.06**		**137.02**		**405.80**		**369.65**		**372.95**		**115.21**		**135.22**		**278.45**		**154.91**		**109.00**	
Target VOCs (µg/m3)[3]	**76.81**		**52.22**		**27.07**		**71.73**		**46.01**		**83.37**		**52.00**		**53.85**		**40.89**		**46.48**		**60.50**		**31.70**		**11.60**		**5.60**		**10.23**		**5.74**		**3.90**		**3.20**		**4.94**		**5.23**		**3.30**		**3.60**		**3.70**		**3.95**	

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.

3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m^3 - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-9. SDS-7 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-7																			
Date	10/12/2016		1/12/2017		4/13/2017		7/19/2017		10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	< 2.20		**4.5**		< 2.20		< 2.20		< 2.10		< 2.30		< 2.30		< 2.30		< 2.20		< 2.20	
1,1,2,2-Tetrachloroethane	< 2.70		< 1.50		< 1.40		< 1.40		< 1.30		< 2.90		< 1.50		< 1.40		< 1.40		< 1.40	
1,1,2-Trichloroethane	< 2.20		< 1.20		< 2.20		< 1.10		< 1.00		< 5.80		< 1.20		< 1.10		< 1.10		< 1.10	
1,1-Dichloroethane	< 1.60		< 1.70		< 1.70		< 1.60		< 1.50		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70	
1,1-Dichloroethene	< 1.60		< 1.70		< 1.60		< 1.60		< 1.50		< 1.70		< 1.70		< 1.70		< 1.60		< 1.60	
1,2,4-Trichlorobenzene	< 7.40		< 7.90		< 7.60		< 7.30		< 7.00		< 7.90		< 7.90		< 7.80		< 15.20		< 15.20	
1,2,4-Trimethylbenzene	< 2.00		< 2.10		< 2.00		**11.6**		< 1.90		< 2.10		< 2.10		< 2.10		< 2.00		< 2.00	
1,2-Dibromoethane	< 3.10		< 3.30		< 3.20		< 3.00		< 2.90		< 3.30		< 3.30		< 3.20		< 1.60		< 1.60	
1,2-Dichlorobenzene	< 2.40		< 2.60		< 2.50		< 5.90		< 2.30		< 2.60		< 2.60		< 2.50		< 2.50		< 2.50	
1,2-Dichloroethane	< 1.60		< 0.86		< 1.70		< 0.80		< 0.77		< 0.86		< 0.86		< 0.85		< 0.83		< 0.83	
1,2-Dichloropropane	< 1.80		< 2.00		< 1.90		< 1.80		< 1.80		< 2.00		< 2.00		< 1.90		< 1.90		< 1.90	
1,3,5-Trimethylbenzene	< 2.00		< 2.10		< 2.00		**3.9**		< 1.90		< 2.10		< 2.10		< 2.10		< 2.00		< 2.00	
1,3-butadiene	< 0.88		< 0.94		< 0.91		< 0.87		< 0.84		< 0.94		< 0.94		< 0.93		< 0.91		< 0.91	
1,3-Dichlorobenzene	< 2.40		< 2.60		< 2.50		< 5.90		< 2.30		< 2.60		< 2.60		< 2.50		< 2.50		< 2.50	
1,4-Dichlorobenzene	< 2.40		< 2.60		< 6.20		< 5.90		< 2.30		< 2.60		< 2.60		< 2.50		< 6.20		< 6.20	
1,4-Dioxane	< 36.00		< 7.70		< 7.40		< 7.10		< 6.80		< 7.70		< 7.70		< 7.50		< 7.40		< 7.40	
2-Chlorotoluene	< 2.10		NS		NS		NS		< 0.00		NS		NS		NS		NS		NS	
2,2,4-trimethylpentane	< 1.90		< 5.00		< 4.80		< 4.60		< 4.40		< 5.00		< 5.00		< 4.90		< 4.80		< 4.80	
4-ethyltoluene	< 2.00		< 2.10		< 2.00		**3.1**		< 1.90		< 2.10		< 2.10		< 2.10		< 5.00		< 5.00	
4-Isopropyltoluene	< 2.20		< 2.40		< 2.30		< 2.20		< 2.10		< 2.40		**5.8**		**3.7**		< 2.30		< 2.30	
Acetone	**17**	J	**16.6**		**40.4**		**64.7**		**34.0**		**17.1**		**55.7**		**27.3**		**23.5**		**66.8**	
Allyl chloride	< 3.10		< 3.30		< 3.20		< 3.10		< 3.00		< 3.30		< 3.30		< 3.30		< 3.20		< 3.20	
Benzene	**0.27**	J	< 0.68		< 1.30		**11.2**		< 0.61		< 0.68		< 0.68		< 0.67		< 0.66		< 0.66	
Benzyl chloride	< 2.10		< 2.20		< 5.30		< 5.10		< 2.00		< 5.50		< 2.20		< 2.20		< 5.30		< 5.30	
Bromodichloromethane	< 2.70		< 2.90		< 2.70		< 2.6		< 2.50		< 7.20		< 2.90		< 2.80		< 2.70		< 2.70	
Bromoform	< 4.10		< 4.40		< 4.20		< 10.20		< 3.90		< 4.40		< 4.40		< 4.30		< 10.60		< 10.60	
Bromomethane	< 1.60		< 1.70		< 1.60		< 1.50		< 1.50		< 1.70		< 1.70		< 1.60		< 1.60		< 1.60	
Carbon disulfide	< 3.10		**2.6**		< 1.30		< 1.20		**2.3**		< 1.30		< 1.30		< 1.30		< 1.30		**1.4**	
Carbon tetrachloride	< 0.50		< 1.30		< 1.30		< 1.20		< 1.20		< 6.70		< 6.70		< 6.60		< 2.60		< 2.60	
Chlorobenzene	< 1.80		< 2.00		< 1.90		< 1.80		< 1.80		< 2.00		< 2.00		< 1.90		< 1.90		< 1.90	
Chloroethane	< 2.60		< 1.10		< 1.10		< 1.00		< 1.00		< 1.10		< 1.10		< 1.10		< 1.10		< 1.10	
Chloroform	**2.4**		**4.8**		< 1.00		< 0.96		**26.0**		**1.8**		**8.4**		< 1.00		**2.6**		**3.4**	
Chloromethane	**0.53**	J	< 0.88		**1.1**		**1**		< 0.79		< 0.88		< 0.88		< 0.87		< 0.85		< 0.85	
cis-1,2-Dichloroethene	< 1.60		< 1.70		< 1.60		< 1.60		< 1.50		< 1.70		< 1.70		< 1.70		< 1.60		< 1.60	
cis-1,3-Dichloropropene	< 1.80		< 1.90		< 1.90		< 1.80		< 1.70		< 4.80		< 1.90		< 1.90		< 1.90		< 1.90	
Cyclohexane	**2.7**		**2.4**		**11.3**		**7.4**		**6.8**		**2.1**		**4.2**		**17.8**		**3.8**		< 3.50	
Dibromochloromethane	< 3.40		< 3.60		< 3.50		< 3.40		< 3.20		< 3.60		< 3.60		< 3.60		< 3.50		< 3.50	
Ethyl acetate	NS		< 1.50		< 1.50		< 1.40		**2.2**		< 1.50		< 1.50		< 1.50		< 1.50		< 1.50	
Ethylbenzene	**0.39**	J	**1.9**		**2.4**		**8.4**		< 1.60		**2.5**		< 1.90		**2**		< 1.80		< 1.80	
Freon 11	**1.4**	J	< 2.40		**4.6**		< 2.20		< 2.10		< 2.40		< 2.40		< 2.30		< 2.30		< 2.30	
Freon 113	< 3.10		< 3.40		< 3.20		< 3.10		< 3.00		< 3.40		< 3.30		< 3.20		< 3.20		< 3.20	
Freon 114	< 2.80		< 3.00		< 2.90		< 2.80		< 2.70		< 3.00		< 3.00		< 2.90		< 2.90		< 2.90	
Freon 12	**2.6**	J	< 2.10		**2.7**		**2.4**		**2.0**		< 2.10		**2.2**		**2.7**		**2.2**		**2.3**	
Freon 22	**1.2**	J	**1.7**		**3.7**		< 1.40		**4.6**		< 1.50		< 1.50		< 1.50		< 3.60		**4.3**	
Heptane	< 1.60		< 1.70		< 1.70		**3.2**		**2.3**		< 1.70		< 1.70		< 1.70		< 1.70		**5.9**	
Hexachloro-1,3-butadiene	< 4.30		< 4.60		< 4.40		< 10.5		< 4.10		< 4.60		< 4.60		< 4.50		< 10.90		< 10.90	
Hexane	< 1.40		**2.5**		**7.6**		**6.2**		**2.7**		**3.7**		< 1.50		< 1.50		**1.5**		< 1.40	
Isopropyl alcohol	**250**	D	**343**		**382**		**574**		**800**		**172**		**218**		**590**		**162**		**131**	
m&p-Xylene	**1.3**	J	**7.1**		**8.1**		**33.2**		< 3.30		**11.9**		**4.8**		**6.2**		< 3.60		**5**	
Methyl Butyl Ketone	< 4.10		< 8.70		< 8.40		< 8.10		< 7.80		< 8.70		< 8.70		< 8.60		< 8.40		**9.3**	
Methyl Ethyl Ketone	**1.6**	J	< 6.30		< 6.10		9.6		< 5.60		< 6.30		**30.3**		< 6.20		< 6.10		**11.8**	
Methyl Isobutyl Ketone	< 4.10		< 8.70		< 8.40		< 8.10		< 7.80		< 10.90		< 8.70		< 8.60		< 8.40		< 8.40	
Methyl methacrylate	< 4.10		< 5.00		< 4.80		< 4.60		< 1.60		< 1.70		< 1.70		< 1.70		< 1.70		< 1.70	
Methyl tert-butyl ether	< 1.40		< 7.70		< 7.40		< 7.10		< 6.90		< 7.70		< 7.70		< 7.50		< 7.40		< 7.40	
Methylene chloride	**45**		**97.2**		**145**		**202**		**389**		**172**		**79.7**		**285**		**60.8**		**69.2**	
Naphthalene	< 5.20		**6.8**		< 5.40		**6**		< 5.00		< 5.60		< 5.60		< 5.50		< 5.40		< 5.40	
n-Butane	**1.1**	J	NS		NS		NS		< 0.00		NS		NS		NS		NS		NS	
n-Butylbenzene	< 2.20		< 5.90		< 5.60		< 5.40		< 5.20		< 5.90		< 5.90		< 5.70		< 5.60		< 5.60	
n-Propylbenzene	< 2.00		< 5.20		< 5.00		< 4.80		< 4.70		< 5.20		< 5.20		< 5.20		< 5.00		< 5.00	
o-Xylene	**0.39**	J	**2.4**		**2.6**		**11.5**		< 1.60		**2.1**		< 1.90		< 1.80		< 1.80		< 1.80	
Propylene	NS		< 0.74		< 0.71		< 0.68		< 0.65		< 0.74		< 0.74		< 0.72		< 0.71		**1.1**	
sec-Butylbenzene	< 2.20		< 5.90		< 5.60		< 5.40		< 5.20		< 5.90		< 5.90		< 5.70		< 5.60		< 5.60	
Styrene	**0.46**	J	< 1.80		< 1.80		< 1.70		< 1.60		< 1.80		< 1.80		**2.8**		< 1.70		< 1.70	
tert-Butyl alcohol	< 30.00		< 6.50		**7.4**		< 6.00		< 5.80		< 6.50		< 6.50		< 6.30		< 6.20		< 6.20	
tert-Butylbenzene	< 2.20		< 2.90		< 2.80		< 2.70		< 2.60		< 2.90		< 2.90		< 2.80		< 2.30		< 2.30	
Tetrachloroethylene	**1.2**	J	**1.9**		< 1.40		**1.5**		< 1.30		< 1.40		< 1.40		< 1.40		**7**		**1.9**	
Tetrahydrofuran	< 29.00		**2**		**6**		< 1.20		**8.2**		**2.4**		**7.3**		**6.9**		< 1.20		**5.1**	
Toluene	**1.1**	J	**4.5**		**4**		**31.8**		**15.8**		**3**		**16.6**		**9.1**		**4**		**1.6**	
trans-1,2-Dichloroethene	< 1.60		< 1.70		< 1.60		< 1.60		< 1.50		< 1.70		< 1.70		< 1.70		< 1.60		< 1.60	
trans-1,3-Dichloropropene	< 1.80		< 1.90		< 1.90		< 1.80		< 1.70		< 4.80		< 1.90		< 1.90		< 1.90		< 1.90	
Trichloroethene	**1.2**		**1.2**		< 1.10		< 1.10		< 1.00		< 2.30		**1.4**		< 1.10		**1.6**		**1.3**	
Vinyl acetate	NS		< 1.50		< 1.40		< 1.40		< 1.30		< 1.50		**7.2**		**2**		< 1.40		< 1.40	
Vinyl Bromide	< 1.80		< 4.70		< 4.50		< 4.30		< 4.20		< 4.70		< 9.30		< 9.20		< 1.80		< 1.80	
Vinyl chloride	< 0.20		< 0.55		< 0.53		< 0.50		< 0.49		< 0.55		< 0.55		< 0.54		< 0.53		< 0.53	
Cumulative VOCs (µg/m3)[2]	**331.84**		**503.10**		**628.90**		**992.70**		**1,295.90**		**400.90**		**441.60**		**955.50**		**269.00**		**321.40**	
Target VOCs (µg/m3)[3]	**2.40**		**3.10**		**0.00**		**1.50**		**0.00**		**0.00**		**1.40**		**0.00**		**8.60**		**3.20**	

Sample Location	SDS-7								
Date	4/2/2019		7/9/2019		10/1/2019		1/21/2020		
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	
1,1,1-Trichloroethane	< 2.20		< 2.40		< 1.90		< 0.62		
1,1,2,2-Tetrachloroethane	< 1.40		< 1.50		< 1.20		< 0.62		
1,1,2-Trichloroethane	< 1.10		< 1.20		< 0.93		< 0.49		
1,1-Dichloroethane	< 1.70		< 1.80		< 1.40		< 1.40		
1,1-Dichloroethene	< 1.60		< 1.80		< 1.40		< 1.40		
1,2,4-Trichlorobenzene	< 15.20		< 16.50		< 12.70		< 7.50		
1,2,4-Trimethylbenzene	< 2.00		< 2.20		< 1.70		< 0.91		
1,2-Dibromoethane	< 1.60		< 1.70		< 1.30		< 1.30		
1,2-Dichlorobenzene	< 2.50		< 2.70		< 2.00		< 2.00		
1,2-Dichloroethane	< 0.83		< 0.90		< 0.69		< 0.69		
1,2-Dichloropropane	< 1.90		< 2.10		< 1.60		< 1.60		
1,3,5-Trimethylbenzene	< 2.00		< 2.20		< 1.70		< 1.70		
1,3-butadiene	< 0.91		< 0.99		< 0.76		< 0.76		
1,3-Dichlorobenzene	< 2.50		< 2.70		< 2.00		< 2.00		
1,4-Dichlorobenzene	< 6.20		< 6.70		< 5.10		< 5.10		
1,4-Dioxane	< 7.40		< 8.00		< 6.10		< 6.10		
2-Chlorotoluene	NS		NS		NS		NS		
2,2,4-trimethylpentane	< 4.80		< 5.20		< 4.00		< 4.00		
4-ethyltoluene	< 5.00		< 5.50		< 4.20		< 4.20		
4-Isopropyltoluene	< 2.30		< 2.50		< 1.90		< 1.90		
Acetone	**66.8**		< 4.80		**21.1**		**33.1**		**40.6**	
Allyl chloride	< 3.20		< 3.50		< 2.70		< 2.70		
Benzene	< 0.66		< 0.65		< 0.71		< 0.55		< 0.31	
Benzyl chloride	< 5.30		< 5.80		< 4.40		< 2.40		
Bromodichloromethane	< 2.70		< 3.00		< 2.30		< 2.30		
Bromoform	< 10.60		< 11.50		< 8.80		< 2.90		
Bromomethane	< 1.60		< 1.70		< 1.30		< 0.46		
Carbon disulfide	< 1.30		< 1.40		< 1.10		**0.81**	J	
Carbon tetrachloride	< 2.60		< 2.80		< 2.20		< 0.87		
Chlorobenzene	< 1.90		< 2.00		< 1.60		< 1.60		
Chloroethane	< 1.10		< 1.20		< 0.90		< 0.90		
Chloroform	**3.4**		**3.0**		**19.5**		**2.6**		
Chloromethane	< 0.85		< 0.92		< 0.71		**1.1**		
cis-1,2-Dichloroethene	< 1.60		< 1.80		< 1.40		< 0.44		
cis-1,3-Dichloropropene	< 1.90		< 2.00		< 1.60		< 0.61		
Cyclohexane	< 3.50		< 3.80		< 2.90		**2.2**	J	
Dibromochloromethane	< 3.50		< 3.80		< 2.90		< 2.90		
Ethyl acetate	< 1.50		< 1.60		< 1.20		< 1.20		
Ethylbenzene	< 1.80		< 1.90		< 1.50		< 1.50		
Freon 11	< 2.30		< 2.50		< 1.90		< 1.90		
Freon 113	< 3.20		< 3.40		< 2.60		< 2.60		
Freon 114	< 2.90		< 3.10		< 2.40		< 2.40		
Freon 12	**2.1**		< 2.20		**2.7**		**2.2**		
Freon 22	**4.3**		< 3.90		< 3.00		< 3.00		
Heptane	< 1.70		< 1.80		< 1.40		< 1.40		
Hexachloro-1,3-butadiene	< 10.90		< 11.90		< 9.10		< 9.10		
Hexane	< 1.40		< 1.60		< 1.20		< 1.20		
Isopropyl alcohol	**289**		**179**		**168**		**165**		
m&p-Xylene	< 3.60		< 3.90		< 3.00		< 3.00		
Methyl Butyl Ketone	< 8.40		< 9.10		< 7.00		< 7.00		
Methyl Ethyl Ketone	< 6.00		< 6.60		< 5.00		**7.5**		
Methyl Isobutyl Ketone	< 8.40		< 9.10		< 7.00		< 7.00		
Methyl methacrylate	< 1.70		< 1.80		< 1.40		< 1.40		
Methyl tert-butyl ether	< 7.40		< 8.00		< 6.10		< 1.30		
Methylene chloride	**141**		**42.9**		**93.1**		**39.6**		
Naphthalene	< 5.30		< 5.80		< 4.50		< 2.60		
n-Butane	NS		NS		NS		NS		
n-Butylbenzene	< 5.60		< 6.10		< 4.70		< 4.70		
n-Propylbenzene	< 5.00		< 5.50		< 4.20		< 4.20		
o-Xylene	< 1.80		< 1.90		< 1.50		< 1.50		
Propylene	< 0.70		**1.3**		**1.3**		<0.28		
sec-Butylbenzene	< 5.60		< 6.10		< 4.70		< 4.70		
Styrene	< 1.70		< 1.90		< 1.50		< 0.69		
tert-Butyl alcohol	< 6.20		< 6.70		< 5.20		< 5.20		
tert-Butylbenzene	< 2.30		< 2.50		< 1.90		< 1.90		
Tetrachloroethylene	**1.8**		**2.1**		**1.4**		**1.3**	J	
Tetrahydrofuran	< 1.30		< 1.40		< 1.00		< 1.00		
Toluene	**2.7**		< 1.70		**1.3**		**0.83**	J	
trans-1,2-Dichloroethene	< 1.60		< 1.80		< 1.40		< 1.40		
trans-1,3-Dichloropropene	< 1.90		< 2.00		< 1.60		< 1.60		
Trichloroethene	< 1.10		**2.1**		**1.8**		**0.79**	J	
Vinyl acetate	< 1.40		< 1.60		< 1.20		< 1.20		
Vinyl Bromide	< 1.80		< 1.90		< 1.50		< 1.50		
Vinyl chloride	< 0.52		< 0.57		< 0.44		< 0.25		
Cumulative VOCs (µg/m3)[2]	**451.70**		**251.50**		**320.90**		**264.53**		
Target VOCs (µg/m3)[3]	**1.80**		**4.20**		**3.20**		**2.09**		

Notes:
1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.
3. Target VOCs calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.
4. Due to COVID-19, no vapor sample was collected from SDS-7 during the April 2020 quarterly event.

-**BOLD** indicates a detected compound.

Definitions:
< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL and the concentration is an estimate.
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m^3 - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-10. SDS-8 Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	SDS-8																																					SDS-8					
Date	10/23/2013		2/7/2014		4/4/2014		7/10/2014		10/9/2014		1/7/2015		4/15/2015		7/8/2015		10/7/2015		1/7/2016		4/7/2016		7/12/2016		10/12/2016		1/12/2017		4/13/2017		7/19/2017		10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019		4/2/2019		7/9/2019		10/1/2019		1/21/2020	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q

Table A-11. Pre-Carbon Air Sample Analytical Results Former Lockheed Martin French Road Facility, Utica, New York

Sample Location	Pre-Carbon SP-301					
Date	4/8/2020		7/27/2020		10/6/2020	
Volatile Organic Compounds[1]	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	< 2.50		< 2.40		< 2.40	
1,1,2,2-Tetrachloroethane	< 1.20		< 1.20		< 1.20	
1,1,2-Trichloroethane	< 1.60		< 1.20		< 1.20	
1,1-Dichloroethane	< 1.80		< 1.80		< 1.80	
1,1-Dichloroethene	< 1.80		< 1.80		< 1.80	
1,2,4-Trichlorobenzene	< 16.90		< 16.90		< 16.90	
1,2,4-Trimethylbenzene	< 2.20		< 2.20		< 2.20	
1,2-Dibromoethane	< 1.70		< 1.70		< 1.70	
1,2-Dichlorobenzene	< 2.70		< 2.70		< 2.70	
1,2-Dichloroethane	< 0.92		< 0.92		< 0.92	
1,2-Dichloropropane	< 2.10		< 2.10		< 2.10	
1,3,5-Trimethylbenzene	< 2.20		< 2.20		< 2.20	
1,3-butadiene	< 1.00		< 1.00		< 1.00	
1,3-Dichlorobenzene	< 2.70		< 2.70		< 2.70	
1,4-Dichlorobenzene	< 6.90		< 6.90		< 6.90	
1,4-Dioxane	< 6.10		< 6.10		< 6.10	
2-Chlorotoluene	NS		NS		NS	
2,2,4-trimethylpentane	< 4.00		< 4.00		< 4.00	
4-ethyltoluene	< 5.60		< 5.60		< 5.60	
4-Isopropyltoluene	< 1.90		< 1.90		< 1.90	
Acetone	<13.5		**32.5**		**33.6**	
Allyl chloride	< 2.70		< 2.70		< 2.70	
Benzene	< 0.73		**3.1**		**1.1**	
Benzyl chloride	< 5.90		< 5.90		< 5.90	
Bromodichloromethane	< 3.00		< 3.00		< 3.00	
Bromoform	< 11.80		< 11.80		< 11.80	
Bromomethane	< 1.80		**1.9**		<1.7	
Carbon disulfide	< 1.40		**1.6**		<1.4	
Carbon tetrachloride	< 2.90		< 2.80		< 2.80	
Chlorobenzene	< 2.10		< 2.00		< 2.00	
Chloroethane	< 1.20		< 1.20		< 1.20	
Chloroform	**6**		**11.2**		**13.6**	
Chloromethane	< 0.94		**1.3**		<0.9	
cis-1,2-Dichloroethene	< 1.80		< 1.80		< 1.70	
cis-1,3-Dichloropropene	< 2.10		< 2.10		< 2.10	
Cyclohexane	< 3.90		**10.9**		**7.8**	
Dibromochloromethane	< 3.90		< 3.90		< 3.90	
Ethyl acetate	< 1.60		< 1.60		< 1.60	
Ethylbenzene	< 2.00		< 2.00		< 2.00	
Freon 11	**3.8**		<2.5		<2.5	
Freon 113	< 2.60		< 3.40		< 3.40	
Freon 114	< 2.40		< 2.40		< 2.40	
Freon 12	**3.6**		**4.7**		**6.4**	
Freon 22	<2.8		<2.8		<2.8	
Heptane	< 1.90		< 1.90		< 1.90	
Hexachloro-1,3-butadiene	< 12.10		< 12.10		< 12.10	
Hexane	< 4.00		< 4.00		< 4.00	
Isopropyl alcohol	**388**		**417**		**275**	
m&p-Xylene	< 1.50		**7.2**		<3.8	
Methyl Butyl Ketone	< 7.00		< 7.00		< 7.00	
Methyl Ethyl Ketone	<8.7		<8.7		<8.7	
Methyl Isobutyl Ketone	< 9.30		< 9.30		< 9.30	
Methyl methacrylate	< 1.40		< 1.40		< 1.40	
Methyl tert-butyl ether	< 8.20		< 8.20		< 8.20	
Methylene chloride	**27.9**		**147.0**		**84.9**	
Naphthalene	< 4.50		< 4.50		< 4.50	
n-Butane	NS		NS		NS	
n-Butylbenzene	< 4.70		< 4.70		< 4.70	
n-Propylbenzene	< 4.20		< 4.20		< 4.20	
o-Xylene	< 1.50		**3**		<1.9	
Propylene	<0.78		<0.78		**1.5**	
sec-Butylbenzene	< 4.70		< 4.70		< 4.70	
Styrene	< 1.90		< 1.90		< 1.90	
tert-Butyl alcohol	< 5.20		< 5.20		< 5.20	
tert-Butylbenzene	< 1.90		< 1.90		< 1.90	
Tetrachloroethylene	**56.7**		**112**		**115**	
Tetrahydrofuran	<1.3		<1.3		<1.3	
Toluene	**2.8**		**7.8**		**2**	
trans-1,2-Dichloroethene	< 0.62		< 1.80		< 1.80	
trans-1,3-Dichloropropene	< 1.60		< 1.60		< 1.60	
Trichloroethene	**9.9**		**16.1**		**15**	
Vinyl acetate	< 1.60		< 1.60		< 1.60	
Vinyl Bromide	< 1.50		< 1.50		< 1.50	
Vinyl chloride	< 0.58		< 0.57		< 0.56	
Cumulative VOCs (µg/m³)[2]	**498.70**		**777.30**		**553.50**	
Target VOCs (µg/m³)[3]	**66.60**		**128.10**		**130.00**	

Notes:

1. Samples analyzed for VOCs using USEPA Method TO-15.
2. Cumulative VOCs calculated using only detected concentrations.
3. Target VOCs calculated using only detected concentrations of the following compou
   cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene
4. Due to COVID-19, a combined influent sample was collected during the April 2020 c
5. A pre-carbon vapor sample was inadvertenly not collected on 7/7/20. The combinec
6. As per the NYSDEC approved OM&M optimization, a combined influent vapor samp

-**BOLD** indicates a detected compound.

Definitions:

< - less than reporting limit listed
J - Indicates that the result was less than the RL, but greater than or equal to the MDL
B - Indicates that the compound was also identified in the method blank and sample.
D - Indicates that the sample results are obtained from a dilution.
E - Indicates that the result exceeded the calibration range.
U - Indicates that compound was analyzed for but was not detected.
NS - Not Sampled For
Q - data qualifier
µg/m³ - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-12. Mid-Carbon Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

| Sample Location | Mid-Carbon(1) | | |

Table A-13. Combined Effluent Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

| Sample Location | Combined Effluent[2] | | |

Table A-13. Combined Effluent Air Sample Analytical Results
Former Lockheed Martin French Road Facility, Utica, New York

| Sample Location | Combined Effluent[3] | | |

Table A-14. Sub-Slab Depressurization System Cumulative Mass Removed
Former Lockheed Martin French Road Facility, Utica, New York

Date	SDS-1			SDS-2			SDS-3			SDS-4			SDS-5			SDS-6			SDS-7			SDS-8			Average Cumulative Target VOCs (µg/m3)[13]
	Cumulative Target VOCs (µg/m3)[1]	Flow Rate (scfm)[2]	Target VOC Mass Removal Rate (g/day)	Cumulative Target VOCs (µg/m3)[1]	Flow Rate (scfm)[2]	Target VOC Mass Removal Rate (g/day)	Cumulative Target VOCs (µg/m3)[1]	Flow Rate (scfm)[2]	Target VOC Mass Removal Rate (g/day)	Cumulative Target VOCs (µg/m3)[1]	Flow Rate (scfm)[2]	Target VOC Mass Removal Rate (g/day)	Cumulative Target VOCs (µg/m3)[1]	Flow Rate (scfm)[2]	Target VOC Mass Removal Rate (g/day)	Cumulative Target VOCs (µg/m3)[1]	Flow Rate (scfm)[2]	Target VOC Mass Removal Rate (g/day)	Cumulative Target VOCs (µg/m3)[1]	Flow Rate (scfm)[2]	Target VOC Mass Removal Rate (g/day)	Cumulative Target VOCs (µg/m3)[1]	Flow Rate (scfm)[2]	Target VOC Mass Removal Rate (g/day)	
07/17/08	16612.00	14	9.482	147.00	42	0.252	259.30	46	0.496	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
08/13/08	871.93	10	0.355	45.00	12	0.022	40.70	33	0.055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
09/11/08	3440.00	12	1.683	87.40	13	0.046	138.70	53	0.300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/10/08	7129.60	10	2.907	111.00	15	0.068	78.78	56	0.180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
04/07/09	1633.90	14	0.933	646.10	24	0.632	73.50	53	0.159	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
07/01/09	2239.60	8	0.730	1093.60	28	1.248	127.70	54	0.281	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/9/2009[3]	4029.60	10	1.643	493.10	32	0.643	124.60	57	0.290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/31/2009[3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
01/21/10	2432.20	11	1.091	464.80	31	0.587	63.00	51	0.131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
04/07/10	-	15	-	-	36	-	-	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/8/2010	1922.50	10	0.784	614.50	24	0.601	111.20	52	0.236	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/6/2010	-	12	-	-	26	-	-	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/31/2010[3][5][6]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/7/2011	290.20	5.4	0.064	480.90	8.5	0.167	128.10	15.3	0.080	221.10	44.9	0.405	80.99	7.9	0.026	9.30	5.7	0.002	76.81	4.1	0.013	-	-	-	
3/8/2011	4.60	8.6	0.002	193.00	5.7	0.045	45.81	25.9	0.048	269.30	21.1	0.232	51.71	12.0	0.025	13.10	5.2	0.003	52.22	3.9	0.008	-	-	-	
4/4/2011	1162.30	8.7	0.419	278.48	4.2	0.048	65.90	18.5	0.050	217.00	24.1	0.213	54.40	11.5	0.026	23.40	6.2	0.006	27.07	3.9	0.004	-	-	-	
7/6/2011	3481.70	15.7	2.229	139.87	6.5	0.037	151.60	29	0.179	730.54	38.7	1.153	99.80	18.0	0.073	57.00	12.1	0.028	71.73	8.1	0.024	-	-	-	
10/12/2011	1672.50	7.2	0.491	239.56	4	0.039	73.70	14.2	0.043	322.20	18.9	0.248	72.30	8.7	0.026	61.00	5.1	0.013	46.01	3.9	0.007	-	-	-	
12/31/2011[3]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/11/2012	2017.40	9.5	0.781	358.00	5.1	0.075	95.10	12.5	0.048	311.40	27.0	0.342	82.00	12.3	0.041	57.00	5.7	0.013	83.37	4.1	0.014	-	-	-	
4/3/2012	1686.20	7.7	0.527	260.30	5.4	0.058	82.50	14.1	0.047	280.80	22.2	0.254	47.00	10.1	0.019	18.20	6.1	0.005	52.00	4.3	0.009	-	-	-	
7/11/2012	3015.00	9.7	1.187	149.48	7.1	0.043	110.00	17.9	0.080	196.70	28.8	0.234	70.00	14.0	0.040	31.00	5.8	0.007	53.85	4.0	0.009	-	-	-	
10/17/2012	5908.00	7.7	1.855	264.00	5.3	0.057	60.00	13.7	0.034	532.90	28.6	0.621	64.90	9.6	0.025	20.80	6.0	0.005	40.89	3.8	0.006	-	-	-	
1/15/2013	2584.80	8.8	0.926	136.50	6.4	0.036	58.20	16.4	0.039	212.30	36.1	0.312	52.25	13.5	0.029	31.00	6.5	0.008	46.48	3.6	0.007	-	-	-	
4/23/2013	1461.50	6.6	0.391	129.00	4.8	0.025	54.00	10.9	0.024	233.65	26.0	0.248	41.70	10.0	0.017	44.60	5.4	0.010	60.50	3.8	0.009	-	-	-	
7/11/2013	1612.00	7.4	0.486	114.00	5.6	0.026	39.00	13.2	0.021	164.00	28.3	0.189	30.00	10.0	0.012	50.00	4.8	0.010	31.70	3.8	0.005	-	-	-	
10/23/2013	2388.00	9.3	0.905	90.00	7.5	0.028	64.20	16.9	0.044	252.19	39.9	0.410	41.00	15.9	0.027	37.00	7.2	0.011	11.60	4.5	0.002	90.60	29.0	0.107	
12/31/2013[3][11]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/7/2014	1249.00	6.4	0.324	93.00	7.3	0.028	54.10	17.1	0.038	258.50	36.6	0.385	21.60	12.1	0.011	22.30	4.3	0.004	5.60	4.6	0.001	81.60	21.9	0.073	223
4/4/2014	699.60	9.8	0.280	70.71	9.4	0.027	36.68	21.3	0.032	153.00	46.9	0.293	23.42	17.5	0.017	19.80	9.1	0.007	10.23	5.4	0.002	76.30	26.5	0.082	136
7/10/2014	1367.70	8.7	0.488	85.00	8.6	0.030	57.67	19.5	0.046	197.31	39.7	0.320	21.80	14.6	0.013	21.00	6.9	0.006	5.74	4.5	0.001	101.62	21.67	0.090	232
10/9/2014	1250.00	7.4	0.378	71.00	6.2	0.018	9.45	16.4	0.006	203.90	41.0	0.341	14.00	13.0	0.007	7.80	6.1	0.002	3.90	4.7	0.001	60.90	20.66	0.051	203
1/9/2015	969.30	8.8	0.315	55.70	6.4	0.015	37.66	30.4	0.047	150.00	34.6	0.212	14.31	12.4	0.007	8.30	2.9	0.001	3.20	2.8	0.000	89.50	19.50	0.071	166
4/16/2015	1240.80	7.1	0.361	57.71	4.8	0.011	26.04	32.5	0.035	140.22	35.9	0.205	12.94	11.3	0.006	9.13	4.1	0.002	4.94	2.6	0.001	84.610	20.993	0.072	197
7/8/2015	1032.94	17.1	0.722	68.00	14.9	0.041	33.87	66.6	0.092	193.00	81.8	0.643	14.56	34.4	0.020	20.90	12.2	0.010	5.23	10.8	0.002	114.800	40.951	0.192	185
10/5/2015	1155.10	5.9	0.276	69.00	5.1	0.014	32.71	23.2	0.031	192.80	28.1	0.221	18.40	9.9	0.007	11.00	5.9	0.003	3.30	2.6	0.000	100.200	21.083	0.086	198
1/8/2016	658.70	5.0	0.135	47.00	7.0	0.013	22.54	28.8	0.027	191.60	45.0	0.351	8.76	17.1	0.006	9.00	4.1	0.002	3.60	3.2	0.000	76.70	19.84	0.062	127
4/7/2016	983.90	8.4	0.337	70.00	7.3	0.021	6.53	31.4	0.008	221.10	35.8	0.323	12.44	14.6	0.007	10.20	4.9	0.002	3.70	3.7	0.001	126.100	25.619	0.132	179
7/14/2016	965.95	9.2	0.361	63.00	21.0	0.054	26.56	32.6	0.035	201.37	37.3	0.306	15.98	15.5	0.010	16.60	10.7	0.007	3.95	7.0	0.001	119.100	20.823	0.101	177
10/12/2016	1455.18	4.0	0.236	67.00	4.4	0.012	28.34	21.0	0.024	221.70	21.9	0.198	11.97	9.5	0.005	7.50	3.3	0.001	2.40	2.5	0.000	129.000	12.77	0.067	240
1/12/2017	23.92	3.4	0.003	48.80	3.1	0.006	20.30	14.2	0.012	34.90	16.7	0.024	8.50	6.8	0.002	4.30	3.9	0.001	3.10	3.9	0.000	83.900	8.92	0.031	28
4/13/2017	0.00	4.5	0.000	21.20	3.5	0.003	7.20	16.1	0.005	39.60	19.2	0.031	0.00	7.3	0.000	0.00	4.1	0.000	0.00	2.5	0.000	29.200	13.77	0.016	12
7/19/2017	3.00	6.3	0.001	27.60	4.9	0.006	9.80	31.0	0.012	40.90	34.6	0.058	8.00	14.3	0.005	1.80	6.3	0.000	1.50	7.9	0.000	32.100	14.29	0.019	16
10/3/2017	3.30	5.5	0.001	20.90	4.8	0.004	4.00	19.5	0.003	39.40	23.6	0.038	0.00	7.3	0.000	3.80	3.9	0.001	0.00	3.5	0.000	33.200	13.24	0.018	13
1/22/2018	1659.30	3.1	0.209	52.20	3.0	0.008	20.30	5.1	0.004	211.40	17.1	0.147	2.60	7.5	0.001	3.50	4.4	0.001	0.00	3.1	0.000	51.500	9.99	0.021	250
4/2/2018	441.10	4.8	0.086	77.70	4.1	0.013	15.30	17.3	0.011	110.50	18.5	0.083	5.60	11.1	0.003	3.80	6.8	0.001	1.40	2.1	0.000	51.900	15.27	0.032	88
7/10/2018	997.60	5.1	0.206	67.70	4.8	0.013	8.70	28.2	0.010	81.30	41.7	0.138	11.40	11.5	0.005	5.30	5.1	0.001	0.00	4.5	0.000	102.400	16.31	0.068	159
10/9/2018	674.60	6.0	0.166	62.40	5.3	0.013	26.40	21.7	0.023	126.10	23.5	0.121	16.80	10.2	0.007	10.30	6.1	0.003	8.60	6.6	0.002	73.000	13.75	0.041	125
1/2/2019	791.20	2.9	0.094	55.30	2.8	0.006	16.10	16.4	0.011	119.90	16.1	0.079	6.90	6.7	0.002	2.20	4.8	0.000	3.20	2.6	0.000	62.500	9.43	0.024	132
4/2/2019	1730.40	7.1	0.496	85.10	4.0	0.014	18.70	18.5	0.014	171.10	28.1	0.196	9.30	10.7	0.004	5.30	4.8	0.001	1.80	4.4	0.000	98.800	16.08	0.065	264
7/9/2019	1732.70	7.6	0.534	54.70	5.2	0.012	20.60	25.8	0.022	134.10	47.4	0.259	13.60	14.0	0.008	5.30	6.2	0.001	4.20	5.8	0.001	85.800	21.15	0.074	256
10/1/2019	1530.90	6.1	0.378	79.40	4.6	0.015	27.50	21.8	0.024	206.70	29.5	0.249	13.20	10.3	0.006	7.10	5.0	0.001	3.20	4.7	0.001	41.200	13.16	0.022	239
1/21/2020	770.50	3.9	0.121	47.50	3.1	0.006	16.60	13.9	0.009	144.60	24.3	0.143	6.90	6.9	0.002	3.00	3.2	0.000	2.09	3.0	0.000	72.500	8.80	0.026	133
4/8/2020[14]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2020 [15][14]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/6/2020 [15]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Target VOC Removed (lb)[8]	
Fourth Quarter - 2013	0.43
2013 Total (YTD)	0.85
First Quarter - 2014	0.17
Second Quarter - 2014	0.16
Third Quarter - 2014	0.18
Fourth Quarter - 2014	0.16
2014 Total (YTD)	0.68
First Quarter - 2015	0.15
Second Quarter - 2015	0.15
Third Quarter - 2015	0.22
Fourth Quarter - 2015	0.23
2015 Total (YTD)	0.75
First Quarter - 2016	0.13
Second Quarter - 2016	0.14
Third Quarter - 2016	0.18
Fourth Quarter - 2016	0.14
2016 Total (YTD)	0.60
First Quarter - 2017	0.06
Second Quarter - 2017	0.01
Third Quarter - 2017	0.02
Fourth Quarter 2017	0.01
2017 Total (YTD)	0.11
First Quarter - 2018	0.05
Second Quarter - 2018	0.06
Third Quarter - 2018	0.07
Fourth Quarter 2018	0.08
2018 Total (YTD)	0.26
First Quarter - 2019	0.06
Second Quarter - 2019	0.10
Third Quarter - 2019	0.18
Fourth Quarter 2019	0.12
2019 Total (YTD)	0.46
First Quarter - 2020	0.12
Second Quarter - 2020	0.05
Third Quarter - 2020	0.08
Fourth Quarter - 2020	0.10
Cumulative Since Startup	10.296

Notes:

1. Cumulative target VOC concentrations calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.

2. Following the start of 2011, flowrates from each depressurization sump were estimated by measuring differential pressure at each individual sump's orifice plate. The sump flowrates were adjusted proportionally to one another so that their sum equals a cumulative influent flowrate as measured using an anemometer. Prior to the start of 2011, combined effluent flow rates estimated based on the differential pressure transmitter located between the blower and the carbon. Note that flow rates for SDS-1, SDS-2, and SDS-3 have been estimated based on adjusting them so that the sum of the SDS-1, SDS-2, and SDS-3 flow rates equal the flow rate measured by the differential pressure transmitter. SDS-1, SDS-2, and SDS-3 flow rates were adjusted by maintaining the same proportions observed by air velocities measured in the field at each location. All flow rates have been converted from acfm to scfm for this table.

3. Total target VOC mass removal rate was calculated using the sum of the target VOC mass removal rates for SDS-1, SDS-2, and SDS-3 through 2010. If individual samples were not collected from each SDS, then total mass removal rate is calculated using combined influent sample concentrations. Beginning in 2011 the total target VOC mass removal rate is calculated using the sum of the target VOC mass removal rates for SDS-1 through SDS-7.

4. Target VOC mass removed per reporting period calculated using an average of the current mass removal rate and the mass removal rate from the previous reporting period. Reporting period length used for mass removed calculation is the time elapsed since the previous reading.

5. Cumulative VOC mass removed and mass emitted estimates date back to 7/17/08, when SDS-3 was brought online.

6. Target VOC mass emitted per reporting period calculated using an average of the current mass emission rate and the mass emission rate from the previous reporting period. Reporting period length used for mass emitted calculation is the time elapsed since the previous reading.

7. SDS-1 vapor sample results from 10/9/09 not used in this table due to sampling procedure error. Results from the resampling of SDS-1 on 11/5/09 have been used for this table.

8. Vapor samples were not collected on 12/31/09, 12/31/10, 12/31/11, and 12/31/12. Total target VOC mass removal and target VOC emission rates were estimated for 12/31/09, 12/31/10, 12/31/11, and 12/31/12 by averaging the VOC removal and VOC emission rates from the previous and following sampling events, respectively.

9. It should be noted that samples from 1/7/11, which have been used to estimate mass removal and emission rates for 12/31/10, were collected while the upgraded system was in use and with all seven depressurization sumps online. The combined effluent flowrate used to calculate mass emission rate was the sum of the flowrates measured in the field from SDS-1, SDS-2, and SDS-3. The combined effluent VOC concentration used to calculate mass emission rate was based off of an effluent vapor sample collected with SDS-1 through SDS-7 online. It should also be noted that from 11/11/10 to 1/3/11, the system was typically offline for approximately 8 hours per work day. This has not been accounted for in mass removal or emission estimates.

10. Combined influent vapor samples are not collected, influent mass is tracked only from individual SDS points.

11. The total VOC removal (lbs) was estimated for the period from 10/23/13 and 12/31/13 using the average VOC concentrations and flowrate.

12. Due to COVID-19, no individual vapor samples were collected from SDS-1 to SDS-8; a combined influent vapor sample was collected during the April quarterly event.

13. As per the NYSDEC approved optimization of the OMM procedure, pre-carbon (combined influent) vapor samples will be collected going forward.

14. A pre-carbon vapor sample was not collected on 7/7/20. As a result, a pre-carbon vapor sample was collected on 7/27/20 and the results were compared to the vapor samples collected on 7/7/2020.

Definitions:

g/day - grams per day
lb - pounds
scfm - standard cubic feet per minute
µg/m3 - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-14. Sub-Slab Depressurization System Cumulative Mass Removed
Former Lockheed Martin French Road Facility, Utica, New York

Date	Total Target VOC Mass Removal Rate Per Reporting Period (g/day)[1]	Days in Reporting Period	Target VOC Mass Removed Per Reporting Period (lb)[2]	Cumulative Target VOC Mass Removed (lb)[3]	Combined Influent[10b]			Mid-Carbon			Combined Effluent			Target VOC Mass Emitted Per Reporting Period (lb)[9b]	Cumulative Target VOC Mass Emitted (lb)[9c]	Target VOC Mass Adsorption Rates			
					Cumulative Target VOCs (µg/m³)[11]	Flow Rate (scfm)	Target VOC Mass Per Day (g/day)	Cumulative Target VOCs (µg/m³)[11]	Flow Rate (scfm)	Target VOC Mass Per Day (g/day)	Cumulative Target VOCs (µg/m³)[11]	Flow Rate (scfm)[4b]	Target VOC Emission Rate (g/day)			Percentage Adsorbed by Lead Carbon Per Reporting Period (%)	Percentage Adsorbed by 2nd Carbon Per Reporting Period (%)	Cumulative Target VOC Mass Adsorbed By Carbon (lb)	Percentage Adsorbed by Both Carbons Per Reporting Period (%)
07/17/08	10.220	1	0.023	0.023	-	-	-	-	-	-	1.700	102	0.007	0.000	0.000	-	-	0.023	99.93
08/13/08	0.432	27	0.317	0.340	-	-	-	-	-	-	0.000	55	0.000	0.000	0.000	-	-	0.339	100.00
09/11/08	2.029	29	0.079	0.418	-	-	-	-	-	-	1.000	78	0.003	0.000	0.000	-	-	0.418	99.84
10/10/08	3.154	29	0.168	0.584	-	-	-	-	-	-	2.890	81	0.010	0.000	0.001	-	-	0.583	99.70
04/07/09	1.724	179	0.963	1.546	-	-	-	-	-	-	0.000	91	0.000	0.002	0.003	-	-	1.544	100.00
07/01/09	2.260	85	0.373	1.920	-	-	-	-	-	-	0.760	90	0.003	0.000	0.003	-	-	1.917	99.88
10/9/2009[5]	2.576	100	0.533	2.453	-	-	-	371.160	99	1.498	2.170	99	0.009	0.001	0.004	41.84	99.42	2.449	99.66
12/31/2009[5]	2.102	83	0.436	2.889	-	-	-	-	-	-	-	-	0.010	0.002	0.006	-	-	2.883	99.56
01/21/10	1.809	21	0.102	2.990	267.700	93	1.015	3.160	93	0.012	2.760	93	0.010	0.000	0.006	99.34	12.66	2.984	99.42
04/07/10	0.786	76	0.217	3.208	162.000	119	0.786	2.400	119	0.012	2.600	119	0.013	0.002	0.008	98.52	-8.33	3.200	98.40
7/8/2010	1.621	92	0.244	3.452	283.14	86	0.993	11	86	0.039	4.77	86	0.017	0.003	0.011	97.62	56.64	3.441	98.97
10/6/2010	1.429	90	0.303	3.755	393.90	89	1.429	3.94	89	0.014	3.07	89	0.011	0.003	0.014	99.00	22.08	3.741	99.22
12/31/2010[10b][5]	1.093	86	0.239	3.994	-	-	-	-	-	-	-	-	0.010	0.002	0.016	-	-	3.978	99.06
1/7/2011	0.756	7	0.017	4.011	-	-	-	3	92	0.011	2.5	92	0.009	0.000	0.016	98.52	16.67	3.994	98.76
3/8/2011	0.363	60	0.074	4.085	-	-	-	0.83	82	0.003	0	82	0.000	0.001	0.017	99.23	100.00	4.068	100.00
4/4/2011	0.766	27	0.034	4.118	-	-	-	4.26	77	0.013	1	77	0.003	0.000	0.017	98.25	76.53	4.101	99.59
7/6/2011	3.723	93	0.460	4.578	-	-	-	3.20	128	0.017	0.69	128	0.004	0.001	0.018	99.55	78.44	4.561	99.90
10/12/2011	0.867	98	0.496	5.074	-	-	-	0.73	62	0.002	1.94	62	0.005	0.001	0.018	99.79	-165.75	5.056	99.43
12/31/2011[5]	1.091	80	0.192	5.266	-	-	-	-	-	-	-	-	0.004	0.001	0.019	-	-	5.247	99.65
1/11/2012	1.315	11	0.026	5.293	-	-	-	4.50	76	0.014	0.89	76	0.003	0.000	0.019	98.94	80.22	5.274	99.79
4/3/2012	0.919	83	0.204	5.497	-	-	-	2.41	70	0.007	0	70	0.000	0.000	0.019	99.25	100.00	5.478	100.00
7/11/2012	1.600	99	0.275	5.772	-	-	-	5.40	87	0.019	0	87	0.000	0.000	0.019	98.80	100.00	5.752	100.00
10/17/2012	2.603	98	0.454	6.226	-	-	-	3.60	75	0.011	1.7	75	0.005	0.001	0.020	99.58	52.78	6.206	99.80
1/15/2013	1.357	15	0.065	6.291	-	-	-	7.80	91	0.029	5	91	0.019	0.000	0.020	97.86	35.90	6.271	98.63
4/23/2013	0.725	98	0.225	6.516	-	-	-	3.44	68	0.009	4.06	68	0.011	0.003	0.024	98.69	-18.02	6.493	98.46
7/11/2013	0.750	79	0.128	6.645	-	-	-	3.80	73	0.011	0.00	73	0.000	0.001	0.025	98.49	100.00	6.620	100.00
10/23/2013	1.534	104	0.282	6.906	-	-	-	3.40	130	0.018	1.30	130	0.007	0.001	0.025	98.82	61.76	6.881	99.55
12/31/2013[5]	1.091	69	0.166	7.072	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/7/2014	0.862	91	0.173	7.245	-	-	-	4.73	110	0.021	4.44	110	0.020	0.003	0.028	97.54	6.13	7.217	97.89
4/4/2014	0.740	101	0.165	7.410	-	-	-	3.73	146	0.022	5.37	146	0.032	0.006	0.034	97.01	-43.97	7.376	95.69
7/10/2014	0.992	82	0.179	7.590	-	-	-	21.30	124	0.108	3.92	124	0.020	0.005	0.039	89.13	81.60	7.551	98.00
10/9/2014	0.804	91	0.161	7.751	-	-	-	3.92	115	0.018	3.10	115	0.015	0.003	0.042	97.71	20.92	7.709	98.19
1/9/2015	0.667	91	0.148	7.899	-	-	-	6.90	117	0.033	8.50	117	0.041	0.006	0.048	95.07	-23.19	7.851	93.93
4/16/2015	0.693	97	0.145	8.044	-	-	-	7.650	119	0.037	6.57	119	0.032	0.008	0.055	94.62	14.12	7.989	95.38
7/8/2015	1.724	83	0.221	8.265	-	-	-	0.470	279	0.005	0.00	279	0.000	0.003	0.058	99.69	100.00	8.207	100.00
10/5/2015	0.639	89	0.232	8.497	-	-	-	0.170	102	0.001	0.22	102	0.001	0.000	0.058	99.89	-29.41	8.439	99.86
1/8/2016	0.597	95	0.129	8.626	-	-	-	0.83	130	0.004	0.00	130	0.000	0.000	0.058	99.26	100.00	8.568	100.00
4/7/2016	0.830	90	0.142	8.768	-	-	-	1.050	132	0.006	0.00	132	0.000	0.000	0.058	99.32	100.00	8.709	100.00
7/14/2016	0.876	98	0.184	8.952	-	-	-	1.950	154	0.012	0.55	154	0.003	0.000	0.059	98.60	71.79	8.893	99.61
10/12/2016	0.543	90	0.141	9.093	-	-	-	2.120	79	0.007	0.48	79	0.002	0.000	0.059	98.74	77.36	9.034	99.71
1/12/2017	0.079	92	0.063	9.156	-	-	-	0.000	61	0.000	0.00	61	0.000	0.000	0.059	100.00	100.00	9.096	100.00
4/13/2017	0.055	91	0.013	9.169	-	-	-	0.000	71	0.000	0.00	71	0.000	0.000	0.059	100.00	100.00	9.110	100.00
7/19/2017	0.101	97	0.017	9.186	-	-	-	1.900	120	0.009	0.00	120	0.000	0.000	0.059	90.80	100.00	9.127	100.00
10/3/2017	0.065	76	0.014	9.200	-	-	-	2.100	81	0.007	0.00	81	0.000	0.000	0.059	89.19	100.00	9.140	100.00
1/23/2018	0.389	91	0.045	9.245	-	-	-	0.000	53	0.000	0.00	53	0.000	0.000	0.059	100.00	100.00	9.186	100.00
4/2/2018	0.229	90	0.061	9.307	-	-	-	2.700	80	0.009	6.50	80	0.021	0.002	0.062	96.15	-140.74	9.245	90.74
7/10/2018	0.442	99	0.073	9.380	-	-	-	0.000	117	0.000	0.00	117	0.000	0.002	0.064	100.00	100.00	9.316	100.00
10/9/2018	0.376	91	0.082	9.462	-	-	-	5.300	93	0.020	3.90	93	0.015	0.001	0.065	94.65	26.42	9.397	96.06
1/2/2019	0.217	85	0.056	9.517	-	-	-	0.000	62	0.000	0.00	62	0.000	0.001	0.067	100.00	100.00	9.451	100.00
4/2/2019	0.790	90	0.100	9.617	-	-	-	0.000	94	0.000	0.00	94	0.000	0.000	0.067	100.00	100.00	9.551	100.00
7/9/2019	0.910	98	0.184	9.801	-	-	-	0.000	133	0.000	0.00	133	0.000	0.000	0.067	100.00	100.00	9.734	100.00
10/1/2019	0.695	84	0.149	9.950	-	-	-	0.000	95	0.000	0.00	95	0.000	0.000	0.067	100.00	100.00	9.883	100.00
1/21/2020	0.309	112	0.124	10.074	-	-	-	0.490	67	0.001	0.00	67	0.000	0.000	0.067	99.57	100.00	10.007	100.00
4/8/2020[12]	0.255	78	0.048	10.122	66.60	94	0.255	2.800	94	0.011	2.00	94	0.008	0.001	0.067	95.79	28.57	10.055	96.99
7/7/2020 [13][14]	0.533	90	0.078	10.200	128.10	102	0.533	2.600	102	0.011	4.70	102	0.020	0.003	0.070	97.97	-80.77	10.130	96.33
10/6/2020 [13]	0.424	91	0.096	10.296	130.00	80	0.424	0.000	80	0.000	0.00	80	0.000	0.002	0.072	100.00	100.00	10.224	100.00

Target VOC Removed (lb)[6]	
Fourth Quarter - 2013	0.43
2013 Total (YTD)	0.85
First Quarter - 2014	0.17
Second Quarter - 2014	0.16
Third Quarter - 2014	0.18
Fourth Quarter - 2014	0.16
2014 Total (YTD)	0.68
First Quarter - 2015	0.15
Second Quarter - 2015	0.15
Third Quarter - 2015	0.22
Fourth Quarter - 2015	0.23
2015 Total (YTD)	0.75
First Quarter - 2016	0.13
Second Quarter - 2016	0.14
Third Quarter - 2016	0.18
Fourth Quarter - 2016	0.14
2016 Total (YTD)	0.60
First Quarter - 2017	0.06
Second Quarter - 2017	0.01
Third Quarter - 2017	0.02
Fourth Quarter 2017	0.01
2017 Total (YTD)	0.11
First Quarter - 2018	0.05
Second Quarter - 2018	0.06
Third Quarter - 2018	0.07
Fourth Quarter 2018	0.08
2018 Total (YTD)	0.26
First Quarter - 2019	0.06
Second Quarter - 2019	0.10
Third Quarter - 2019	0.18
Fourth Quarter 2019	0.15
2019 Total (YTD)	0.49
First Quarter - 2020	0.12
Second Quarter - 2020	0.05
Third Quarter - 2020	0.08
Fourth Quarter - 2020	0.10
Cumulative Since Startup	10.296

Notes:

1. Cumulative target VOC concentrations calculated using only detected concentrations of the following compounds: 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethylene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride.

2. Following the start of 2011, flowrates from each depressurization sump were estimated by measuring differential pressure at each individual sump's orifice plate. The sump flowrates were adjusted proportionally to one another so that their sum equals a cumulative influent flowrate as measured using an anemometer. Prior to the start of 2011, combined effluent flow rates estimated based on the differential pressure transmitter located between the blower and the carbon. Note that flow rates for SDS-1, SDS-2, and SDS-3 have been estimated based on adjusting them so that the sum of the SDS-1, SDS-2, and SDS-3 flow rates equal the flow rate measured by the differential pressure transmitter. SDS-1, SDS-2, and SDS-3 flow rates were adjusted by maintaining the same proportions observed by air velocities measured in the field at each location. All flow rates have been converted from acfm to scfm for this table.

3. Total target VOC mass removal rate was calculated using the sum of the target VOC mass removal rates for SDS-1, SDS-2, and SDS-3 through 2010. If individual samples were not collected from each SDS, then total mass removal rate is calculated using combined influent sample concentrations. Beginning in 2011 the total target VOC mass removal rate is calculated using the sum of the target VOC mass removal rates for SDS-1 through SDS-7.

4. Target VOC mass removed per reporting period calculated using an average of the current mass removal rate and the mass removal rate from the previous reporting period. Reporting period length used for mass removed calculation is the time elapsed since the previous reading.

5. Cumulative VOC mass removed and mass emitted estimates date back to 7/17/08, when SDS-3 was brought online.

6. Target VOC mass emitted per reporting period calculated using an average of the current mass emission rate and the mass emission rate from the previous reporting period. Reporting period length used for mass emitted calculation is the time elapsed since the previous reading.

7. SDS-1 vapor sample results from 10/9/09 not used in this table due to sampling procedure error. Results from the resampling of SDS-1 on 11/5/09 have been used for this table.

8. Vapor samples were not collected on 12/31/09, 12/31/10, 12/31/11, and 12/31/12. Total target VOC mass removal and target VOC emission rates were estimated for 12/31/09, 12/31/10, 12/31/11, and 12/31/12 by averaging the VOC removal and VOC emission rates from the previous and following sampling events, respectively.

9. It should be noted that samples from 1/7/11, which have been used to estimate mass removal and emission rates for 12/31/10, were collected while the upgraded system was in use and with all seven depressurization sumps online. The combined effluent flowrate used to calculate mass emission rate was the sum of the flowrates measured in the field from SDS-1, SDS-2, and SDS-3. The combined effluent VOC concentration used to calculate mass emission rate was based off of an effluent vapor sample collected with SDS-1 through SDS-7 online. It should also be noted that from 11/11/10 to 1/3/11, the system was typically offline for approximately 8 hours per work day. This has not been accounted for in mass removal or emission estimates.

10. Combined influent vapor samples are not collected, influent mass is tracked only from individual SDS points.

11. The total VOC removal (lbs) was estimated for the period from 10/23/13 and 12/31/13 using the average VOC concentrations and flowrate.

12. Due to COVID-19, no individual vapor samples were collected from SDS-1 to SDS-8; a combined influent vapor sample was collected during the April quarterly event.

Definitions:

g/day - grams per day
lb - pounds
scfm - standard cubic feet per minute
µg/m³ - micrograms per cubic meter
VOC - Volatile Organic Compounds

Table A-15. Regulatory Status of Air Emissions
Former Lockheed Martin French Road Facility, Utica, New York

Volatile Organic Compounds[1]	AGC[2] (µg/m³)	SGC[2] (µg/m³)	Maximum Effluent Concentration (µg/m³)[3]	7/17/2008		8/13/2008		9/11/2008		10/10/2008		4/7/2009		7/1/2009		10/9/2009		1/21/2010		4/7/2010		7/8/2010		10/6/2010		1/7/2011		3/8/2011		4/4/2011		7/6/2011		10/22/2011	
				Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	5,000	9,000	3.4	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1.2		ND		ND	
1,1-Dichloroethane	0.63	-	2.8	ND		ND		ND		ND		ND		ND		1.9		0.95		ND		0.49	J	1.1		ND		ND		ND		ND		ND	
1,2,4-Trimethylbenzene	6	-	43	1.7		1.1		0.8		ND		ND		5.8		5.2		ND		43		3.7		9.5		0.7	J	0.75		ND		1		ND	
1,2-Dichloroethane	0.038	-	0.62	0.62		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,3,5-Trimethylbenzene	6	-	9.5	1.2		ND		ND		ND		ND		1		1.1		ND		9.5		1.4		3		ND		ND		ND		0.7	J	ND	
1,3-butadiene	0.032	-	0.12	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,4-Dichlorobenzene	0.09	-	3.3	ND		ND		ND		ND		ND		3		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,4-Dioxane	0.2	3,000	2.3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.3		1.8	
2,2,4-trimethylpentane	3,300	-	0.78	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		0.47	J	ND		ND		ND		ND	
4-ethyltoluene	-	-	15	0.6	J	ND		ND		ND		ND		1.9		1.5		ND		15		0.55	J	2.7		ND		ND		ND		ND		ND	
Acetone	30,000	180,000	110	21	J	3.2		3.5		1.9		2.4		4.4		29		110		11		28		18		13		54	J	ND		49		12	
Benzene	0.13	1,300	11.3	ND		ND		ND		ND		ND		0.39	J	0.71		ND		ND		ND		ND		1.1		ND		ND		ND		ND	
Carbon disulfide	700	6,200	38	0.98		1.5		0.79		0.89		1		1.2		4.4		0.44	J	1.2		0.51		2.7		ND		ND		ND		0.41	J	ND	
Chlorobenzene	60	-	2.7	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroethane	-	-	0.56	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroform	14.7	150	17.7	ND		ND		ND		ND		ND		0.5	J	1.5		3.7		1.6		2.1		2.6		ND		ND		ND		ND		ND	
Chloromethane	90	22,000	1.3	ND		0.42		ND		ND		0.48		0.73		0.82		0.52		0.57		ND		ND		0.92		0.4		0.59		ND		ND	
cis-1,2-Dichloroethene	63	-	3.3	ND		ND		ND		0.69		ND		ND		1.2		2		1.5		2.5		2.2		ND		ND		ND		ND		0.56	J
Cyclohexane	6,000	-	7.6	ND		ND		ND		ND		ND		ND		ND		ND		3.7		ND		ND		ND		ND		0.73		ND		ND	
Ethylbenzene	1,000	-	7.6	1.2		ND		ND		ND		ND		1.7		2.6		ND		5.1		ND		3.8		1.1		ND		ND		ND		ND	
Freon 11	5,000	9,000	510	ND		0.69		ND		ND		2.3		42		6.4		6.6		22		51		9.2		2		46		49		44		120	
Freon 113	180,000	960,000	6.8	ND		ND		ND		ND		ND		ND		ND		1.7		ND		ND		ND		ND		1.2		2.6		ND		2	
Freon 114	17,000	-	5.5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Freon 12	12,000	-	34	6.7		15		13		19		9		25		34		11		9.8		23		25		2.7		3.5		4.6		15		9.6	
Freon 22	50,000	-	8.2	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Heptane	3,900	210,000	6.4	ND		ND		3.5		ND		ND		ND		ND		ND		0.79		ND		ND		ND		ND		ND		ND		ND	
Hexane	700	-	49.3	ND		ND		ND		ND		ND		ND		2.6		ND		ND		ND		0.54		ND		ND		ND		ND		ND	
Isopropyl alcohol	7,000	98,000	360	ND		ND		2.3		ND		8.5		29		360		320		150		210		210		2.6		3.8		ND		ND		ND	
m&p-Xylene	100	22,000	30.4	2.2		0.71	J	ND		ND		ND		6		9.1		ND		15		1.1	J	11	J	2.9		1	J	ND		0.79	J	ND	
Methyl Butyl Ketone	30	4,000	1.1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Methyl Ethyl Ketone	5,000	13,000	61	32	J	4.3		1.4		1		ND		1		6		0.66	J	1.9		22		1.5		2		61		0.57	J	6.3		1.9	
Methyl Isobutyl Ketone	3,000	31,000	1.9	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1.7		ND		ND		ND		0.79	J	ND	
Methylene chloride	60	14,000	402	0.46		17		46		54		32		340		130		61		56		230		33		0.6		69		64		340		210	
Naphthalene	3	7,900	5.3	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Butane	238,000	-	23	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
n-Propylbenzene	1,000	54,000	0.66	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
o-Xylene	100	22,000	9.7	0.88		ND		ND		ND		ND		1.7		2.5		ND		9.7		0.44	J	7.4		0.75		ND		ND		ND		ND	
Styrene	1,000	17,000	1	1		ND		ND		ND		ND		0.69		0.78		ND		0.74		ND		ND		ND		ND		ND		ND		ND	
tert-Butyl alcohol	720	-	9.9	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS	
Tetrachloroethylene	4	300	3.9	0.83	J	ND		ND		ND		ND		0.76	J	0.97	J	0.76	J	1.1		1		ND		2.5		ND		ND		0.69	J	0.83	J
Tetrahydrofuran	350	30,000	240	240		4.9		1.9		ND		6		6		21		6.6		2.6		25		ND		3.6		70		3.4		2		1.1	
Toluene	5,000	37,000	235	2.6		0.88		ND		1.1		0.38	J	5.9		9.2	J	0.42	J	3		1.5		5.8		1.9		0.57		ND		0.69		0.84	
trans-1,2-Dichloroethene	63	-	3.1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Trichloroethene	0.2	20	3.7	0.87		ND		1		2.2		ND		ND		ND		ND		ND		0.87		0.87		ND		ND		1		ND		0.55	J
Vinyl chloride	0.11	180,000	0.24	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	

Notes:

1. Volatile organic compounds shown are only those detected in combined effluent samples from 7/17/08 to 4/8/20.
2. AGC and SGC ambient exposure values obtained from NYSDEC DAR-1 AGC/SGC Tables, dated 7/14/16.
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Definitions:

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SGC - Short-term Guideline Con
µg/m³ - micrograms per cubic me

Table A-15. Regulatory Status of Air Emissions
Former Lockheed Martin French Road Facility, Utica, New York

Volatile Organic Compounds[1]	AGC[2] (µg/m³)	SGC[2] (µg/m³)	Maximum Effluent Concentration (µg/m³)[3]	1/11/2012		4/3/2012		7/11/2012		10/17/2012		1/15/2013		4/24/2013		7/11/2013		10/23/2013		2/7/2014		4/4/2014		7/10/2014		10/9/2014		1/8/2015		4/15/2015		7/8/2015		10/7/2015		1/7/2016		4/7/2016		7/13/2016		10/12/2016		1/12/2017		4/13/2017		7/19/2017	
				Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q
1,1,1-Trichloroethane	5,000	9,000	3.4	**1.1**		ND		ND		ND		**0.83**		**0.46**	J	ND		ND		**3.4**		**2.7**		**0.31**	J	**0.59**	J	**3.4**		**2.4**		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,1-Dichloroethane	0.63	-	2.8	**1.5**		**0.41**	J	ND		ND		**2.8**		**0.93**		ND		**0.57**	J	**0.68**	J	**0.73**	J	**0.43**	J	**0.54**	J	**0.69**	J	**0.57**	J	ND		ND		**0.45**	J	**0.45**	J	**0.83**		ND		ND		ND	
1,2,4-Trimethylbenzene	6	-	43	ND		ND		**1.3**		ND		**0.8**		**0.94**	J	ND		ND		ND		**0.15**	J	**2.0**		**0.29**	J	**1.7**		**0.26**	J	ND		ND		ND		**0.24**	J	**3.0**		ND		ND		ND	
1,2-Dichloroethane	0.038	-	0.62	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,3,5-Trimethylbenzene	6	-	9.5	ND		ND		**0.5**	J	ND		ND		**0.47**	J	ND		ND		ND		**0.072**	J	**0.57**	J	ND		**0.60**	J	ND		ND		ND		ND		ND		**0.26**	J	ND		ND		ND	
1,3-butadiene	0.032	-	0.12	ND		ND		ND		ND		ND		**0.12**	J	ND		ND		ND		ND		ND		ND		ND		**0.11**	J	ND		ND		ND		ND		ND		**2.3**		ND		ND	
1,4-Dichlorobenzene	0.09	-	3.3	ND		ND		ND		ND		ND		**0.33**	J	ND		ND		ND		ND		**0.16**	BJ	ND		**3.3**		ND		ND		ND		ND		ND		ND		ND		ND		ND	
1,4-Dioxane	0.2	3,000	2.3	<1.1		ND		ND		ND		ND		ND		ND		**1.2**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
2,2,4-trimethylpentane	3,300	-	0.78	ND		ND		ND		ND		ND		**0.78**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
4-ethyltoluene	-	-	15	ND		ND		ND		ND		ND		**0.41**	J	ND		ND		ND		ND		**0.43**	J	ND		**0.48**	J	**0.14**	J	ND		ND		ND		ND		ND		ND		ND		ND	
Acetone	30,000	180,000	110	ND		ND		ND		**16**		ND		**37**		**26**	J	**12**	J B	ND		**16**		**6.6**	J	ND		**4.6**	J	**25**		**7.8**	J	**7.6**	J	**6.4**	J	ND		**9.0**	J	**13**		**37.2**		**19.5**		**27.2**	
Benzene	0.13	1,300	11.3	ND		ND		**0.45**	J	ND		ND		**1.8**		ND		ND		ND		ND		**0.082**	J	**0.29**	J	**0.16**	J	ND		**0.13**	J	ND		ND		ND		**0.16**	J	**0.14**	J	**1.1**		ND		ND	
Carbon disulfide	700	6,200	38	**0.44**	J	ND		**0.54**		ND		ND		**0.26**	J	**2.3**	J	ND		ND		ND		ND		ND		**0.62**	J	**1.0**	J	ND		**17**		ND		ND		**0.19**	J	**1.4**	J	**1.7**		**5.8**		ND	
Chlorobenzene	60	-	2.7	ND		ND		ND		ND		ND		**0.12**	J	ND		ND		ND		ND		**0.043**	J	ND		**2.7**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroethane	-	-	0.56	ND		ND		ND		ND		ND		**0.56**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Chloroform	14.7	150	17.7	**10**		**2.4**		**1.6**		**2.3**		**5.9**		**3.6**		ND		**2.2**	J	**10**		**11**		**4.5**		**6.4**		**12**		ND		ND		ND		**2.3**		**3.1**		**7.9**		**17.7**		**7.5**		**7.5**	
Chloromethane	90	22,000	1.3	ND		**0.69**		ND		ND		ND		**1.3**		ND		**0.95**	J	ND		**0.6**	J	**0.78**	J	ND		**0.71**	J	**0.99**	J	**0.44**	J	ND		ND		ND		**0.61**	J	ND		ND		ND		ND	
cis-1,2-Dichloroethene	63	-	3.3	ND		ND		ND		ND		**1.9**		**1.5**		ND		ND		**2.2**		**2.8**		**1.9**		**1.7**		**2.8**		**3.3**		ND		ND		ND		ND		**0.48**	J	ND		ND		ND	
Cyclohexane	6,000	-	7.6	**6.8**		**0.52**		ND		ND		ND		**2.7**		ND		ND		**3.2**		**3.3**		**0.35**	J	**1.2**		**5.5**		**1.9**		ND		ND		ND		ND		ND		**3.1**		**2.1**		ND	
Ethylbenzene	1,000	-	7.6	ND		ND		**0.88**		**0.84**		**0.44**	J	**7.6**		ND		ND		ND		**0.21**	J	**0.73**	J	**0.38**	J	**1.1**		**0.12**	J	**0.15**	J	**0.53**	J	**0.22**	J	ND		**0.35**	J	**0.62**	J	ND		ND		ND	
Freon 11	5,000	9,000	510	**160**		**130**		**210**		**270**		**47**		**31**		**170**		**510**		**7.2**		**15**		**19**		**5.6**		**2.8**		**2.1**		ND		**2.5**		**1.5**		**8.8**		**3.8**		**6.8**		**2.7**		**11.8**		ND	
Freon 113	180,000	960,000	6.8	**3.7**		**1.2**		ND		**1.9**		**3.7**		**1.4**	J	ND		**0.96**	J	**1.6**	J	**2**		ND		**2.8**		**3.3**		**1.2**	J	ND		ND		**3.8**		**1.4**	J	**5.4**		**6.8**		ND		ND	
Freon 114	17,000	-	5.5	ND		ND		**5.5**		ND		ND		**0.28**	J	ND		ND		ND		ND		**0.96**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Freon 12	12,000	-	34	**12**		**6.7**		**10**		**18**		**8.7**		**6.5**		**6**	J	**9.5**		**4.8**	J	**4.6**		**7.0**		**6.2**		**4.8**		**4.6**		**5.1**		**9.6**		**5.9**		**4.2**		**3.3**		**6.4**		**4.4**		**4.8**		**5.2**	
Freon 22	50,000	-	8.2	NS		NS		NS		NS		NS		**4.8**		ND		**1.7**	J	**2.8**	J	**2.7**		**2.7**		**2.1**		**3.1**		**4.3**		**1.6**	J	**3.8**		**2.3**		**2.1**		**1.4**	J	**1.5**	J	**2**		ND		ND	
Heptane	3,900	210,000	6.4	ND		ND		ND		ND		ND		**1.9**		ND		ND		ND		ND		ND		**1.3**		ND		ND		ND		ND		ND		ND		**0.36**	J	**0.40**	J	ND		ND		**2.9**	
Hexane	700	-	49.3	ND		ND		ND		ND		ND		**1.7**		ND		ND		**1.1**	J	ND		ND		**0.78**		ND		ND		ND		ND		ND		ND		**0.48**	J	**0.32**	J	**1.9**		**1.5**		**3.1**	
Isopropyl alcohol	7,000	98,000	360	**6.3**		**20**		**24**		**17**		**40**		**66**		**29**	J	**41**		**160**		**170**	E	**69**		**58**		**120**	D	**130**	D	**1.9**	J	**3.3**	J	ND		**3.8**	J	**9.4**	J	**41**		**153**		**169**		**90**	
m&p-Xylene	100	22,000	30.4	**2.1**		**0.62**	J	**3**		**2.6**		**1.9**		**7.1**		ND		ND		**1.1**	J	**0.79**	J	**2.6**		**0.93**	J	**3.6**		**0.31**	J	**0.48**	J	**1.7**	J	ND		ND		**1.3**	J	**1.6**	J	**5.5**		ND		ND	
Methyl Butyl Ketone	30	4,000	1.1	ND		ND		ND		ND		ND		**1.1**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**0.37**	J	ND		ND		ND		ND	
Methyl Ethyl Ketone	5,000	13,000	61	ND		ND		ND		ND		ND		**15**		ND		**1.4**	J	ND		**0.98**	J	**1.2**	J	ND		**1.2**	J	**1.7**		**1.2**	J	**3.5**		ND		ND		**1.7**		**2.4**		ND		ND		**7.9**	
Methyl Isobutyl Ketone	3,000	31,000	1.9	ND		ND		ND		ND		ND		**0.43**	J	ND		ND		ND		**0.18**	J	**1.9**	J	ND		ND		ND		ND		**0.35**	J	ND		ND		ND		ND		ND		ND		ND		ND	
Methylene chloride	60	14,000	402	**250**		**170**		**340**		**130**		**160**		**130**	B	**150**	B	**87**	B	**85**		**80**		**82**		**36**		**70**		**71**		**47**		**79**		**56**		**93**		**65**		**65**		**113**		**43.3**		**62.4**	
Naphthalene	3	7,900	5.3	NS		NS		NS		NS		NS		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**1.7**	J	ND		ND		ND		**2.1**	J	**5.3**		ND		ND	
n-Butane	238,000	-	23	NS		NS		NS		NS		NS		**16**		ND		**2.6**	J	**23**		**3.4**		**7.7**		**9.2**		**6.0**		**3.5**		**0.75**	J	**12**		**3.7**		**4.9**		**4.3**		**4.4**		NS		NS	
n-Propylbenzene	1,000	54,000	0.66	NS		NS		NS		NS		NS		**0.33**	J	ND		ND		ND		ND		ND		ND		**0.37**	J	ND		ND		ND		ND		ND		**0.66**	J	ND		ND		ND	
o-Xylene	100	22,000	9.7	**0.49**	J	ND		**1**		**0.49**	J	**0.57**	J	**2**		ND		ND		**0.47**	J	**0.25**	J	**1.0**		**0.29**	J	**1.2**		**0.13**	J	ND		**0.43**	J	ND		ND		**0.40**	J	**0.33**	J	ND		ND		ND	
Styrene	1,000	17,000	1	ND		ND		ND		ND		ND		**0.56**	J	ND		ND		ND		ND		ND		ND		ND		**0.15**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND	
tert-Butyl alcohol	720	-	9.9	NS		NS		NS		NS		NS		**2**	J	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Tetrachloroethylene	4	300	3.9	ND		ND		ND		**1.7**		ND		**0.49**	J	**2.5**	J	ND		**0.74**	J	**0.67**	J	**0.12**	J	ND		**1.5**		**0.53**	J	ND		**0.22**	J	ND		ND		**0.55**	J	ND		ND		ND		ND	
Tetrahydrofuran	350	30,000	240	ND		**0.93**		ND		ND		**2.2**		**4.7**	J	ND		ND		**5.7**	J	**6.8**	J	**2.5**	J	**1.9**	J	**2.9**	J	**4.4**	J	ND		ND		ND		ND		**2.4**		**ND**		**1.2**	
Toluene	5,000	37,000	235	**0.5**	J	**0.57**		**6**		**0.57**		**0.42**	J	**13**		**4.6**	J	**0.95**	J	**0.94**	J	**1.3**		**0.52**	J	**0.42**	J	**16**		**0.23**	J	**0.10**	J	ND		ND		ND		**0.71**	J	ND		ND		**1.5**		ND	
trans-1,2-Dichloroethene	63	-	3.1	**0.89**		ND		ND		ND		**3.1**		**1.6**		ND		**1.3**	J	**1.5**	J	**1.9**		**1.9**		**1.4**		**1.1**		**2.5**		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Trichloroethene	0.2	20	3.7	ND		ND		ND		ND		ND		**0.23**		**3.7**		ND		ND		ND		ND		ND		**3.1**		**0.24**		ND		ND		ND		ND		ND		ND		ND		ND		ND	
Vinyl chloride	0.11	180,000	0.24	ND		ND		ND		ND		ND		**0.24**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND	

Notes:

1. Volatile organic compounds shown are only those detected in combined effluent samples from 7/17/08 to 4/8/20.
2. AGC and SGC ambient exposure values obtained from NYSDEC DAR-1 AGC/SGC Tables, dated 7/14/16.
3. Concentrations shown for each volatile organic compound are the maximum concentrations detected between 7/17/08 and 4/8/20.
4. Maximum emission rate calculated using the maximum concentrations for each volatile organic compound and the average combined effluent flow rate (80 scfm) recorded during 2011 and 2012.
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Table A-15. Regulatory Status of Air Emissions
Former Lockheed Martin French Road Facility, Utica, New York

Volatile Organic Compounds[1]	AGC[2] (µg/m³)	SGC[2] (µg/m³)	Maximum Effluent Concentration (µg/m³)[3]	10/3/2017		1/2/2018		4/2/2018		7/10/2018		10/9/2018		1/2/2019		4/2/2019		7/9/2019		10/1/2019		1/21/2020		4/8/2020		7/7/2020		10/6/2020		Maximum Emission Rate (lb/day)[4, 6]	Actual Annual Impact (µg/m³)[5]	Actual Annual Impact Percentage of AGC (%)
				Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q	Result (µg/m3)	Q			
1,1,1-Trichloroethane	5,000	9,000	3.4	ND		**2.1**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		3.05E-05	3.56E-05	0.00
1,1-Dichloroethane	0.63	-	2.8	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.51E-05	2.93E-05	0.00
1,2,4-Trimethylbenzene	6	-	43	ND		ND		ND		**2.2**		ND		ND		ND		ND		ND		ND		ND		**8.9**		ND		3.86E-04	4.50E-04	0.01
1,2-Dichloroethane	0.038	-	0.62	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		5.56E-06	6.49E-06	0.02
1,3,5-Trimethylbenzene	6	-	9.5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**3.1**		ND		8.52E-05	9.94E-05	0.00
1,3-butadiene	0.032	-	0.12	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1.08E-06	1.26E-06	0.00
1,4-Dichlorobenzene	0.09	-	3.3	ND		ND		**2.7**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.96E-05	3.45E-05	0.04
1,4-Dioxane	0.2	3,000	2.3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.06E-05	2.41E-05	0.01
2,2,4-trimethylpentane	3,300	-	0.78	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		6.99E-06	8.16E-06	0.00
4-ethyltoluene	-	-	15	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1.35E-04	1.57E-04	-
Acetone	30,000	180,000	110	**80.6**		**9.6**		**41.2**		**32.8**		**21**		**13**		**6**		**33.3**		**12.7**		**52.5**		ND		ND		ND		9.86E-04	1.15E-03	0.00
Benzene	0.13	1,300	11.3	**0.79**		ND		**11.3**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1.01E-04	1.18E-04	0.09
Carbon disulfide	700	6,200	38	**4.9**		ND		**38**		ND		ND		**10.5**		ND		ND		ND		ND		ND		ND		ND		3.41E-04	3.98E-04	0.00
Chlorobenzene	60	-	2.7	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.42E-05	2.83E-05	0.00
Chloroethane	-	-	0.56	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		5.02E-06	5.86E-06	-
Chloroform	14.7	150	17.7	**5.0**		**11.4**		**10.4**		**6**		ND		ND		**2.1**		**1.4**		**3.8**		**10.3**		**10.7**		**6.4**		**12.5**		1.59E-04	1.85E-04	0.00
Chloromethane	90	22,000	1.3	**1.3**		**0.91**		ND		**0.93**		ND		ND		ND		**1.2**		ND		ND		ND		ND		ND		1.17E-05	1.36E-05	0.00
cis-1,2-Dichloroethene	63	-	3.3	ND		ND		**2.8**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.96E-05	3.45E-05	0.00
Cyclohexane	6,000	-	7.6	**7.6**		**3.6**		**1.8**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		6.82E-05	7.95E-05	0.00
Ethylbenzene	1,000	-	7.6	ND		ND		**4.9**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		6.82E-05	7.95E-05	0.00
Freon 11	5,000	9,000	510	**3.1**		ND		ND		**4.2**		ND		ND		ND		**2.8**		**5.5**		**3.4**		ND		**2.3**		**3.9**		4.57E-03	5.34E-03	0.00
Freon 113	180,000	960,000	6.8	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		**3.8**		6.10E-05	7.12E-05	0.00
Freon 114	17,000	-	5.5	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		4.93E-05	5.76E-05	0.00
Freon 12	12,000	-	34	**4.3**		**3.0**		**4.7**		**5.4**		**6.6**		**3.9**		**4.5**		**4.8**		**8.7**		**2.1**		**4.6**		**3.4**		**6.2**		3.05E-04	3.56E-04	0.00
Freon 22	50,000	-	8.2	**8.2**		ND		ND		**4.5**		ND		ND		ND		ND		**3.8**		**2.8**		ND		ND		ND		7.35E-05	8.58E-05	0.00
Heptane	3,900	210,000	6.4	**6.4**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		5.74E-05	6.70E-05	0.00
Hexane	700	-	49.3	**49.3**		**2.5**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		4.42E-04	5.16E-04	0.00
Isopropyl alcohol	7,000	98,000	360	**70.1**		**194**		**246**		**99.5**		**20**		**27.1**		**7.2**		**12.8**		**36.1**		**166**		**85**		**85**		**154**		3.23E-03	3.77E-03	0.00
m&p-Xylene	100	22,000	30.4	**7.0**		ND		**30.4**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.73E-04	3.18E-04	0.00
Methyl Butyl Ketone	30	4,000	1.1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		9.86E-06	1.15E-05	0.00
Methyl Ethyl Ketone	5,000	13,000	61	ND		ND		**8.5**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		5.47E-04	6.38E-04	0.00
Methyl Isobutyl Ketone	3,000	31,000	1.9	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		1.70E-05	1.99E-05	0.00
Methylene chloride	60	14,000	402	**402**		**66.1**		**89.2**		**82.9**		**88.2**		**26.7**		**26.1**		**63**		**67.8**		**48.2**		**61.1**		**49.6**		**75.9**		3.61E-03	4.21E-03	0.01
Naphthalene	3	7,900	5.3	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		4.75E-05	5.55E-05	0.00
n-Butane	238,000	-	23	NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		NS		2.06E-04	2.41E-04	0.00
n-Propylbenzene	1,000	54,000	0.66	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		5.92E-06	6.91E-06	0.00
o-Xylene	100	22,000	9.7	**2.6**		ND		**8.1**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		8.70E-05	1.02E-04	0.00
Styrene	1,000	17,000	1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		8.97E-06	1.05E-05	0.00
tert-Butyl alcohol	720	-	9.9	**9.9**		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		8.88E-05	1.04E-04	0.00
Tetrachloroethylene	4	300	3.9	ND		ND		ND		ND		**3.9**		ND		ND		ND		ND		ND		**2**		**1.5**		ND		3.50E-05	4.08E-05	0.00
Tetrahydrofuran	350	30,000	240	ND		**2.2**		**3.6**		ND		ND		ND		ND		ND		ND		ND		ND		**3.2**		ND		2.15E-03	2.51E-03	0.00
Toluene	5,000	37,000	235	**58.3**		**3.3**		**235**		ND		**2.2**		ND		ND		ND		ND		ND		ND		**16.7**		ND		2.11E-03	2.46E-03	0.00
trans-1,2-Dichloroethene	63	-	3.1	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.78E-05	3.24E-05	0.00
Trichloroethene	0.2	20	3.7	ND		ND		**3.7**		ND		ND		ND		ND		ND		ND		ND		ND		**3.2**		ND		3.32E-05	3.87E-05	0.02
Vinyl chloride	0.11	180,000	0.24	ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		ND		2.15E-06	2.51E-06	0.00

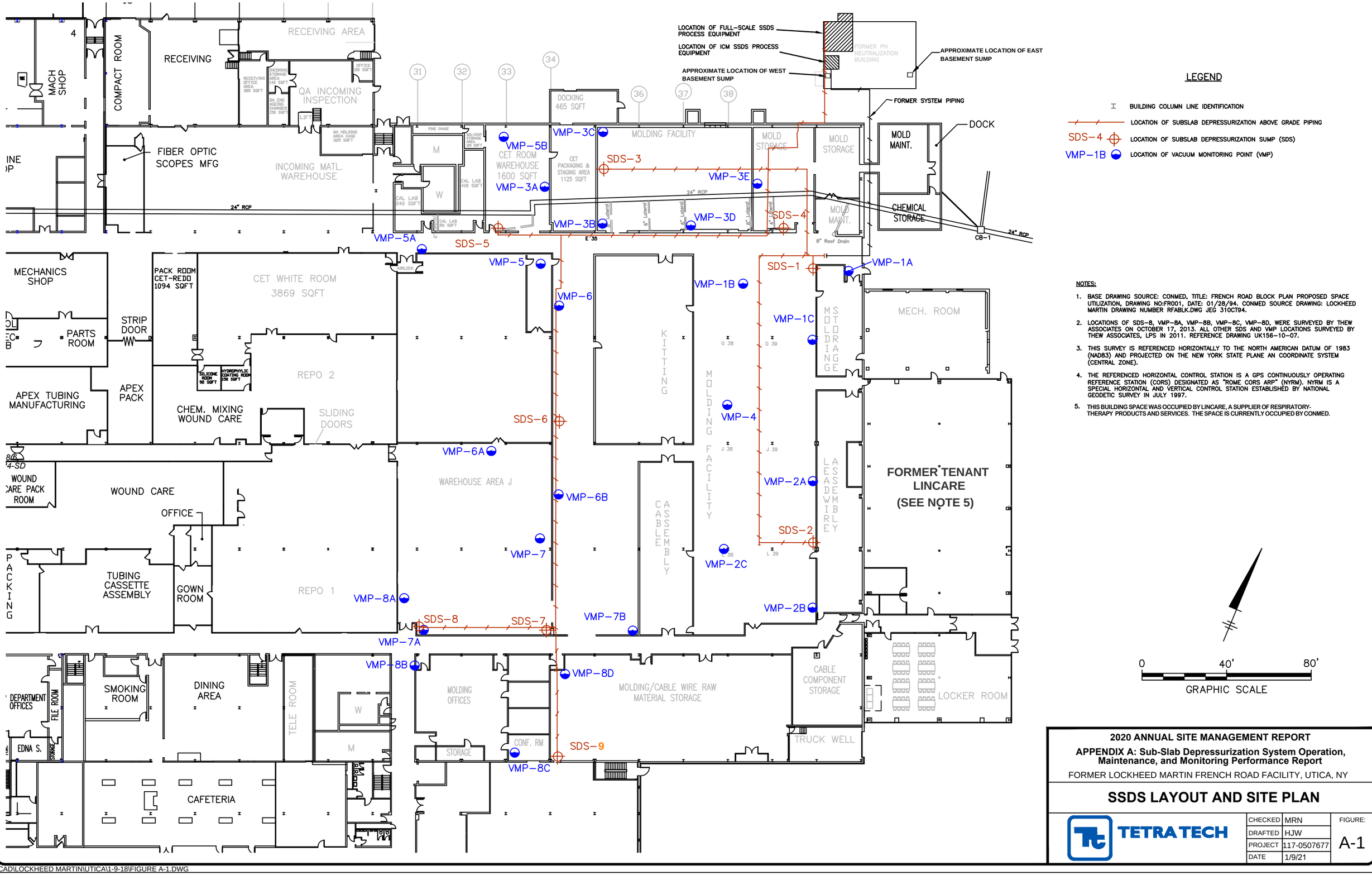
Notes:

1. Volatile organic compounds shown are only those detected in combined effluent samples from 7/17/08 to 4/8/20.
2. AGC and SGC ambient exposure values obtained from NYSDEC DAR-1 AGC/SGC Tables, dated 7/14/16.
3. Concentrations shown for each volatile organic compound are the maximum concentrations detected between 7/17/08 and 4/8/20.
4. Maximum emission rate calculated using the maximum concentrations for each volatile organic compound and the average combined effluent flow rate (80 scfm) recorded during 2011 and 2012.
5. Actual annual impact calculated by following procedures described in NYSDEC DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants (NYSDEC 1991). Note effective stack height of 28.5 feet.
6. Maximum emission rate calculated using the maximum concentrations for each volatile organic compound and the average combined effluent flow rate (100 scfm), post the installation of 2013.

Definitions:

< - less than laboratory detection limit lis
"-" - indicates no guideline as been estab
AGC - Annual Guideline Concentration (
J - Indicates concentratio
B - Indicates that the compound was also identified in the method blank and sample.
lb/day - pounds per day
ND - not detected above r
NS - parameter not analyzed
Q - data qualifier
SGC - Short-term Guideli
µg/m³ - micrograms per c

FIGURES



NOTES:

1. BASE DRAWING SOURCE: CONMED, TITLE: FRENCH ROAD BLOCK PLAN PROPOSED SPACE UTILIZATION, DRAWING NO:FR001, DATE: 01/28/94. CONMED SOURCE DRAWING: LOCKHEED MARTIN DRAWING NUMBER RFABLK.DWG JEG 310CT94.
2. LOCATIONS OF SDS-8, VMP-8A, VMP-8B, VMP-8C, VMP-8D, WERE SURVEYED BY THEW ASSOCIATES ON OCTOBER 17, 2013. ALL OTHER SDS AND VMP LOCATIONS SURVEYED BY THEW ASSOCIATES, LPS IN 2011. REFERENCE DRAWING UK156-10-07.
3. THIS SURVEY IS REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLANE AN COORDINATE SYSTEM (CENTRAL ZONE).
4. THE REFERENCED HORIZONTAL CONTROL STATION IS A GPS CONTINUOUSLY OPERATING REFERENCE STATION (CORS) DESIGNATED AS "ROME CORS ARP" (NYRM). NYRM IS A SPECIAL HORIZONTAL AND VERTICAL CONTROL STATION ESTABLISHED BY NATIONAL GEODETIC SURVEY IN JULY 1997.
5. THIS BUILDING SPACE WAS OCCUPIED BY LINCARE, A SUPPLIER OF RESPIRATORY-THERAPY PRODUCTS AND SERVICES. THE SPACE IS CURRENTLY OCCUPIED BY CONMED.

2020 ANNUAL SITE MANAGEMENT REPORT

APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report

FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

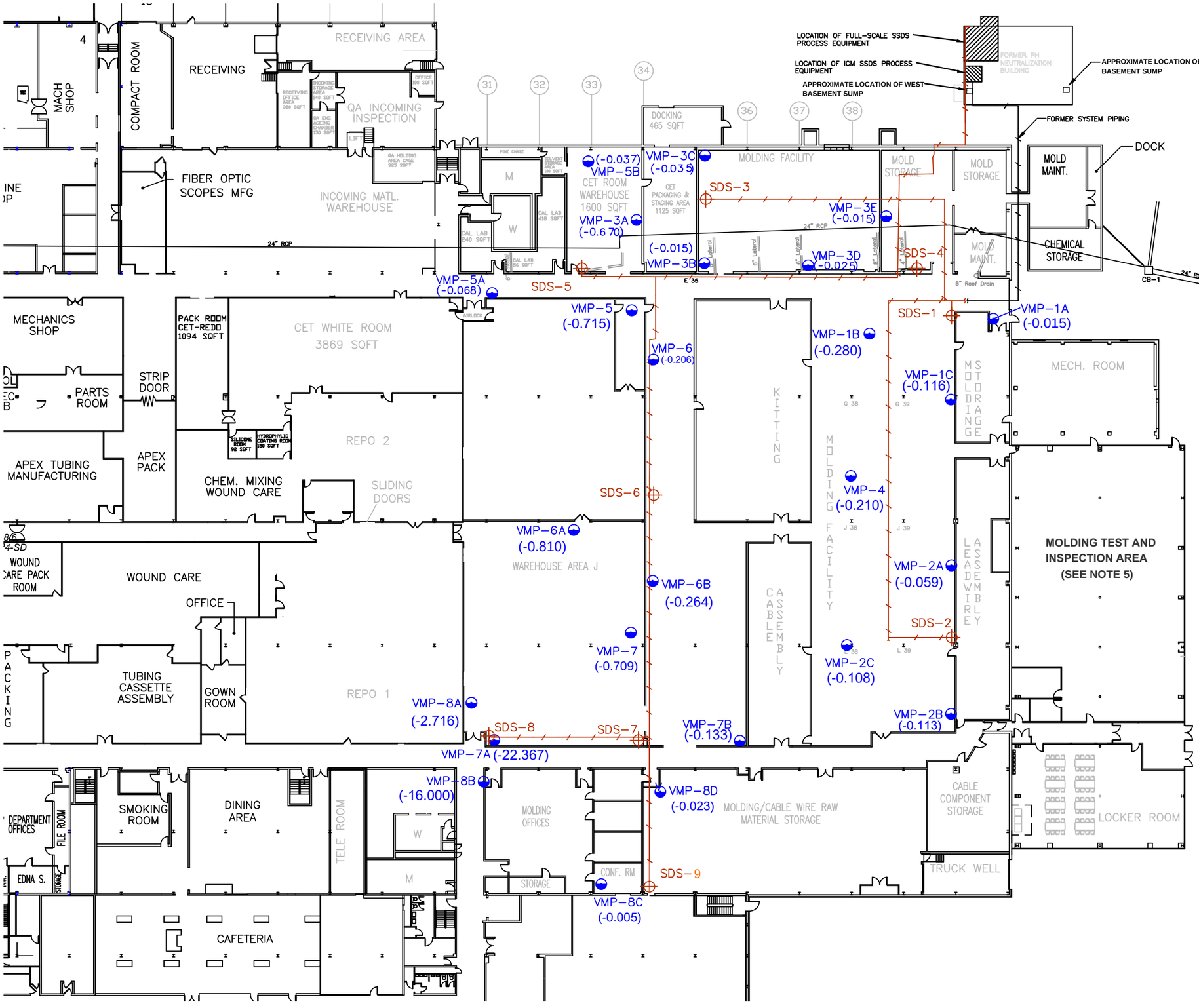
SSDS LAYOUT AND SITE PLAN

TETRA TECH

CHECKED	MRN
DRAFTED	HJW
PROJECT	117-0507677
DATE	1/9/21

FIGURE: A-1

S:\CAD\LOCKHEED MARTIN\UTICA\1-9-18\FIGURE A-1.DWG



LEGEND

- I — BUILDING COLUMN LINE IDENTIFICATION
- LOCATION OF SUBSLAB DEPRESSURIZATION ABOVE GRADE PIPING
- SDS-4 — LOCATION OF SUBSLAB DEPRESSURIZATION SUMP (SDS)
- VMP-1B — LOCATION OF VACUUM MONITORING POINT (VMP)
- (-0.251) — 2020 AVERAGE INSTANTANEOUS DIFFERENTIAL PRESSURE (IN W.C.) RECORDED AT THE VMP LOCATION (CRITERIA IS -0.004 IN W.C.)

NOTES:

1. BASE DRAWING SOURCE: CONMED, TITLE: FRENCH ROAD BLOCK PLAN PROPOSED SPACE UTILIZATION, DRAWING NO:FR001, DATE: 01/28/94. CONMED SOURCE DRAWING: LOCKHEED MARTIN DRAWING NUMBER RFABLK.DWG JEG 31OCT94.
2. LOCATIONS OF SDS-8, VMP-8A, VMP-8B, VMP-8C, VMP-8D, WERE SURVEYED BY THEW ASSOCIATES ON OCTOBER 17, 2013. ALL OTHER SDS AND VMP LOCATIONS SURVEYED BY THEW ASSOCIATES, LPS IN 2011. REFERENCE DRAWING UK156-10-07.
3. THIS SURVEY IS REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLANE AN COORDINATE SYSTEM (CENTRAL ZONE).
4. THE REFERENCED HORIZONTAL CONTROL STATION IS A GPS CONTINUOUSLY OPERATING REFERENCE STATION (CORS) DESIGNATED AS "ROME CORS ARP" (NYRM). NYRM IS A SPECIAL HORIZONTAL AND VERTICAL CONTROL STATION ESTABLISHED BY NATIONAL GEODETIC SURVEY IN JULY 1997.
5. THIS BUILDING SPACE WAS OCCUPIED BY LINCARE, A SUPPLIER OF RESPIRATORY-THERAPY PRODUCTS AND SERVICES. THE SPACE IS CURRENTLY BEING USED BY CONMED.

2020 ANNUAL SITE MANAGEMENT REPORT

APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report

FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

AVERAGE DIFFERENTIAL PRESSURE AT VACUUM MONITORING POINTS

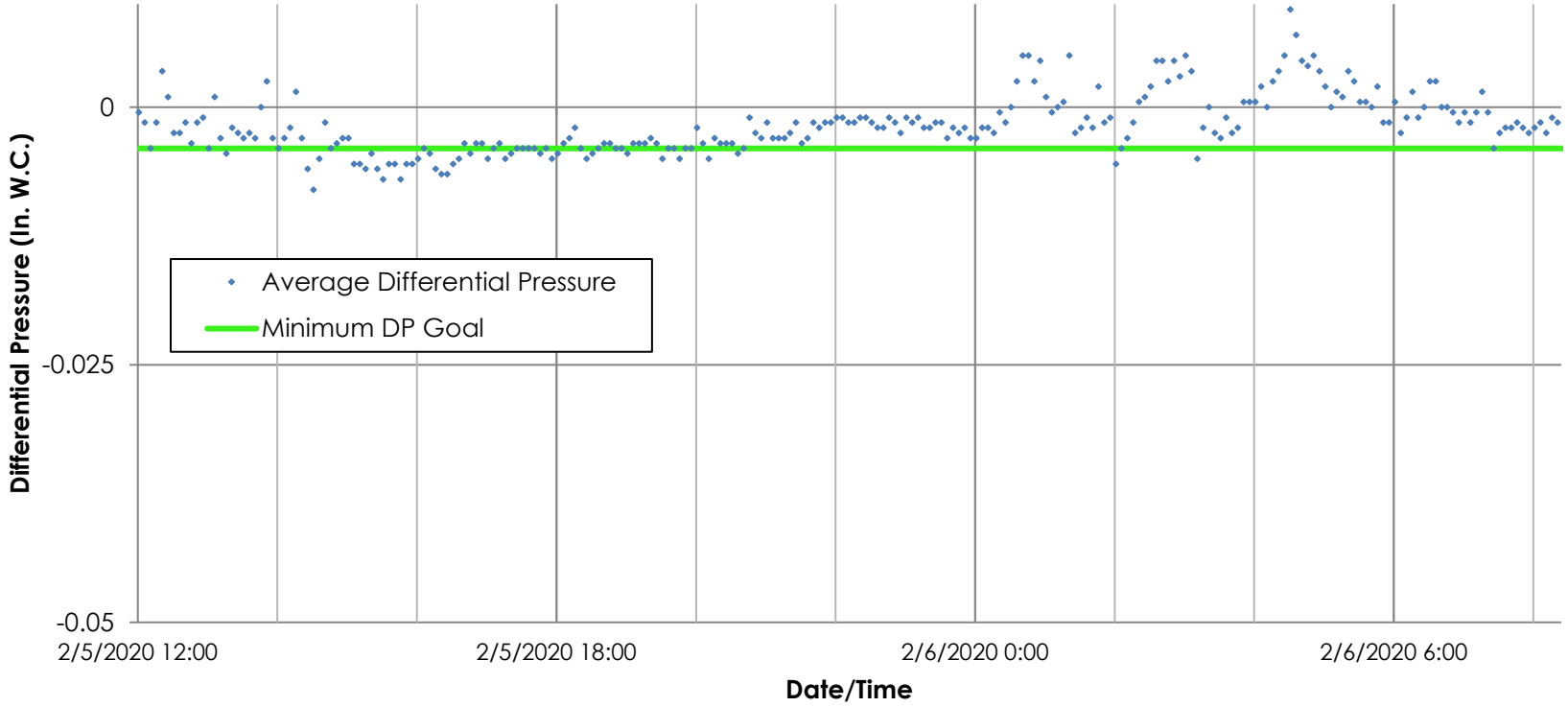
TETRA TECH

CHECKED	MRN
DRAFTED	HJW
PROJECT	117-0507677
DATE	1/9/211

FIGURE: A-2

S:\CAD\LOCKHEED MARTIN\UTICA\1-9-18\FIGURE A-2.DWG

VMP-1A



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

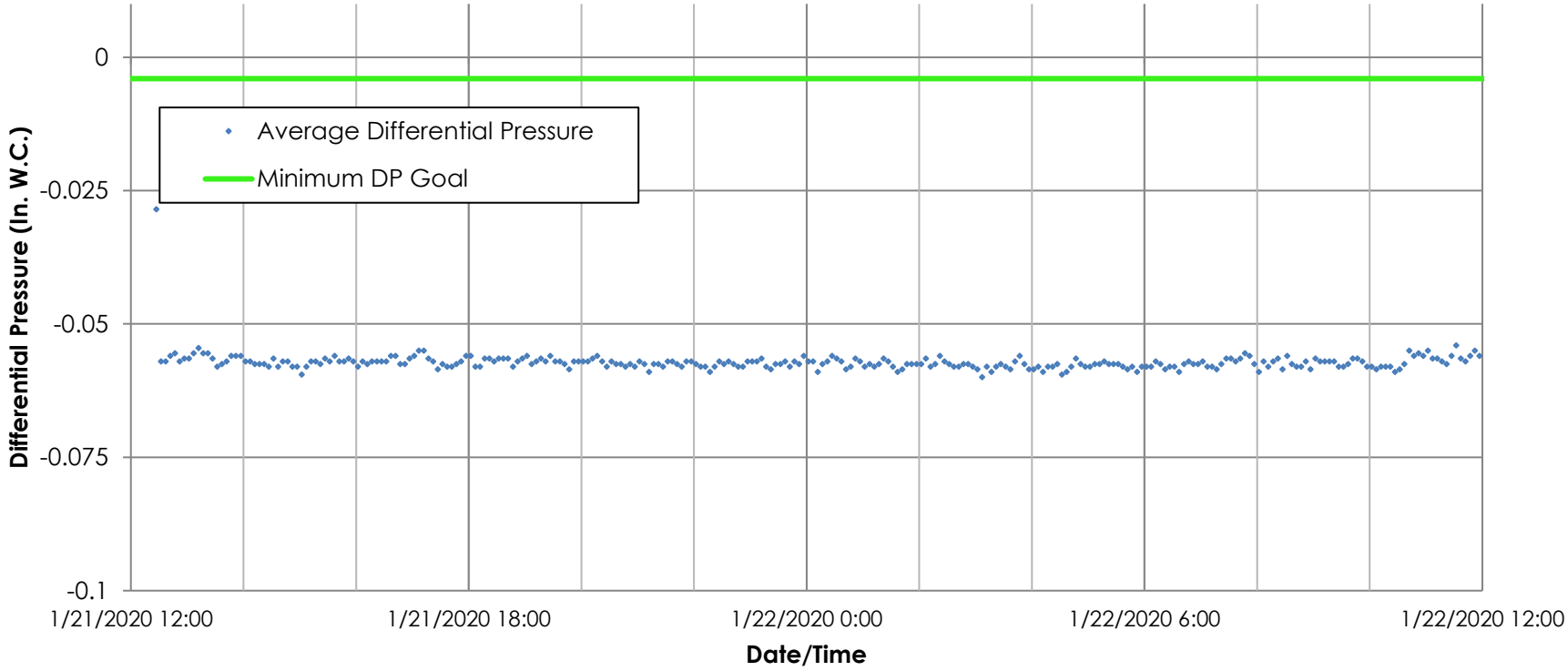
2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-1A
DIFFERENTIAL PRESSURE DATA
FEBRUARY 5-6, 2020

TETRA TECH

FIGURE
A-3

VMP-2A



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

2020 SITE MANAGEMENT REPORT
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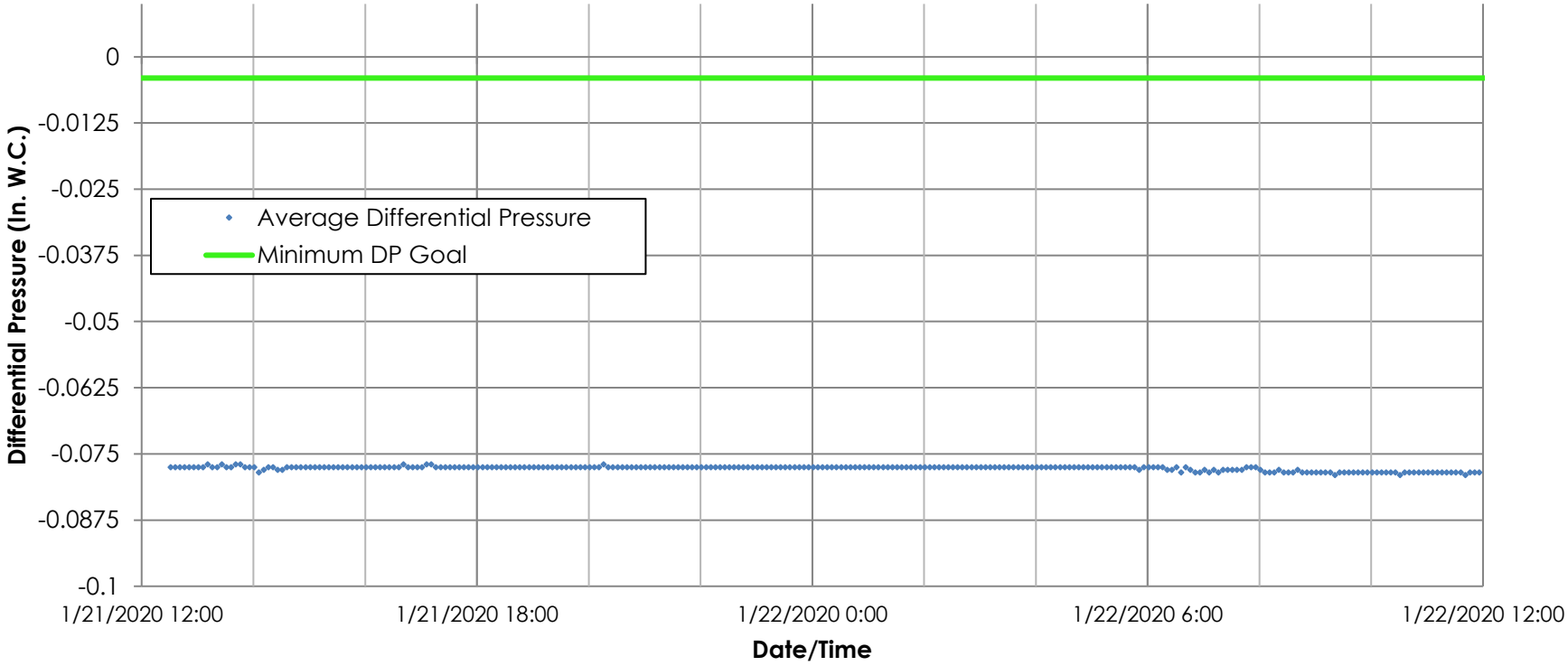
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-2A
DIFFERENTIAL PRESSURE DATA
JANUARY 21-22, 2020

TETRA TECH

FIGURE
A-4

VMP-3A



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

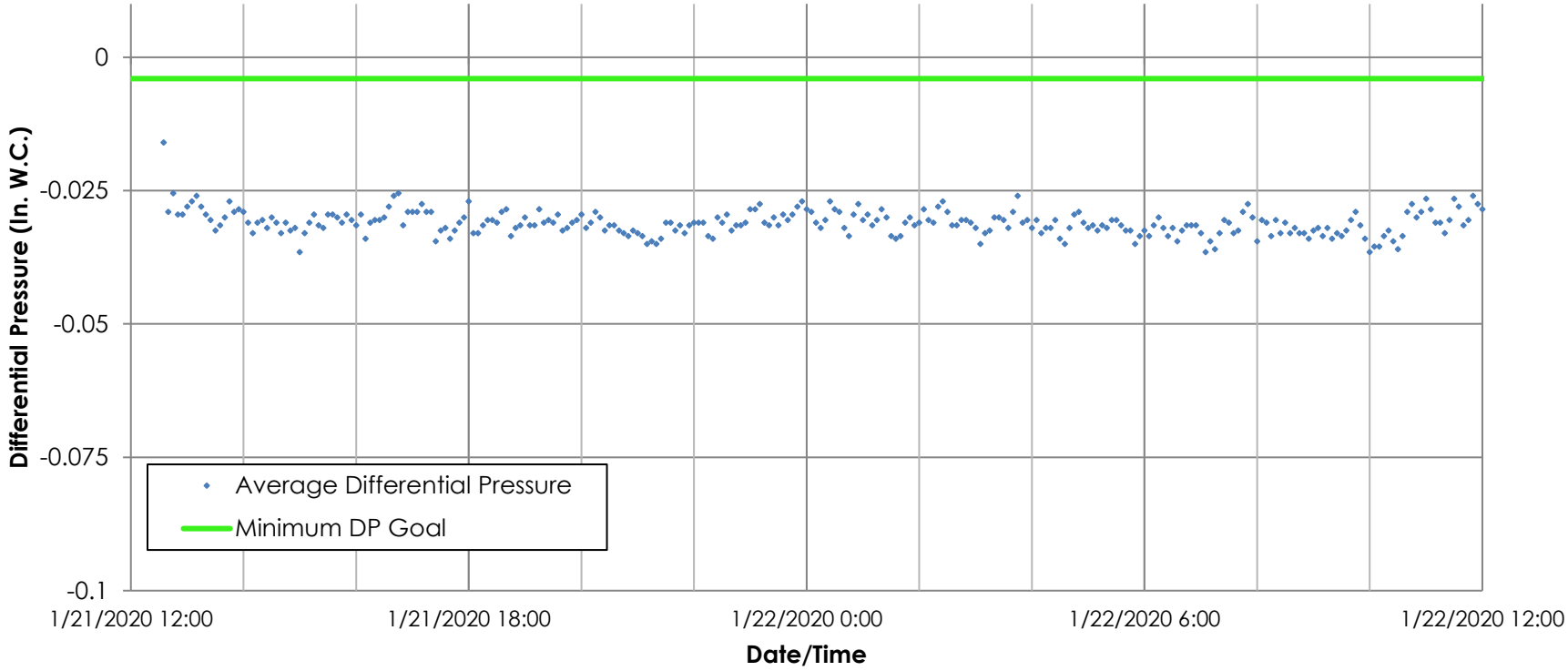
2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-3A
DIFFERENTIAL PRESSURE DATA
JANUARY 21-22, 2020

TETRA TECH

FIGURE
A-5

VMP-4



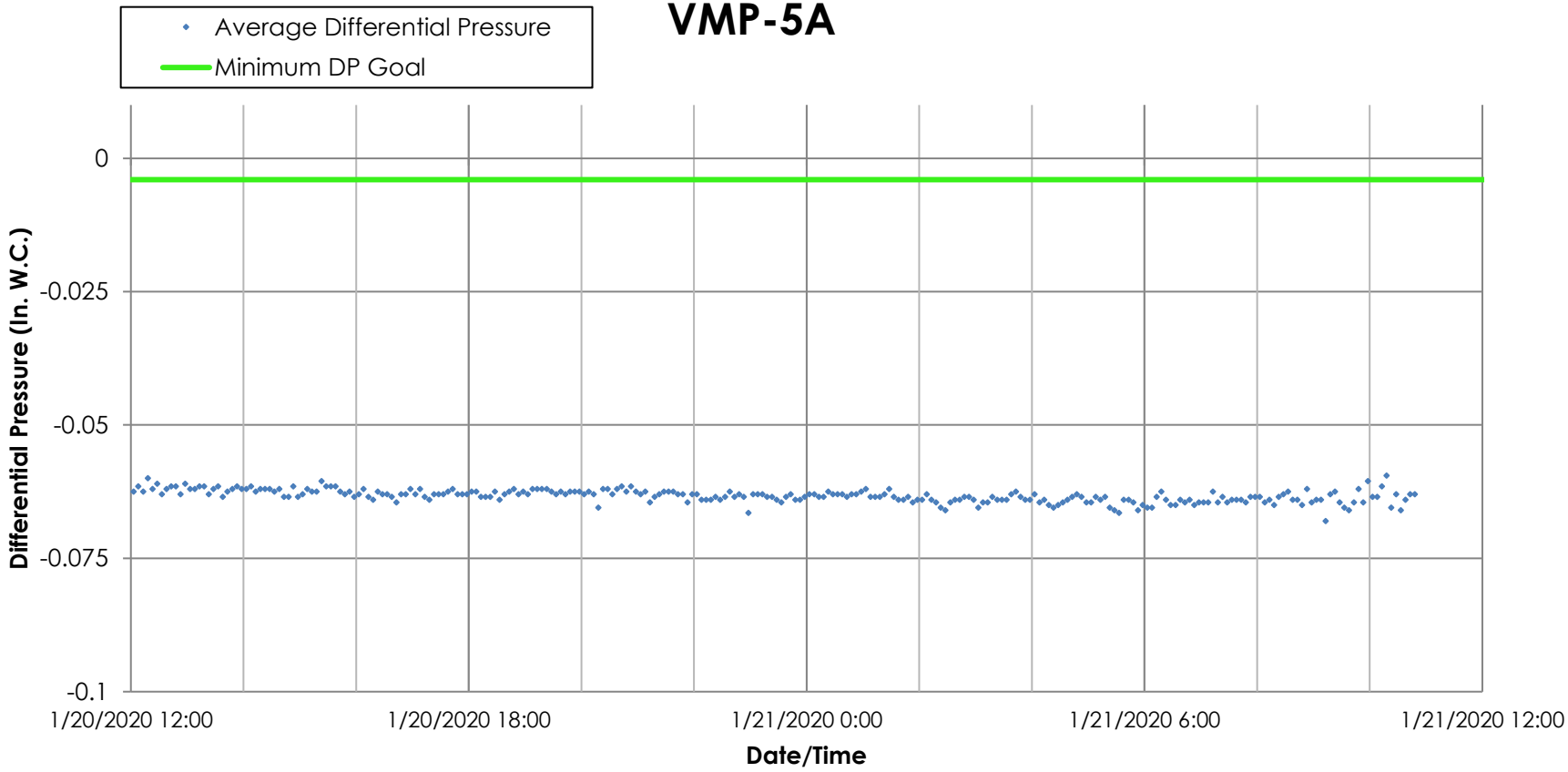
Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-4
DIFFERENTIAL PRESSURE DATA
JANUARY 21-22, 2020

TETRA TECH

FIGURE
A-6



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

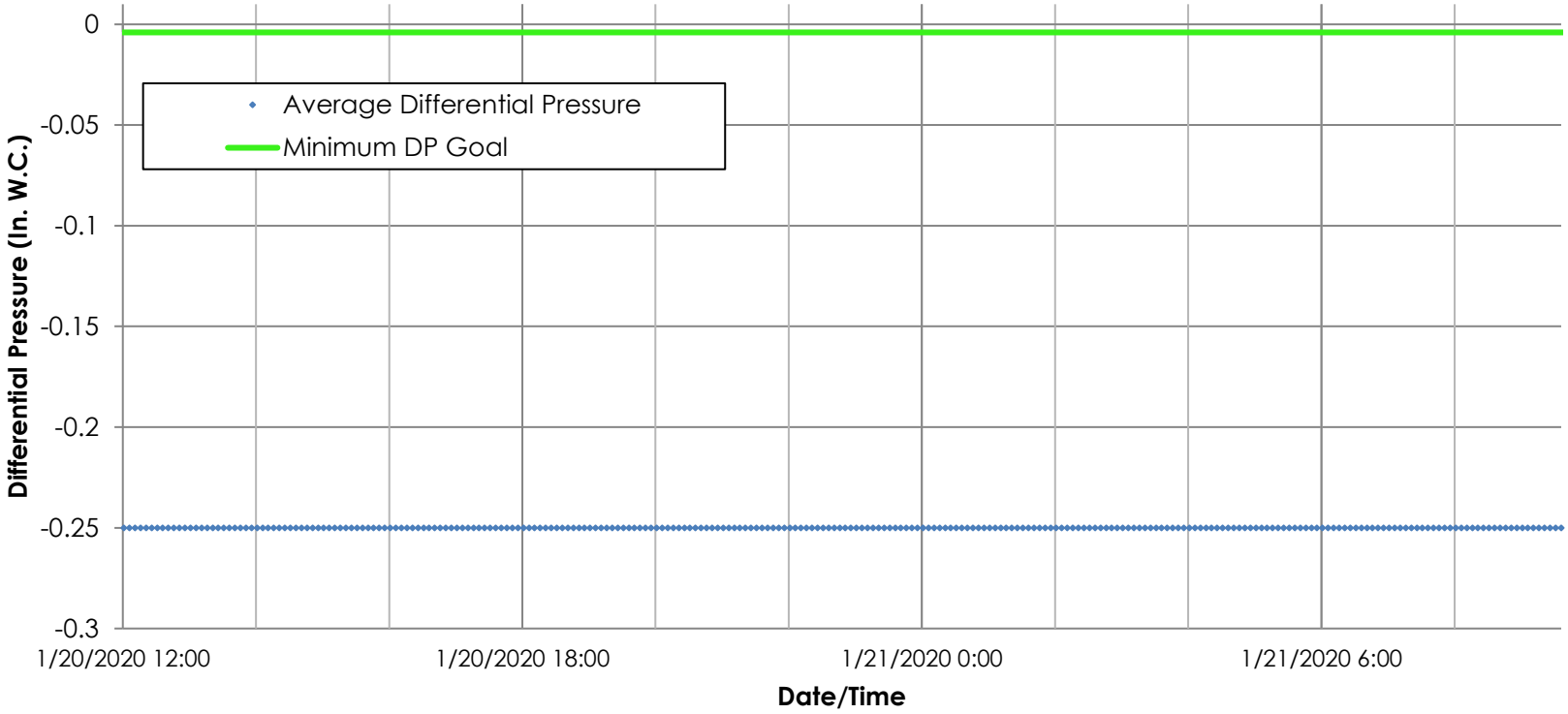
2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-5A
DIFFERENTIAL PRESSURE DATA
JANUARY 20-21, 2020

TETRA TECH

FIGURE
A-7

VMP-6A



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

2020 SITE MANAGEMENT REPORT
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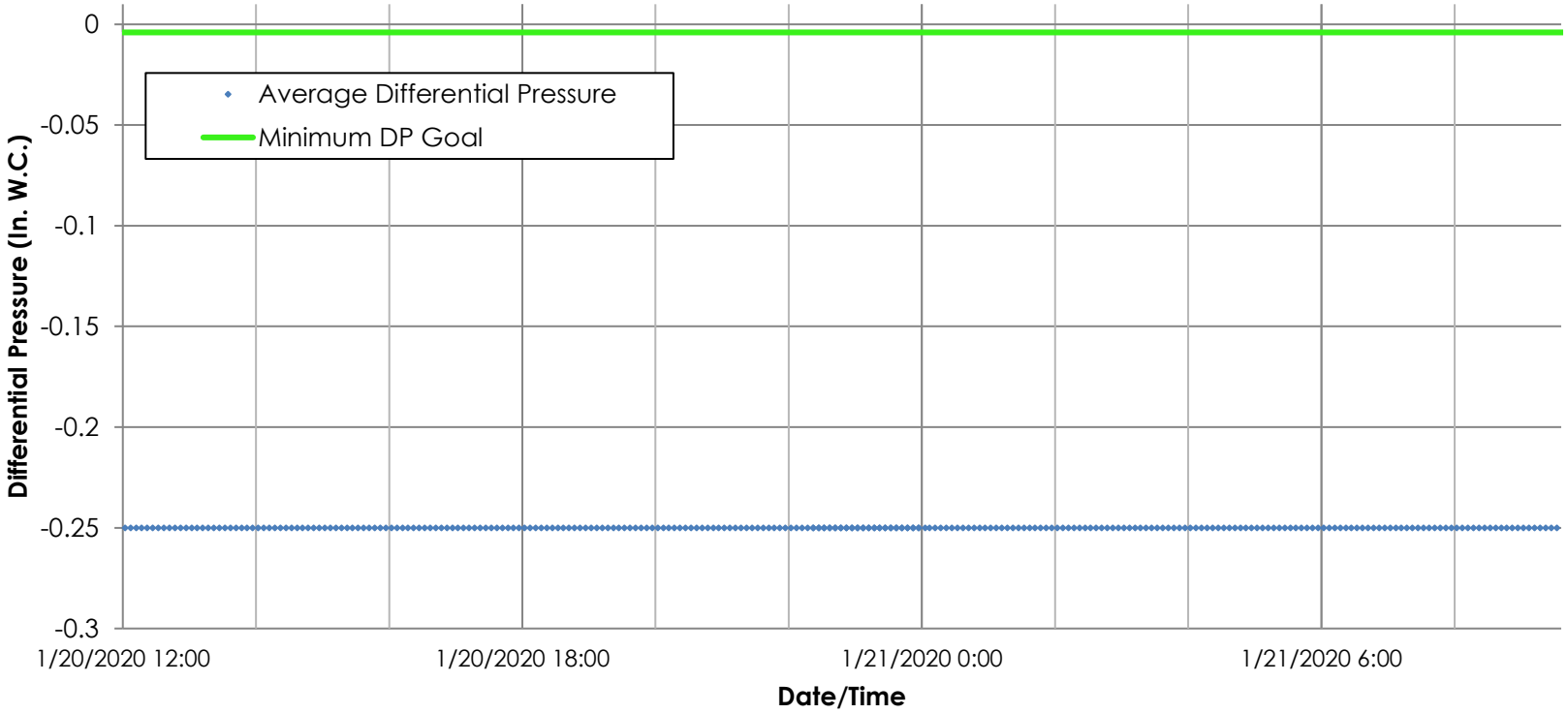
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-6A
DIFFERENTIAL PRESSURE DATA
JANUARY 20-21, 2020

TETRA TECH

FIGURE
A-8

VMP-7A



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

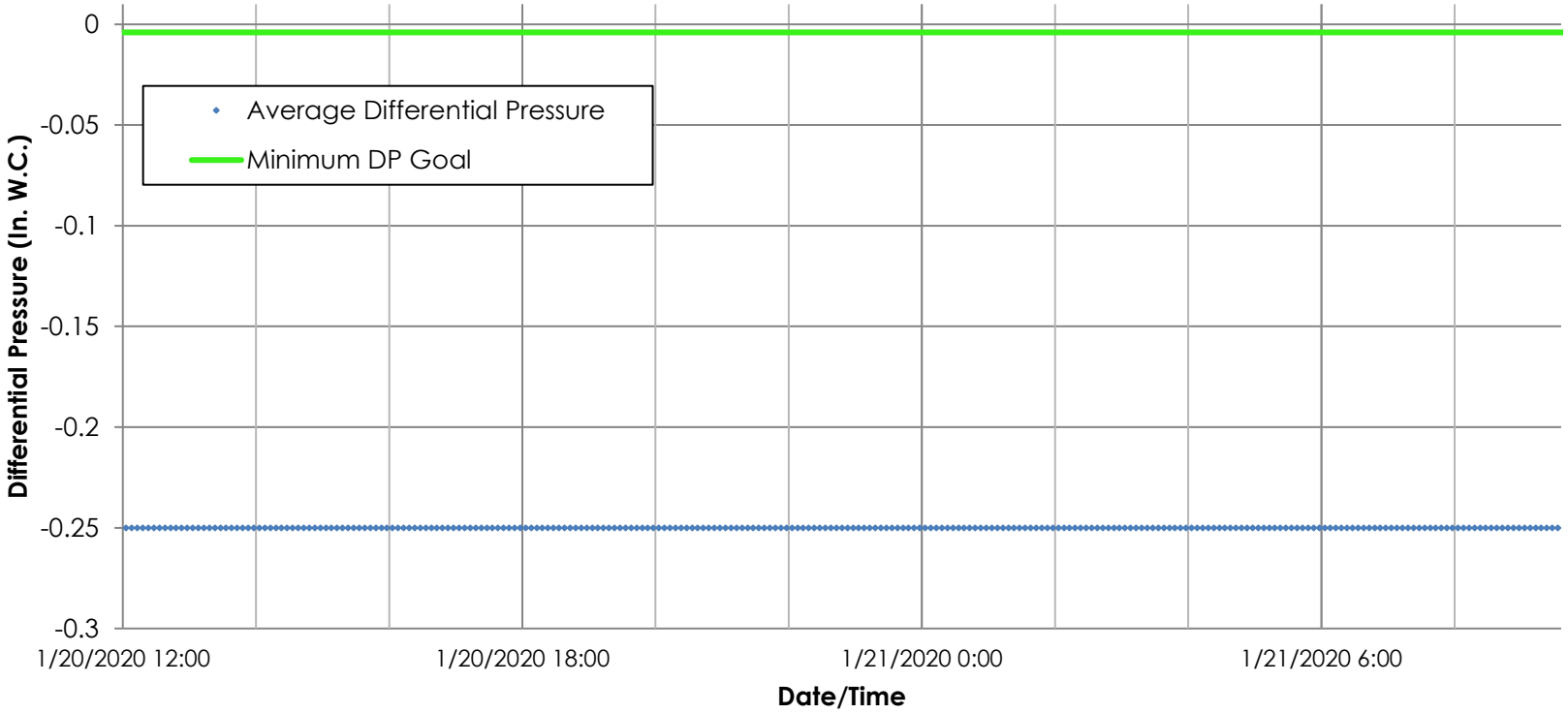
2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-7A
DIFFERENTIAL PRESSURE DATA
JANUARY 20-21, 2020

TETRA TECH

FIGURE
A-9

VMP-8A



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

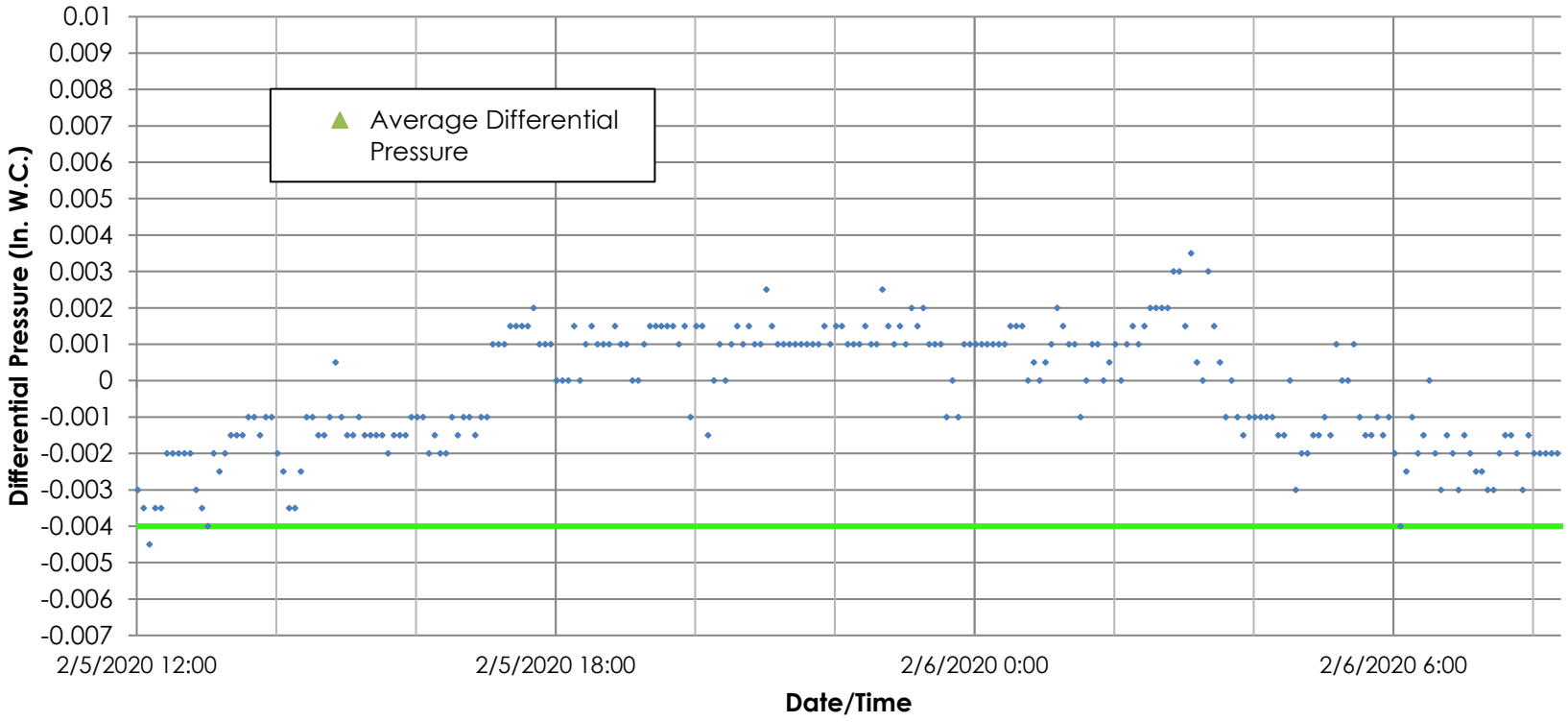
2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-8A
DIFFERENTIAL PRESSURE DATA
JANUARY 20-21, 2020

TETRA TECH

FIGURE
A-10

VMP-8C



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

2020 SITE MANAGEMENT REPORT
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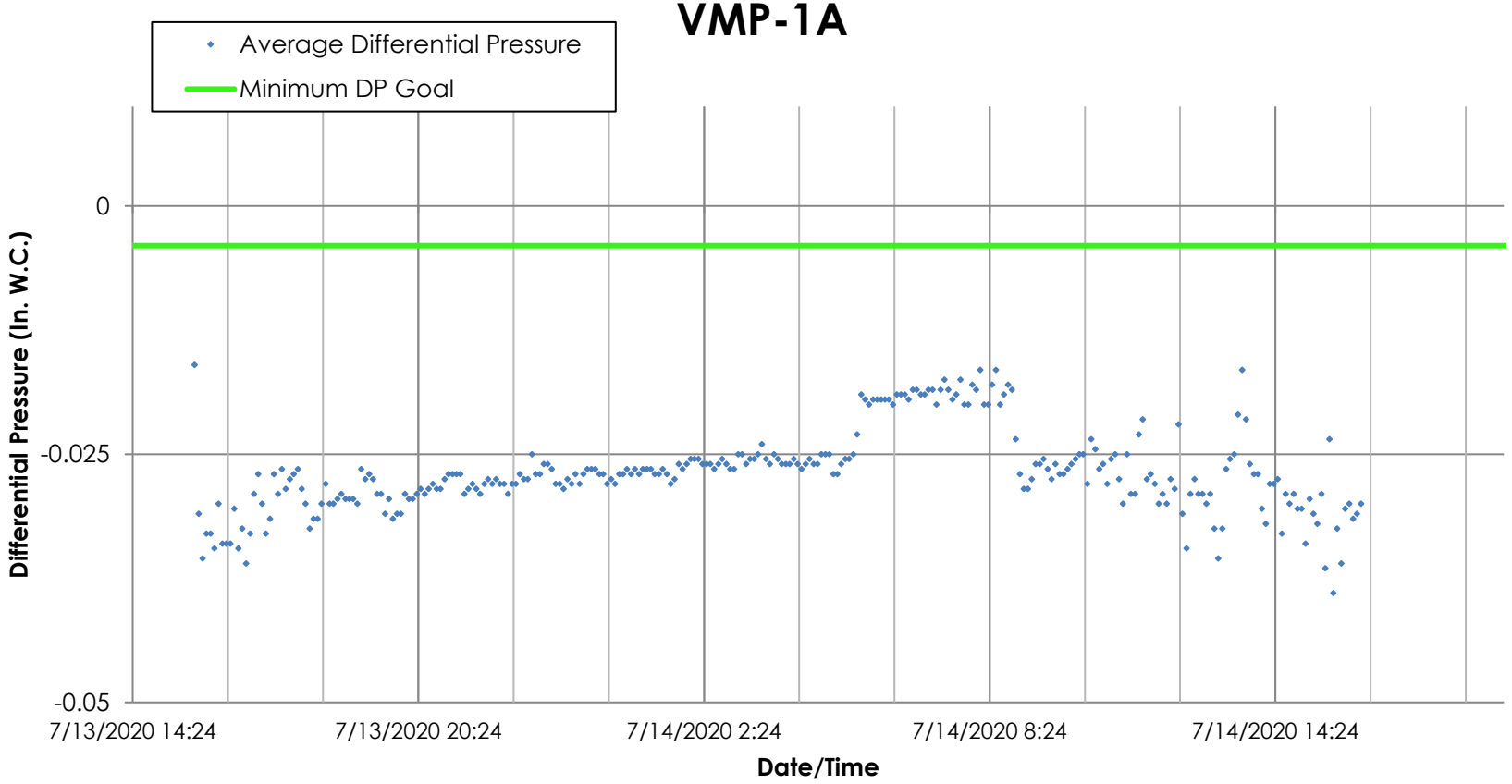
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-8C
DIFFERENTIAL PRESSURE DATA
FEBRUARY 5-6, 2020

TETRA TECH

FIGURE
A-11



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between
-0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

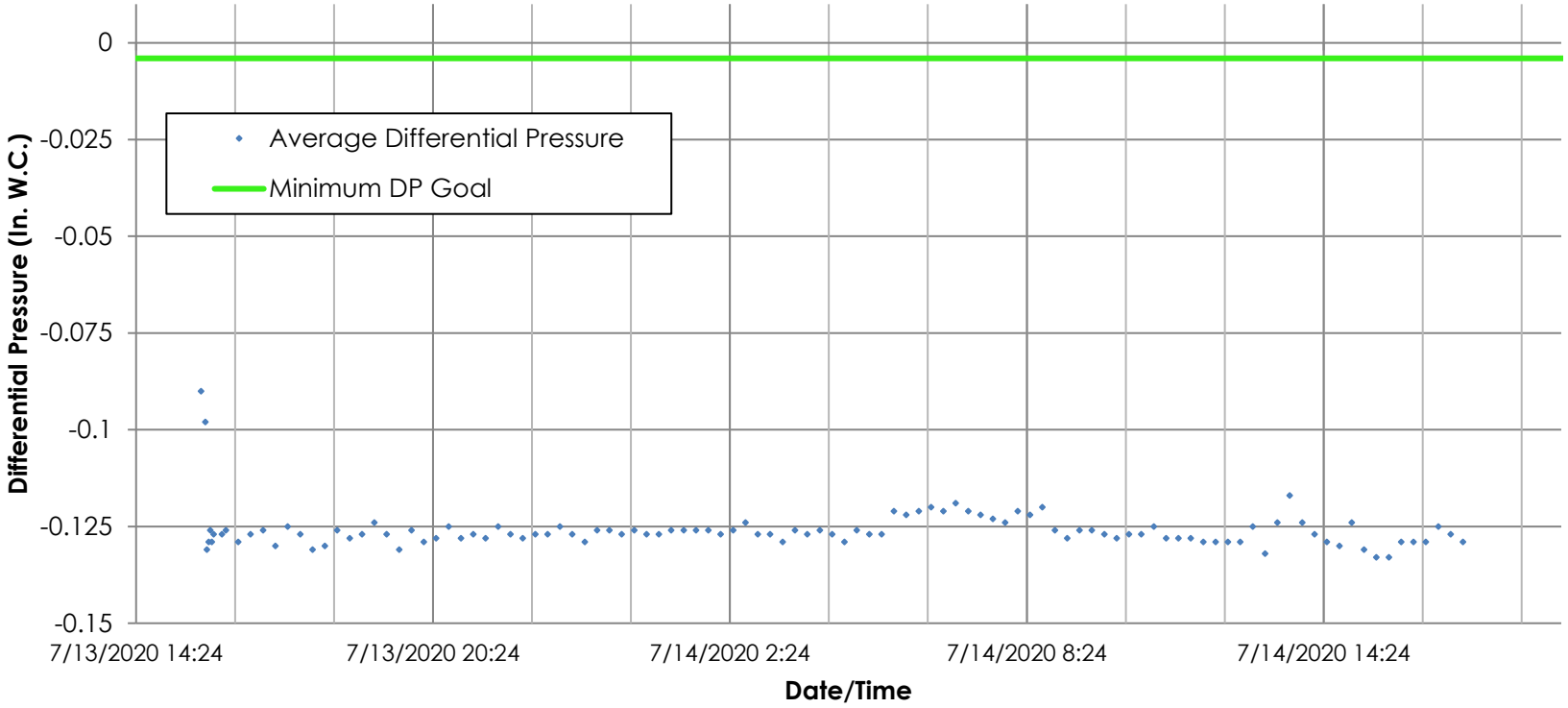
2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP- 1A
DIFFERENTIAL PRESSURE DATA
JULY 13-14, 2020

TETRA TECH

FIGURE
A-12

VMP-1C



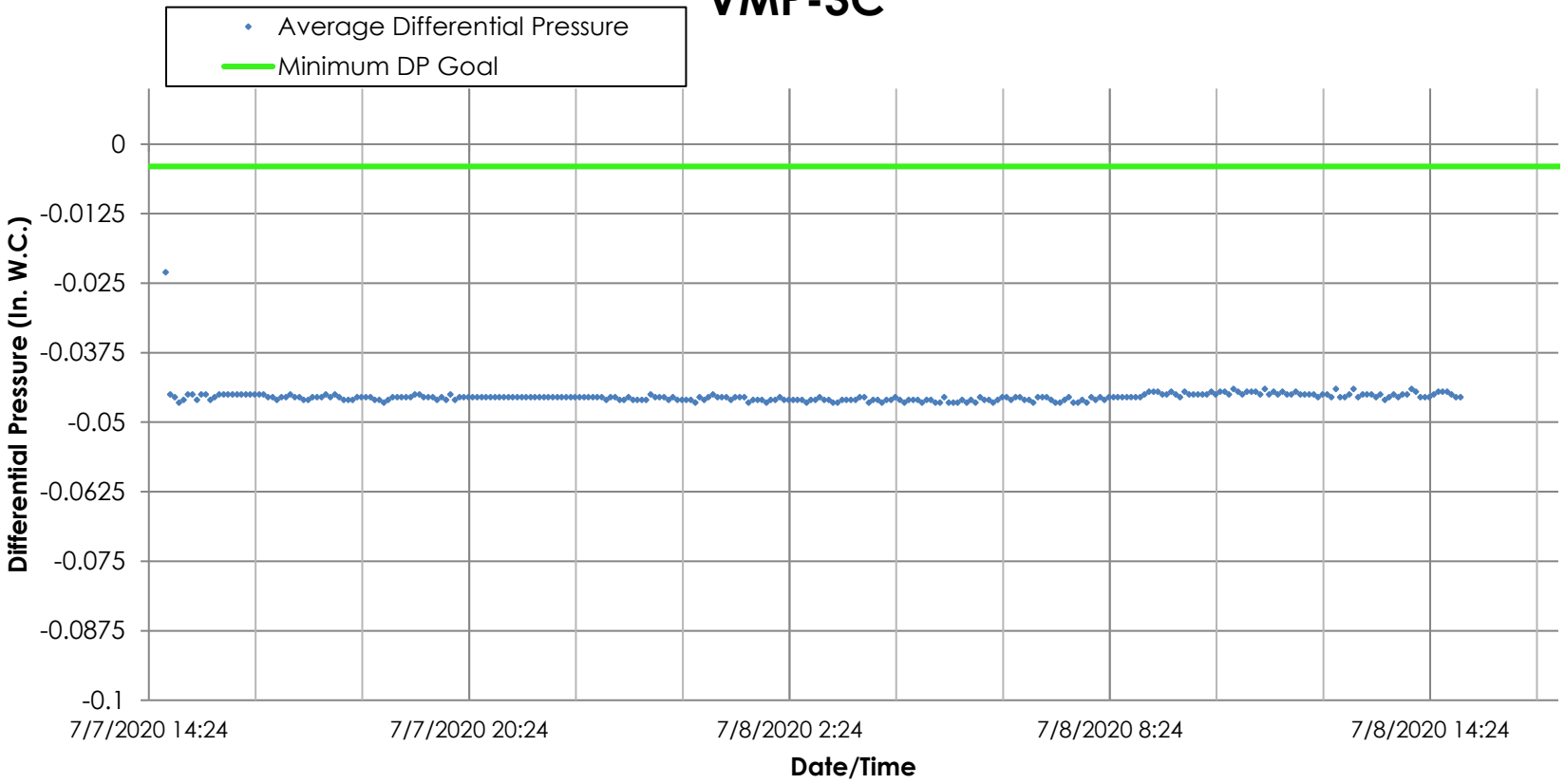
Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-1C
DIFFERENTIAL PRESSURE DATA
JULY 13-14, 2020

TETRA TECH

FIGURE
A-13



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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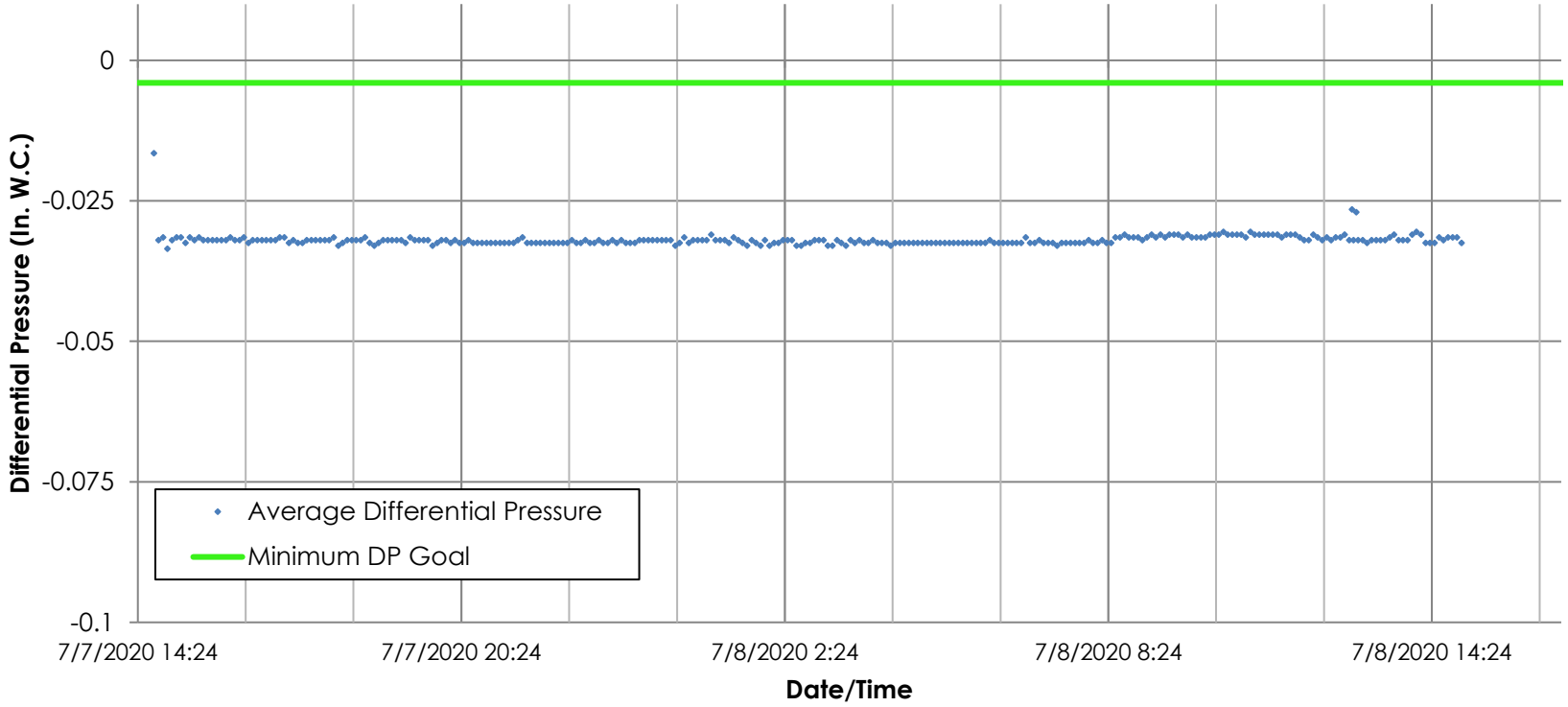
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

VACUUM MONITORING POINT VMP-3C
DIFFERENTIAL PRESSURE DATA
JULY 7-8, 2020

TETRA TECH

FIGURE
A-14

VMP-3D



Note:
1. in. W.C. = Inches of water column
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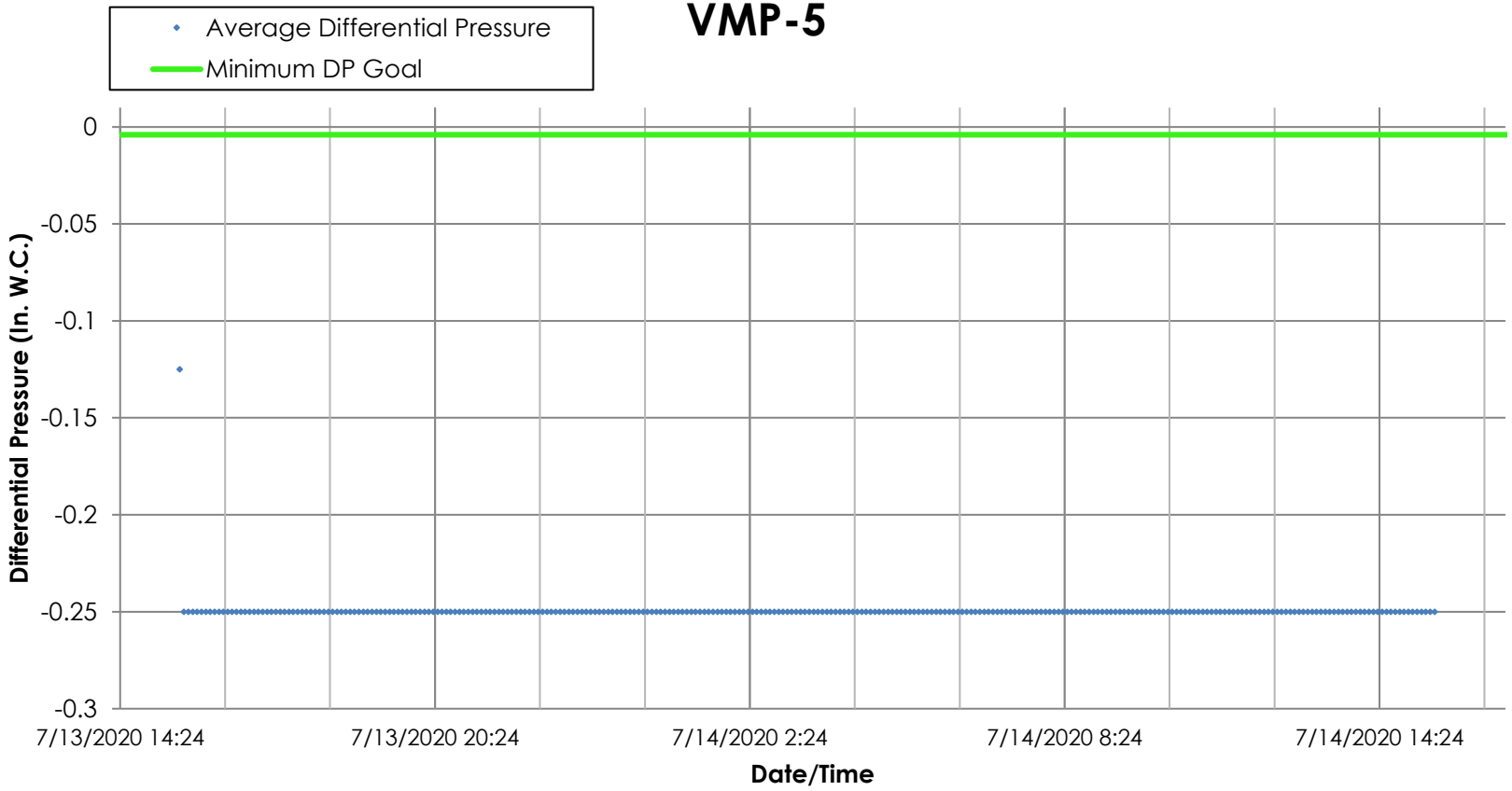
VACUUM MONITORING POINT VMP-3D
DIFFERENTIAL PRESSURE DATA
JULY 7-8, 2020

TETRA TECH

FIGURE
A-15



Note:
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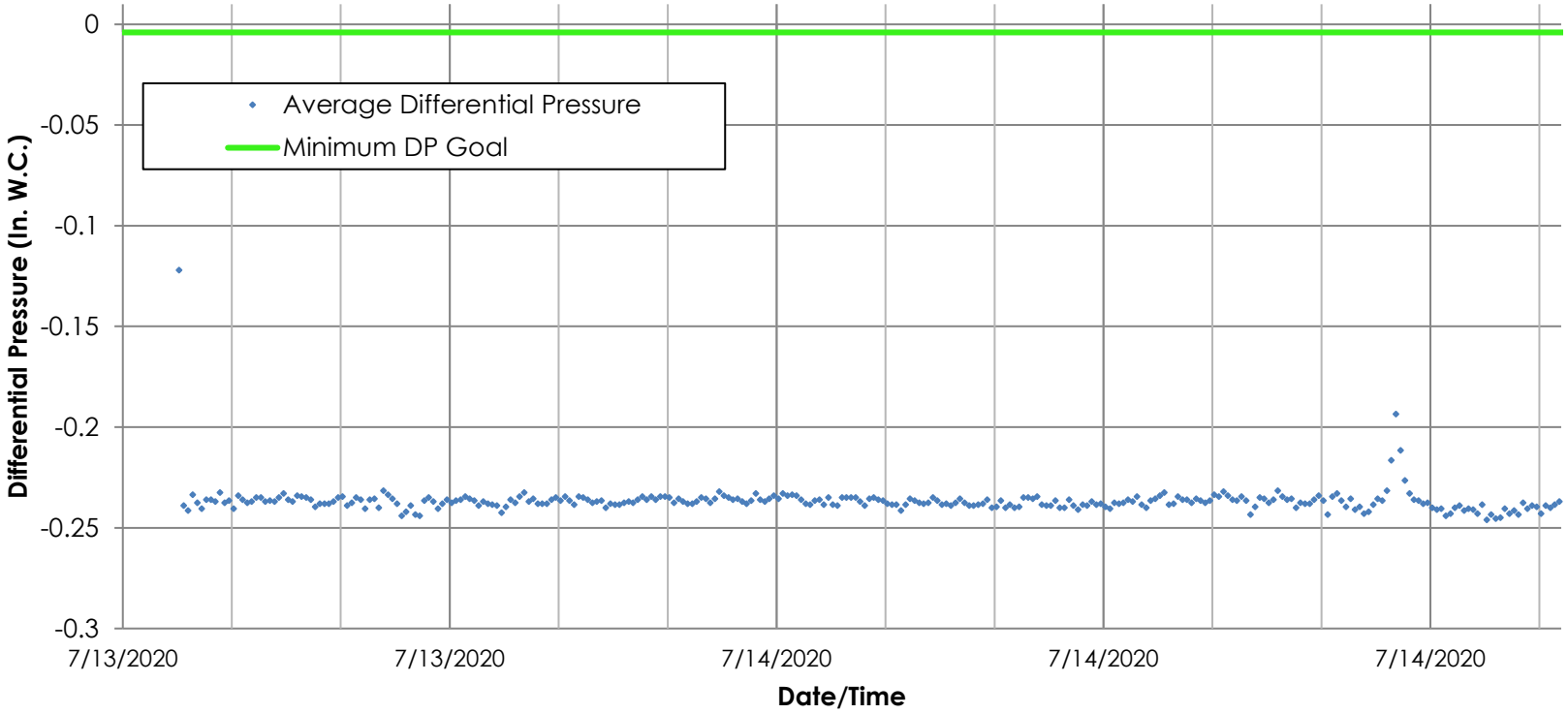
VACUUM MONITORING POINT VMP-5
DIFFERENTIAL PRESSURE DATA
JULY 13-14, 2020

TETRA TECH

FIGURE
A-16

VMP-6



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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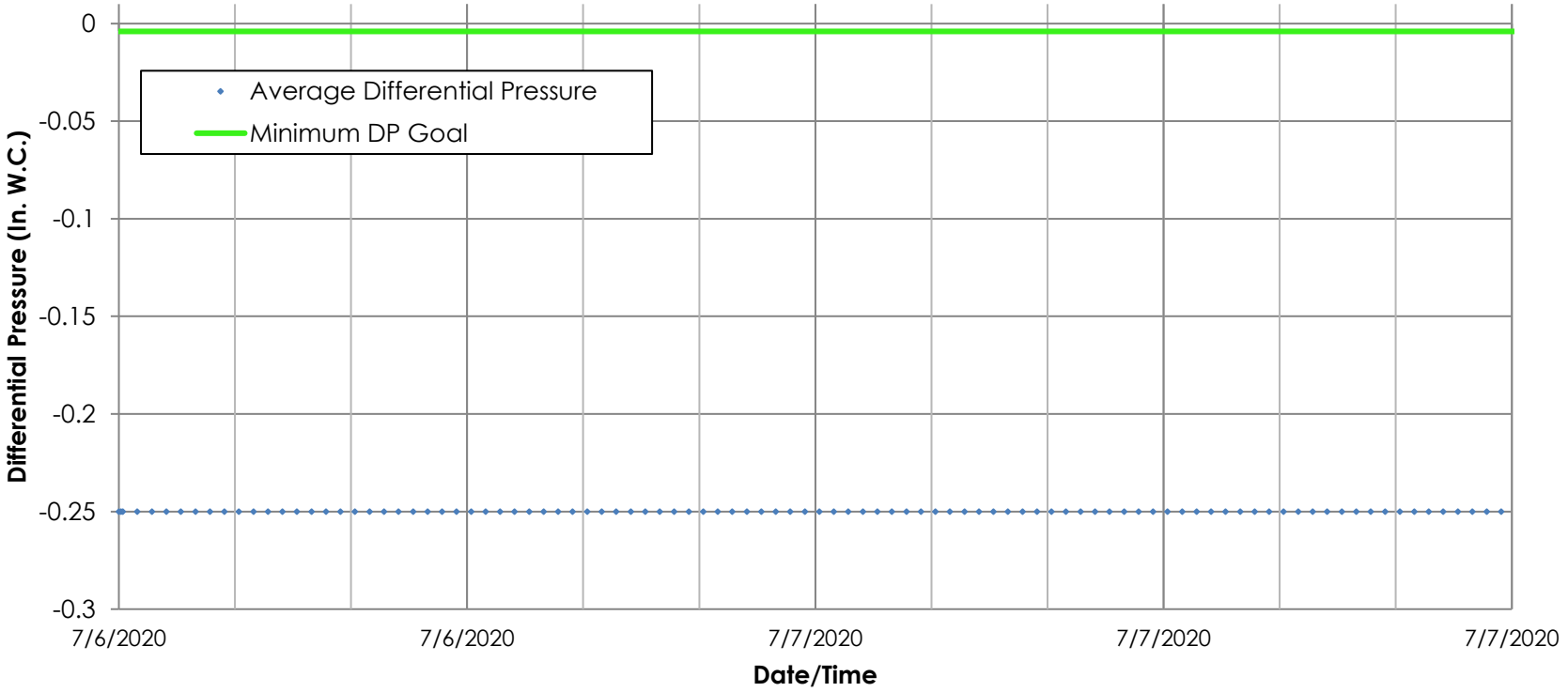
VACUUM MONITORING POINT VMP-6
DIFFERENTIAL PRESSURE DATA
JULY 13-14, 2020

TETRA TECH

FIGURE
A-17

VMP-6A



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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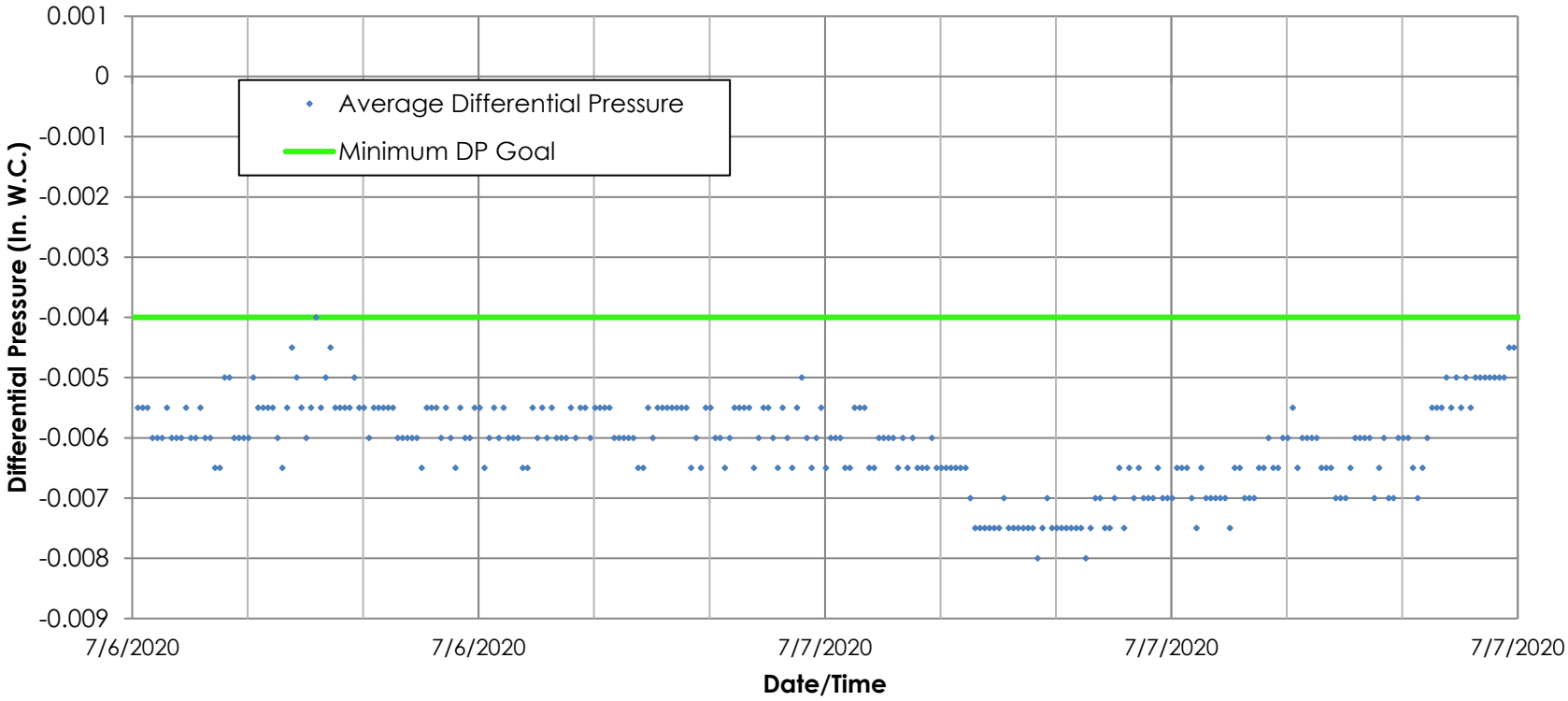
VACUUM MONITORING POINT VMP-6A
DIFFERENTIAL PRESSURE DATA
JULY 6-7, 2020

TETRA TECH

FIGURE
A-18

VMP-8C



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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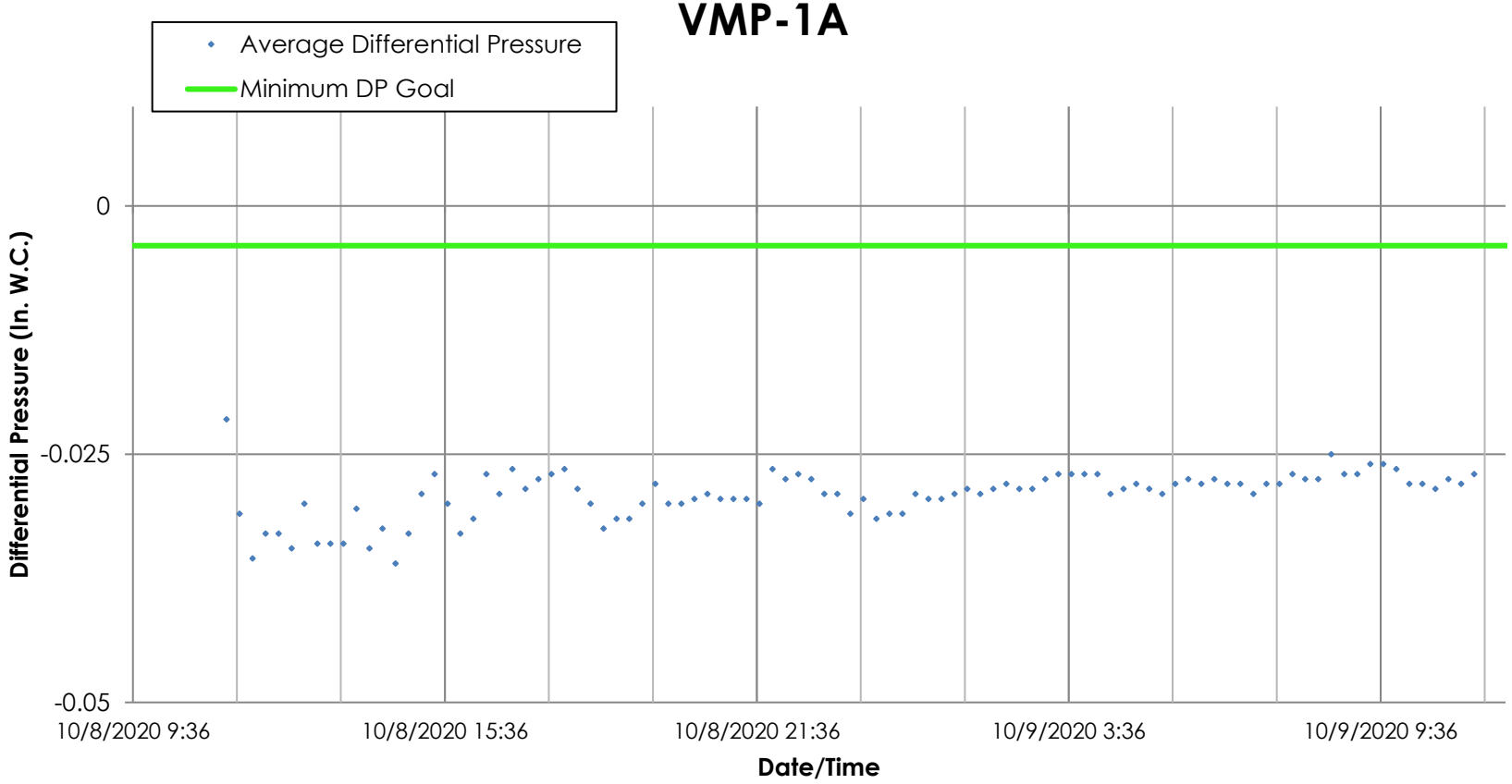
VACUUM MONITORING POINT VMP-8C
DIFFERENTIAL PRESSURE DATA
JULY 6-7, 2020

TETRA TECH

FIGURE
A-19



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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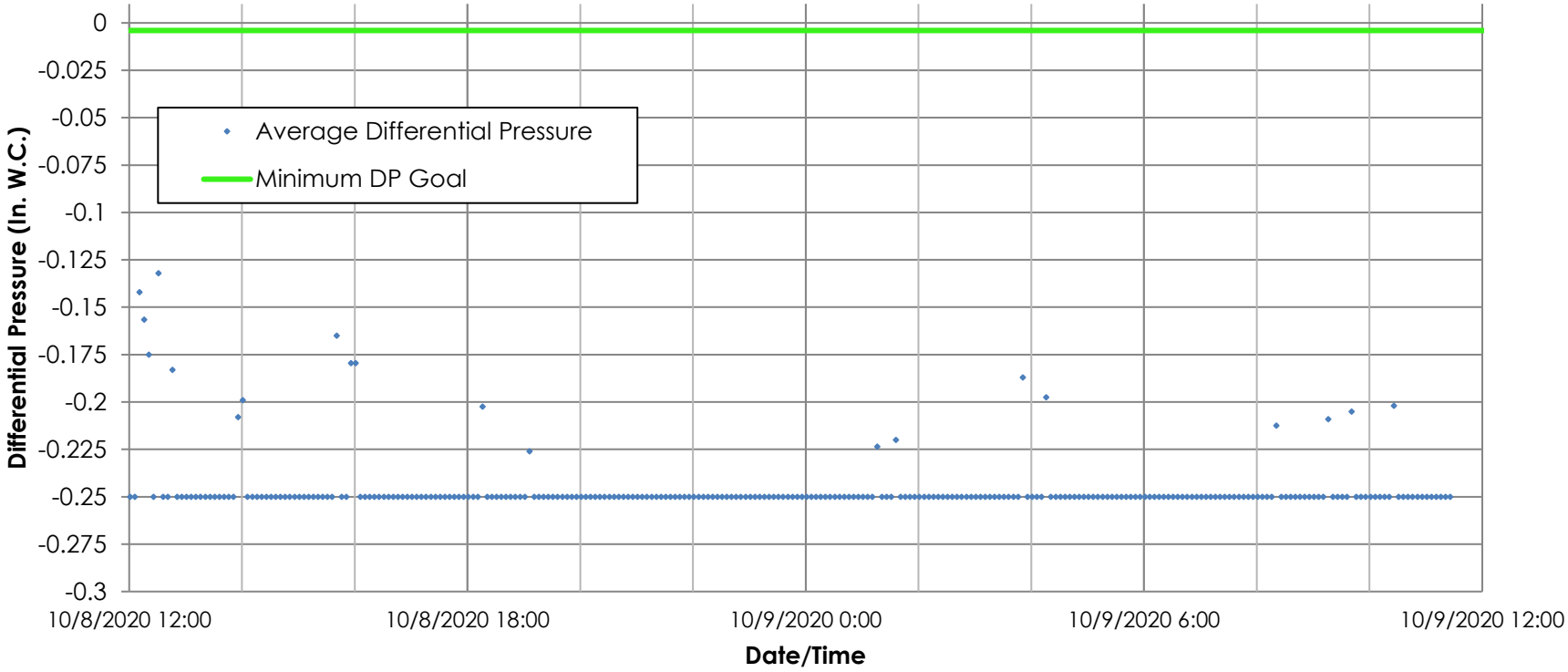
VACUUM MONITORING POINT VMP-1A
DIFFERENTIAL PRESSURE DATA
OCTOBER 8-9, 2020

TETRA TECH

FIGURE
A-20

VMP-1B



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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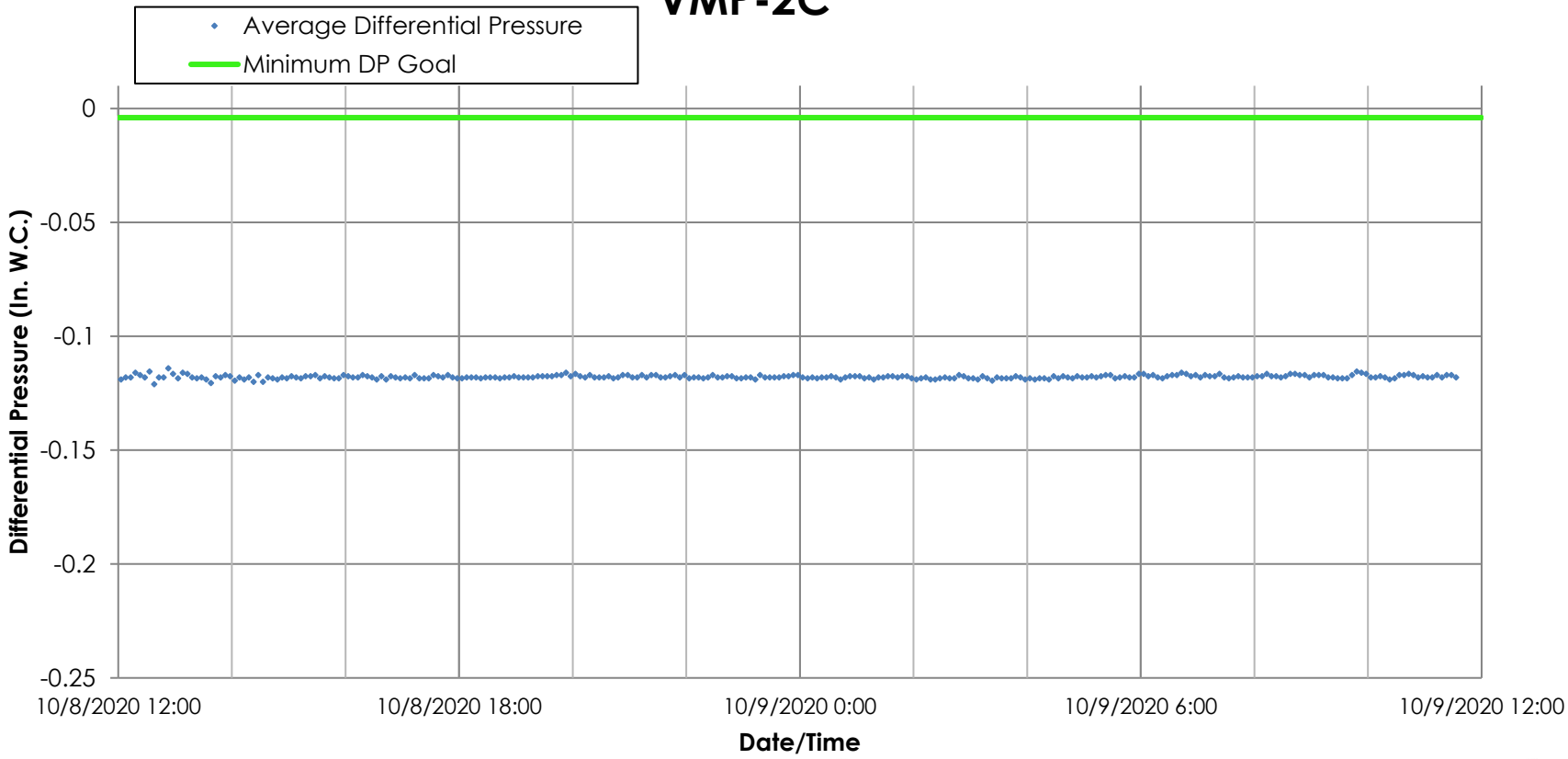
VACUUM MONITORING POINT VMP- 1B
DIFFERENTIAL PRESSURE DATA
OCTOBER 8-9, 2020

TETRA TECH

FIGURE
A-21



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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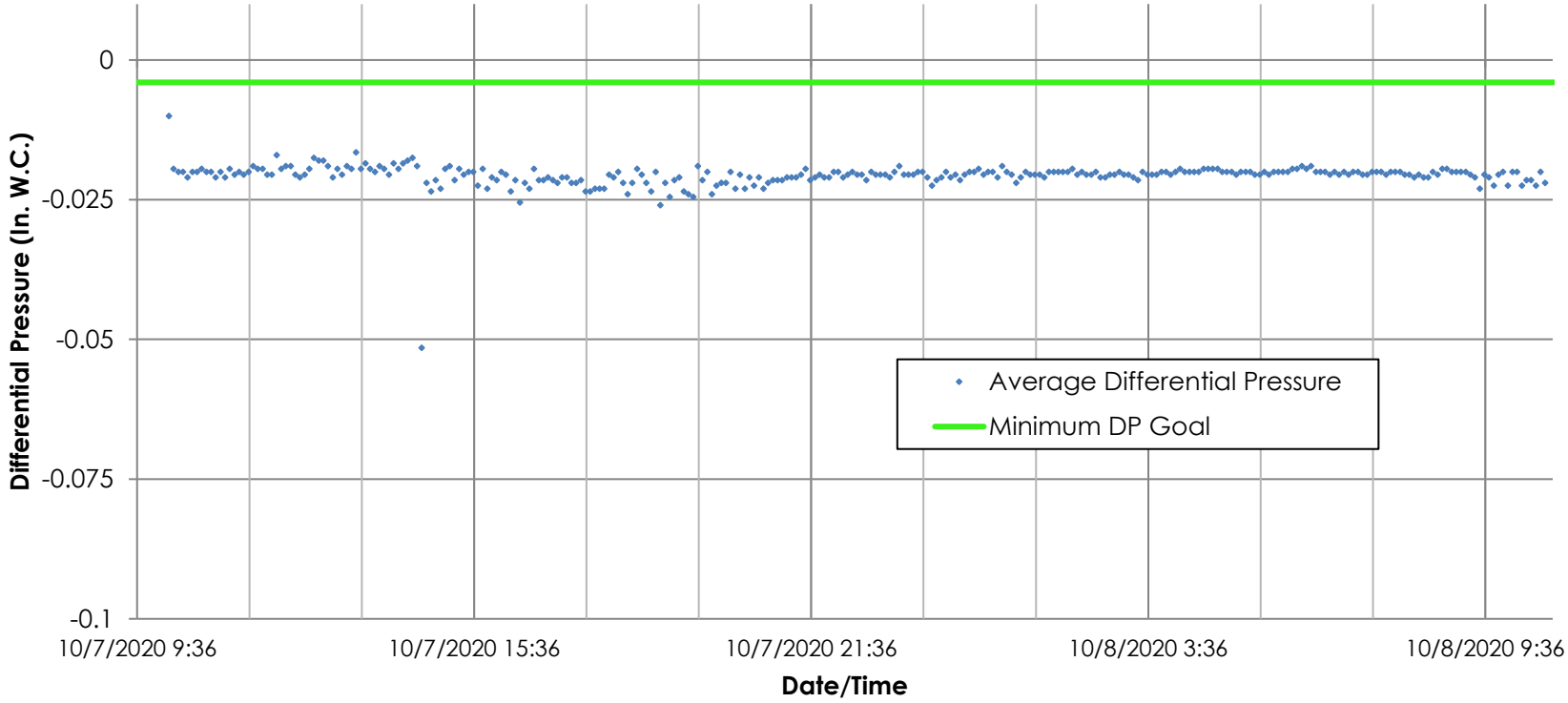
VACUUM MONITORING POINT VMP- 2C
DIFFERENTIAL PRESSURE DATA
OCTOBER 8-9, 2020

TETRA TECH

FIGURE
A-22

VMP-3E



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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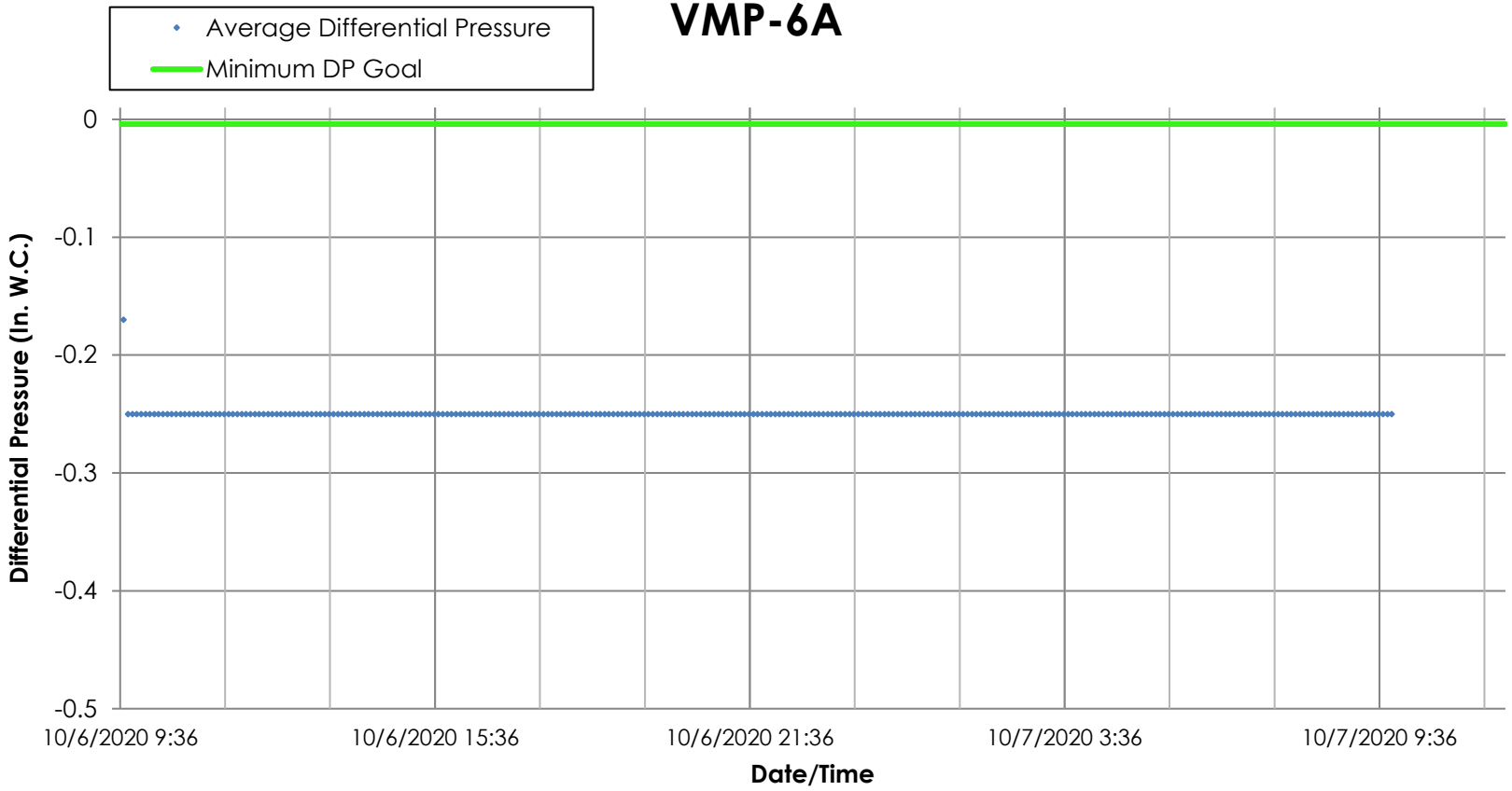
VACUUM MONITORING POINT VMP-3E
DIFFERENTIAL PRESSURE DATA
OCTOBER 7-8, 2020

TETRA TECH

FIGURE
A-23



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1. in. W.C. = Inches of water column
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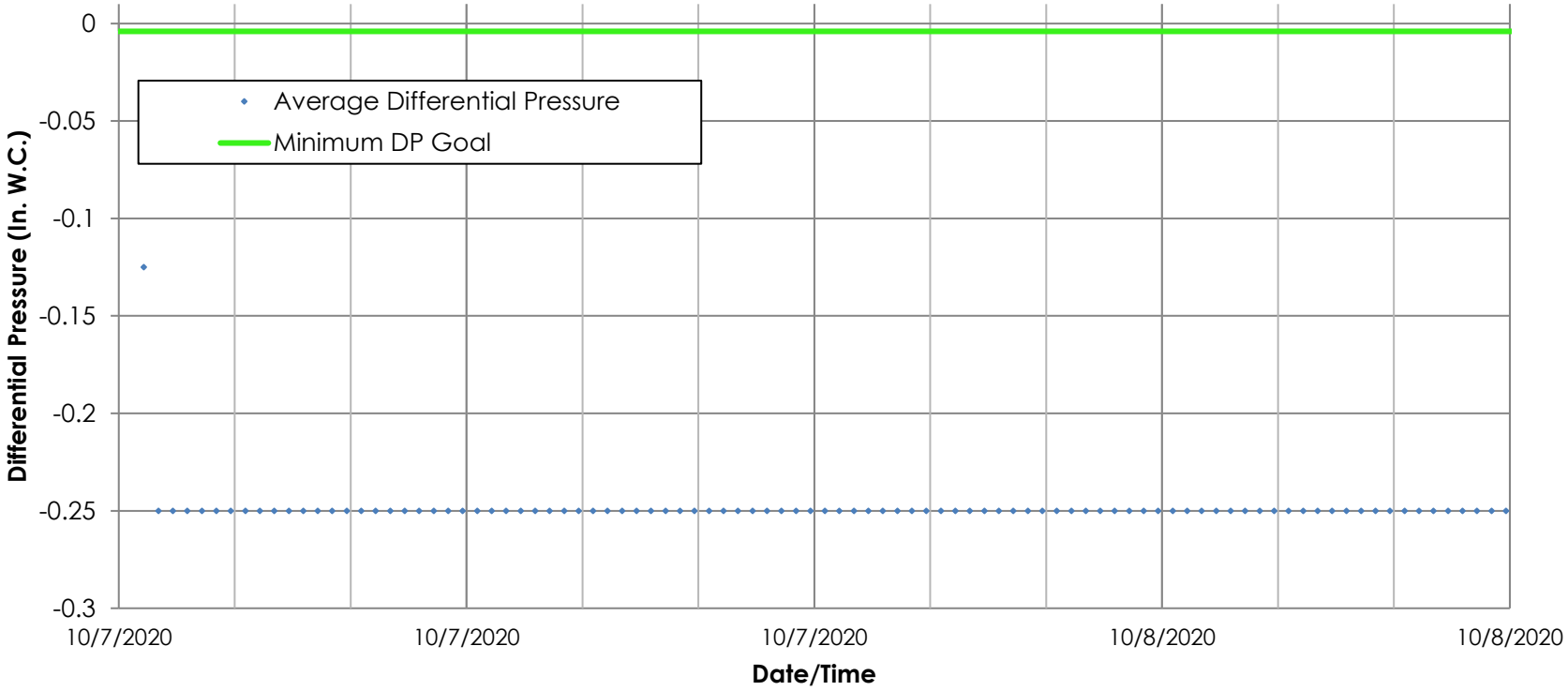
VACUUM MONITORING POINT VMP-6A
DIFFERENTIAL PRESSURE DATA
OCTOBER 6-7, 2020

TETRA TECH

FIGURE
A-24

VMP-7



Note:
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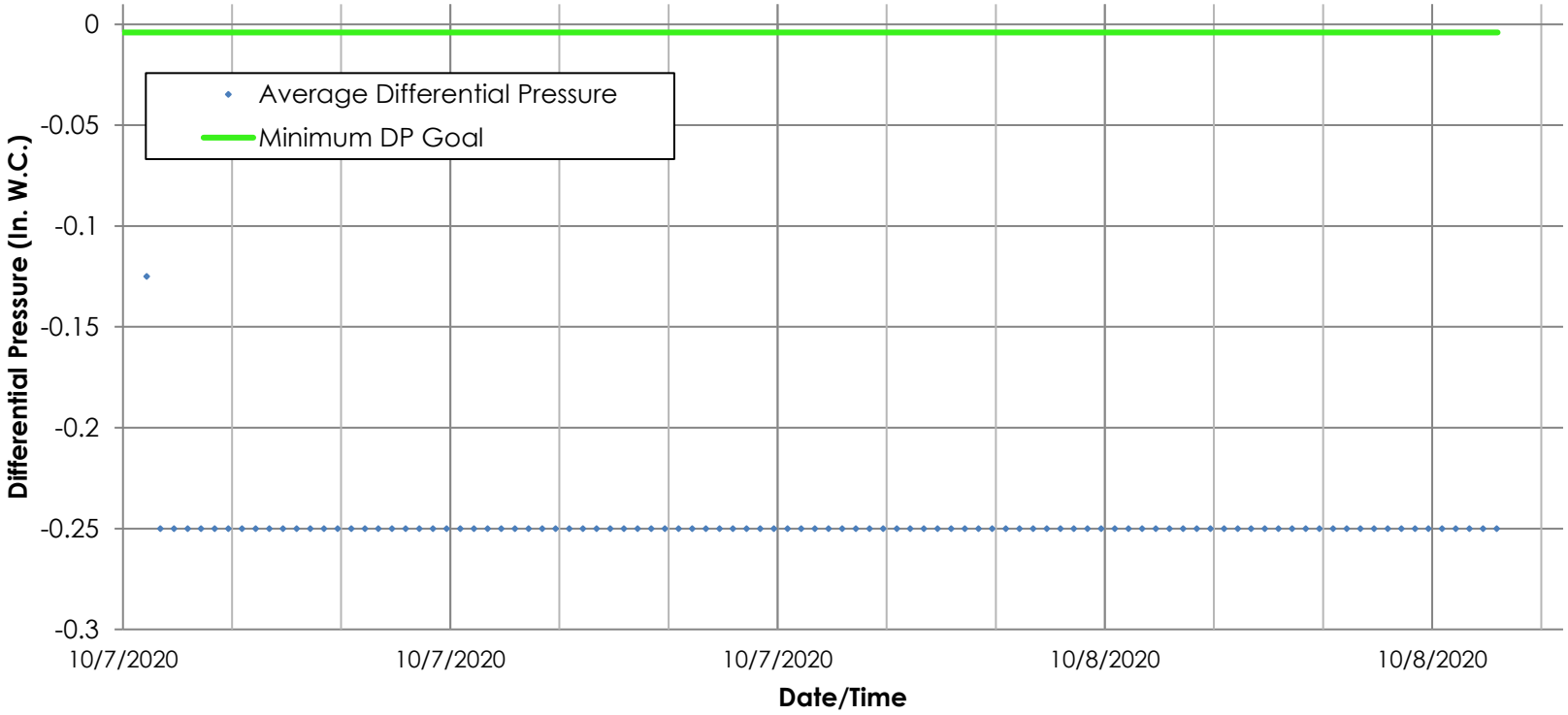
VACUUM MONITORING POINT VMP-7
DIFFERENTIAL PRESSURE DATA
OCTOBER 7-8, 2020

TETRA TECH

FIGURE
A-25

VMP-7A



Note:
1. in. W.C. = Inches of water column
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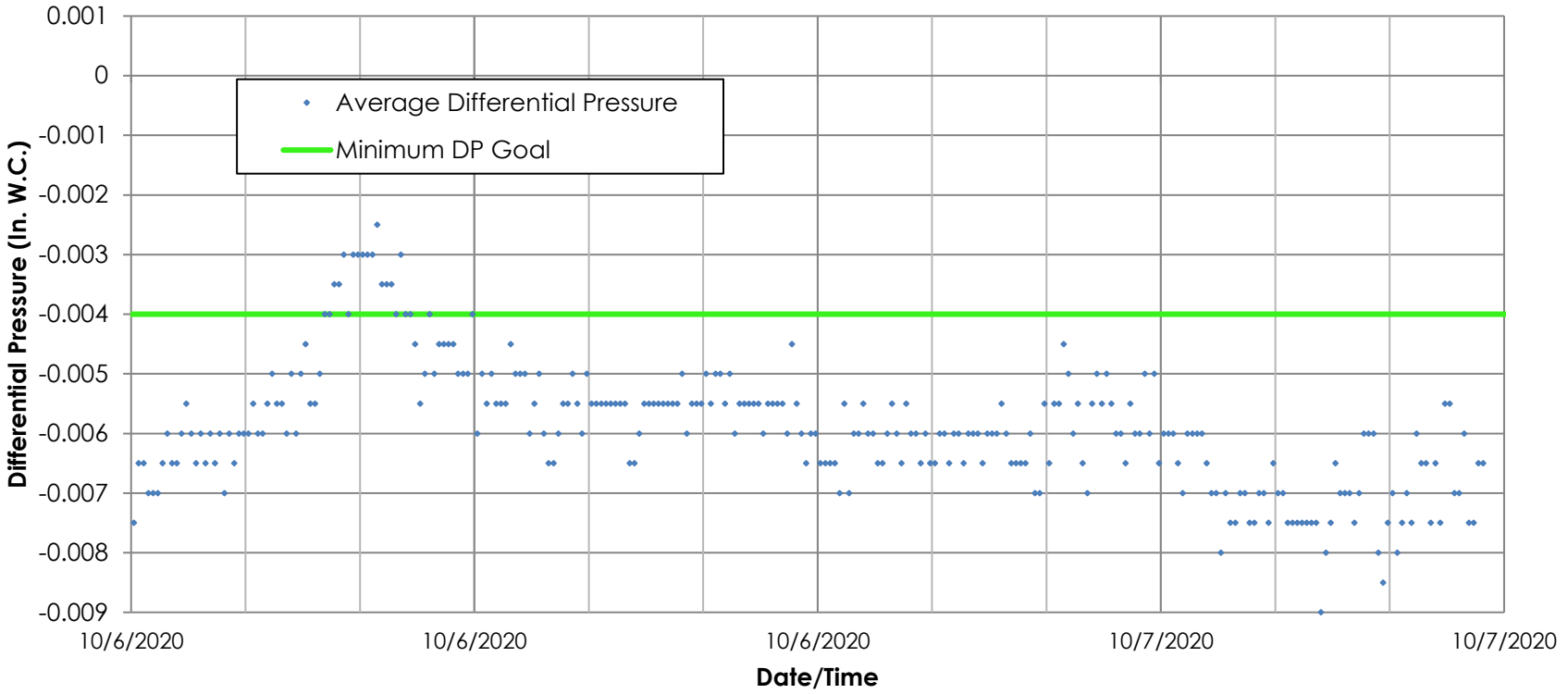
VACUUM MONITORING POINT VMP-7A
DIFFERENTIAL PRESSURE DATA
OCTOBER 7-8, 2020

TETRA TECH

FIGURE
A-26

VMP-8C



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

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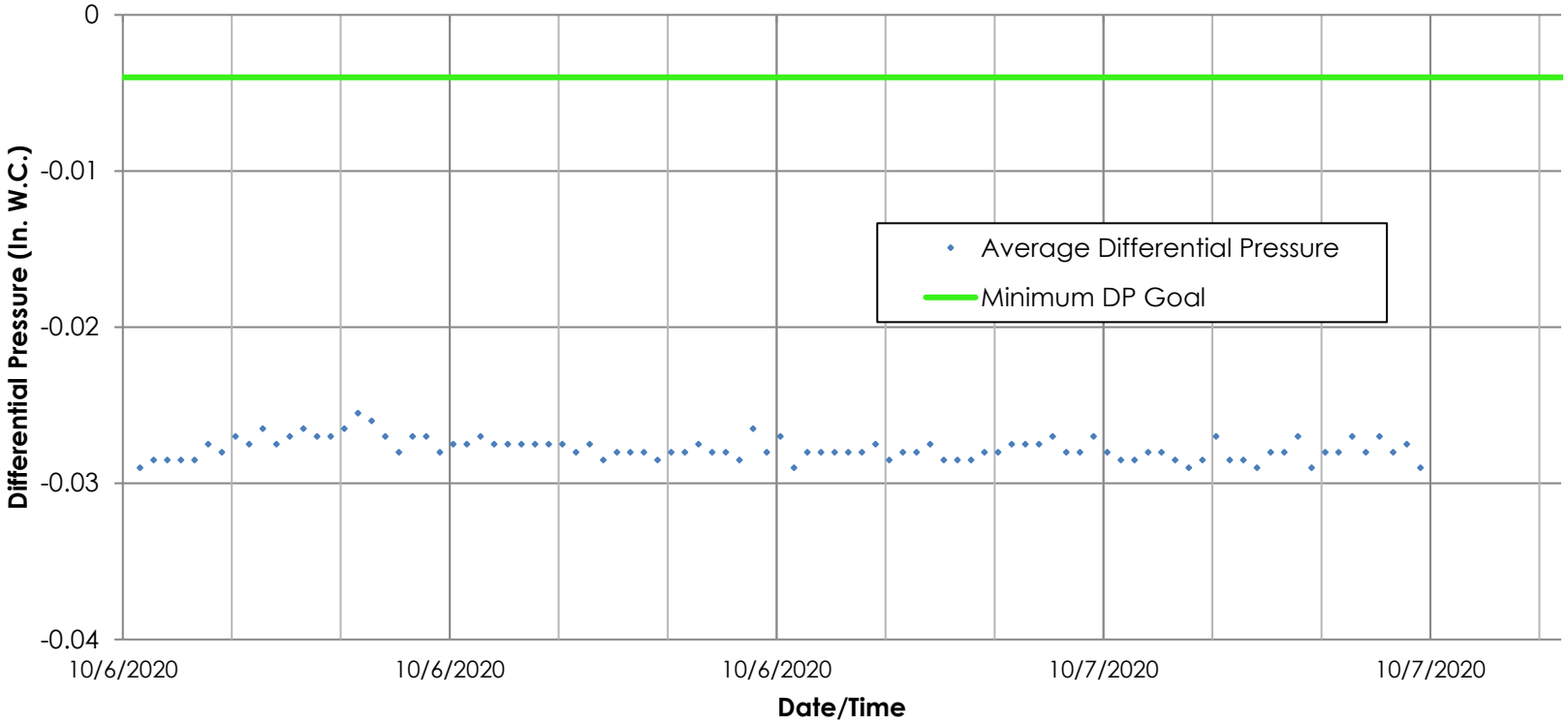
VACUUM MONITORING POINT VMP-8C
DIFFERENTIAL PRESSURE DATA
OCTOBER 6-7, 2020

TETRA TECH

FIGURE
A-27

VMP-8D



Note:
1. in. W.C. = Inches of water column
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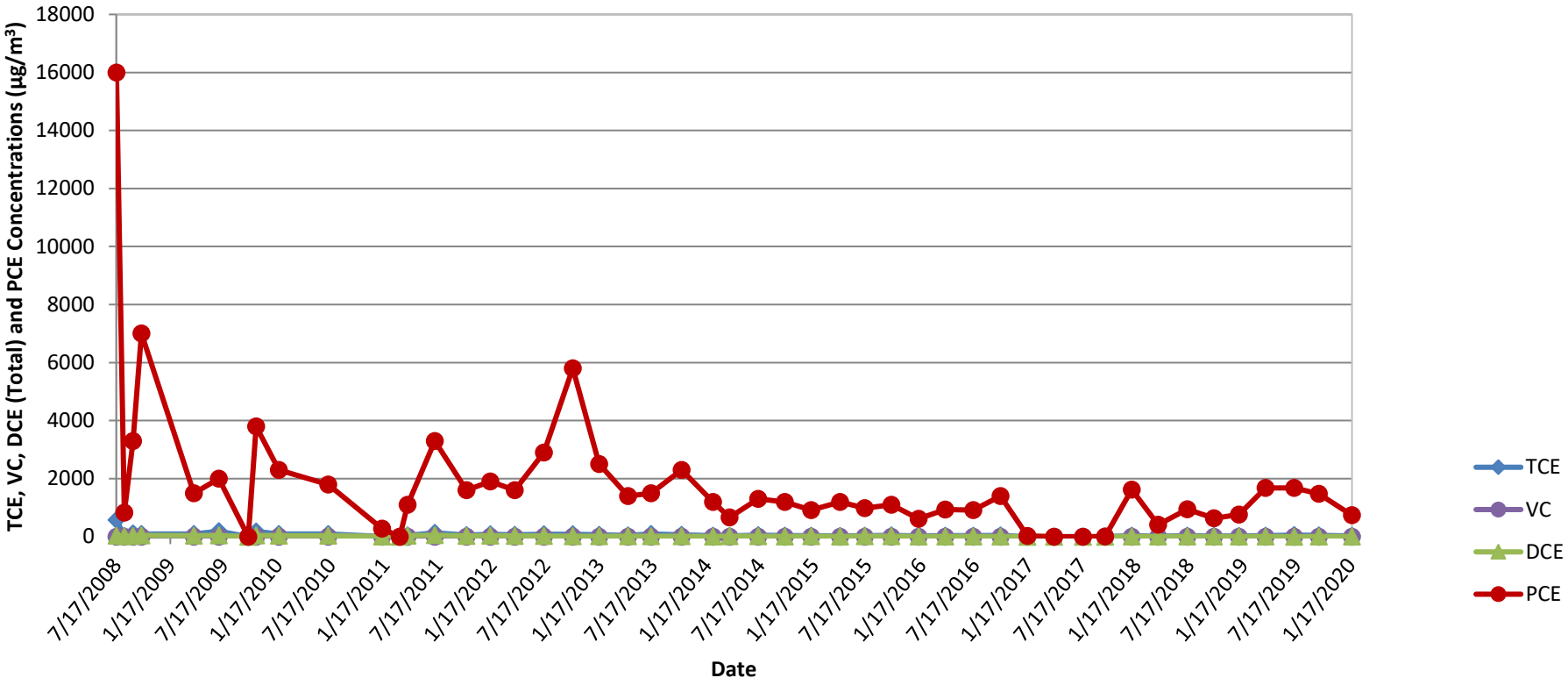
VACUUM MONITORING POINT VMP-8D
DIFFERENTIAL PRESSURE DATA
OCTOBER 6-7, 2020

TETRA TECH

FIGURE
A-28

SDS-1



Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

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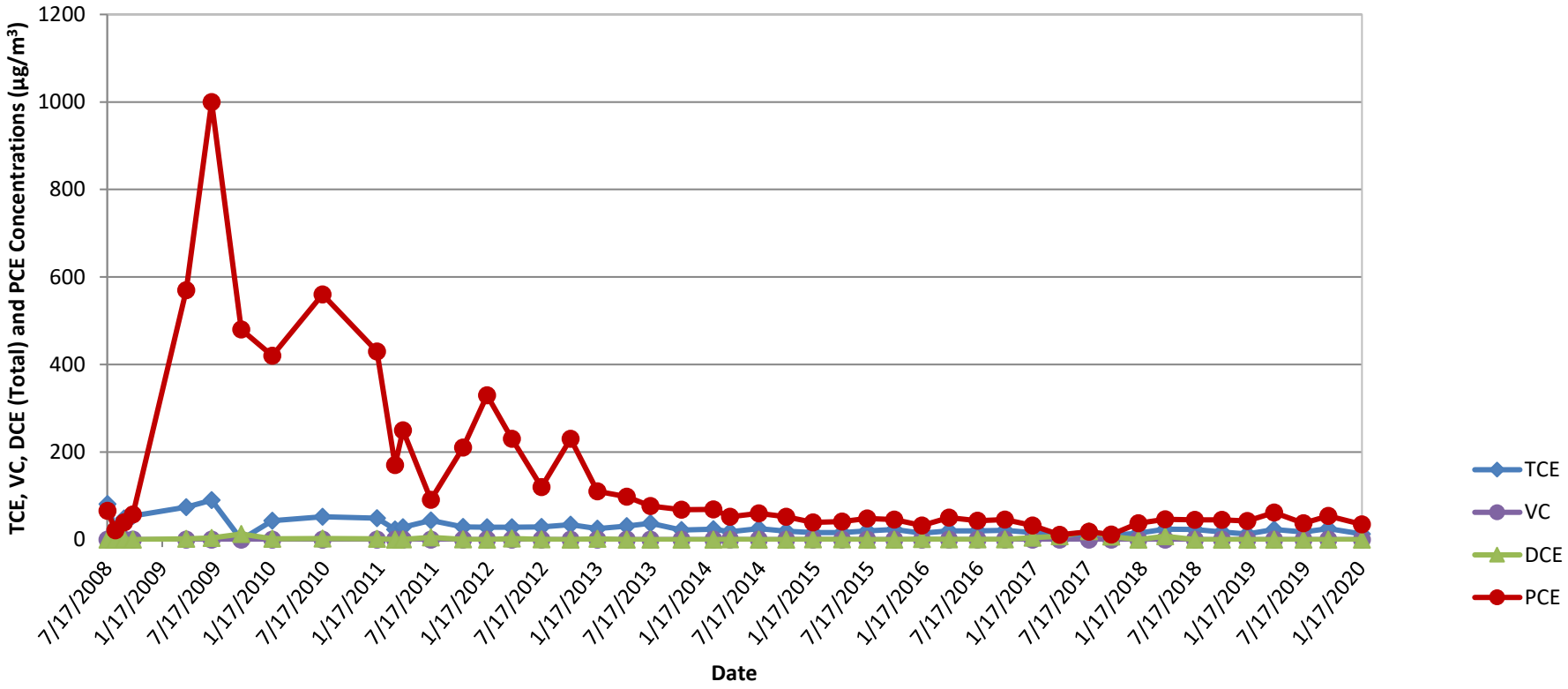
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

SDS-1 SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE
A-29

SDS-2



Notes:
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DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

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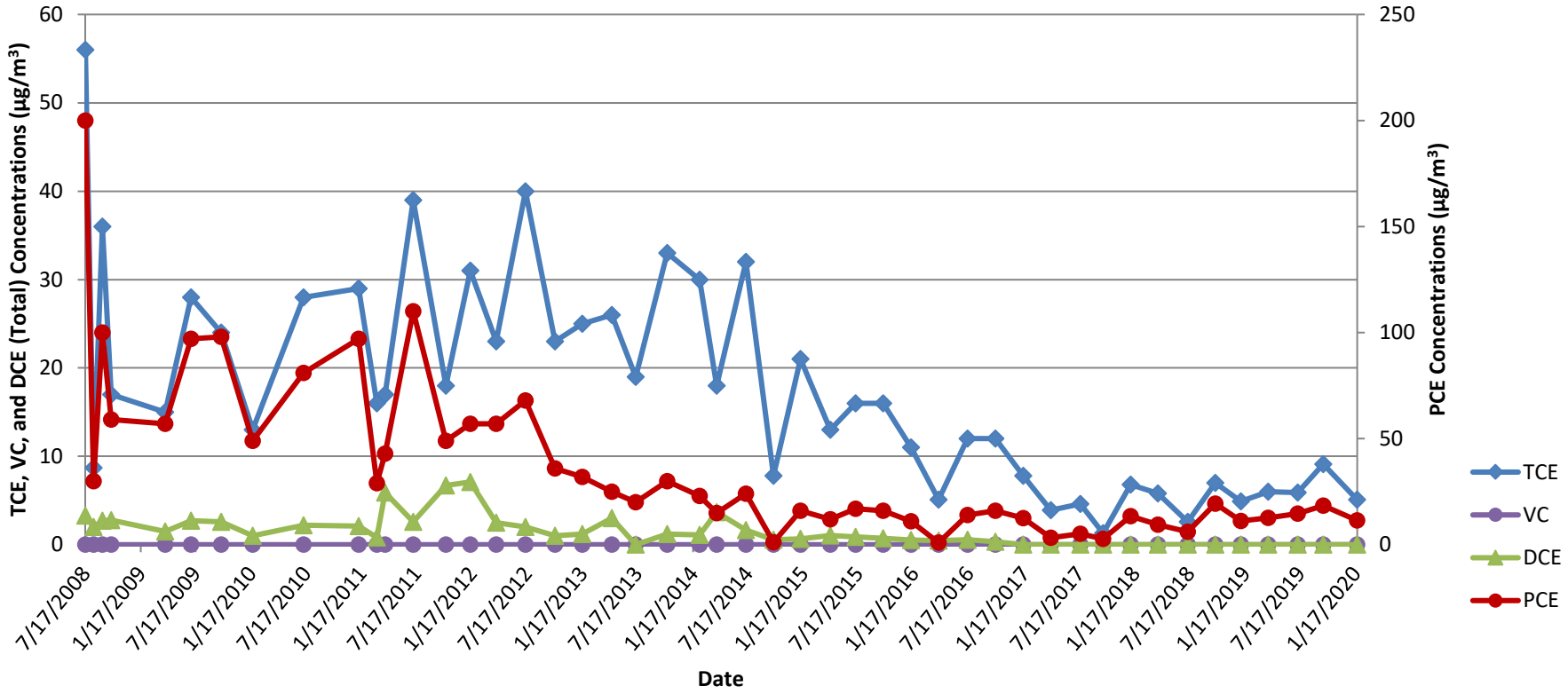
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

SDS-2 SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE
A-30

SDS-3



2020 ANNUAL SITE MANAGEMENT REPORT
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FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

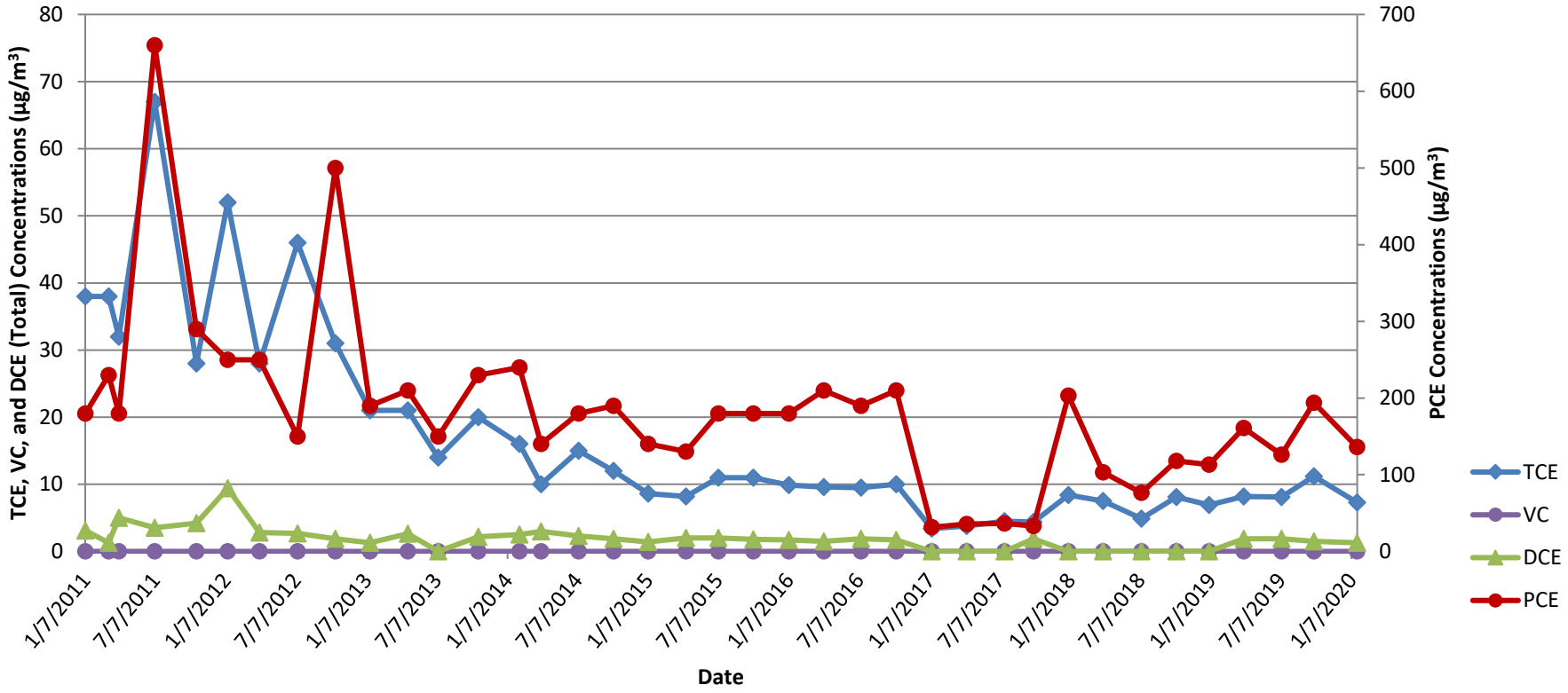
SDS-3 SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE
A-31

Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

SDS-4



Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

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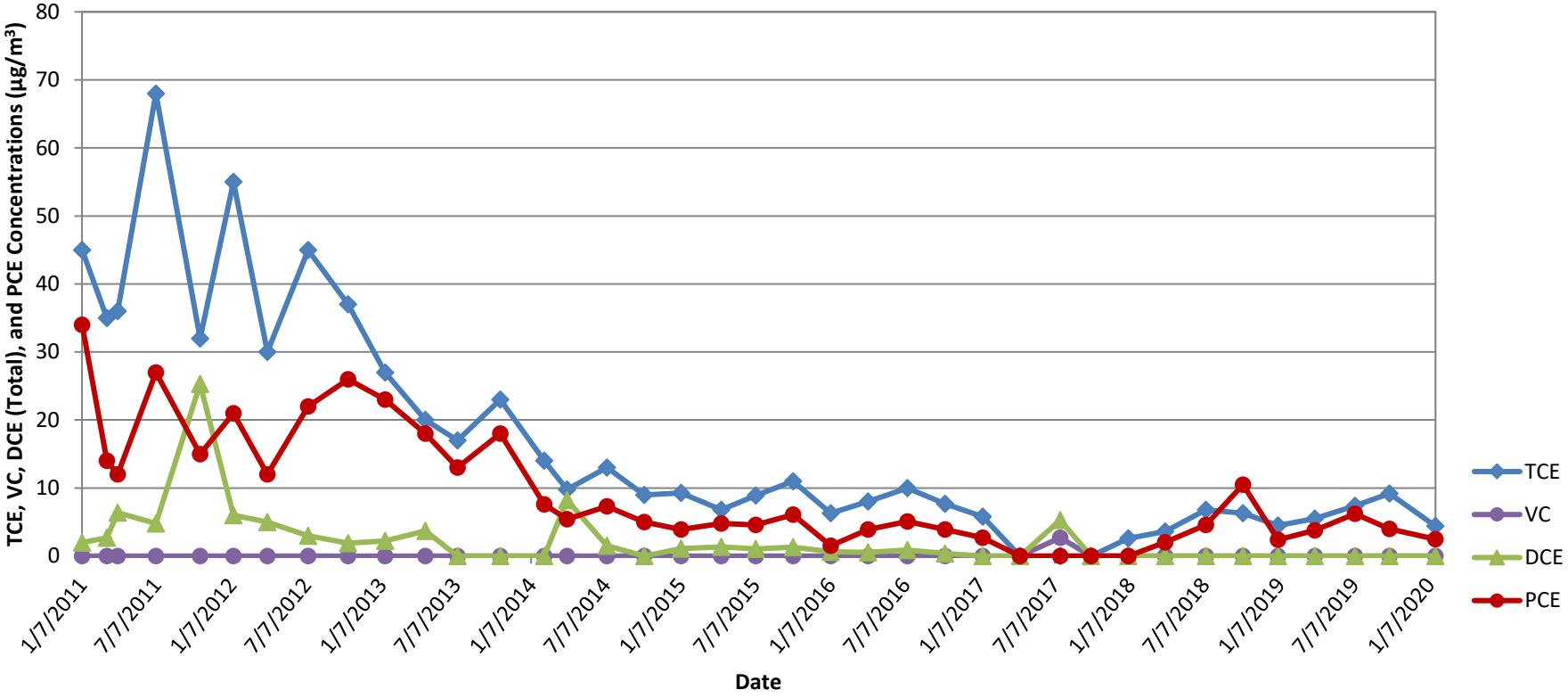
SDS-4 SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE
A-32

SDS-5



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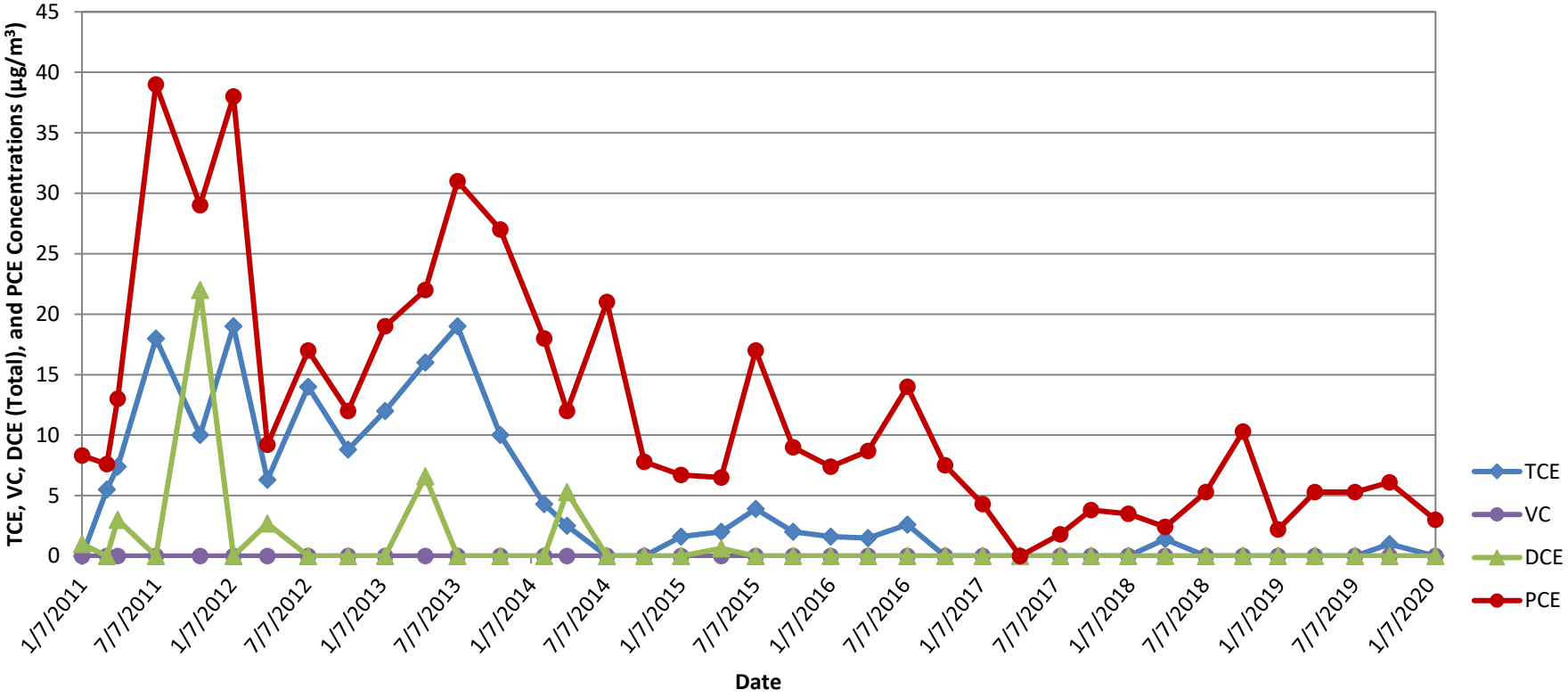
SDS-5 SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE
A-33

Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

SDS-6



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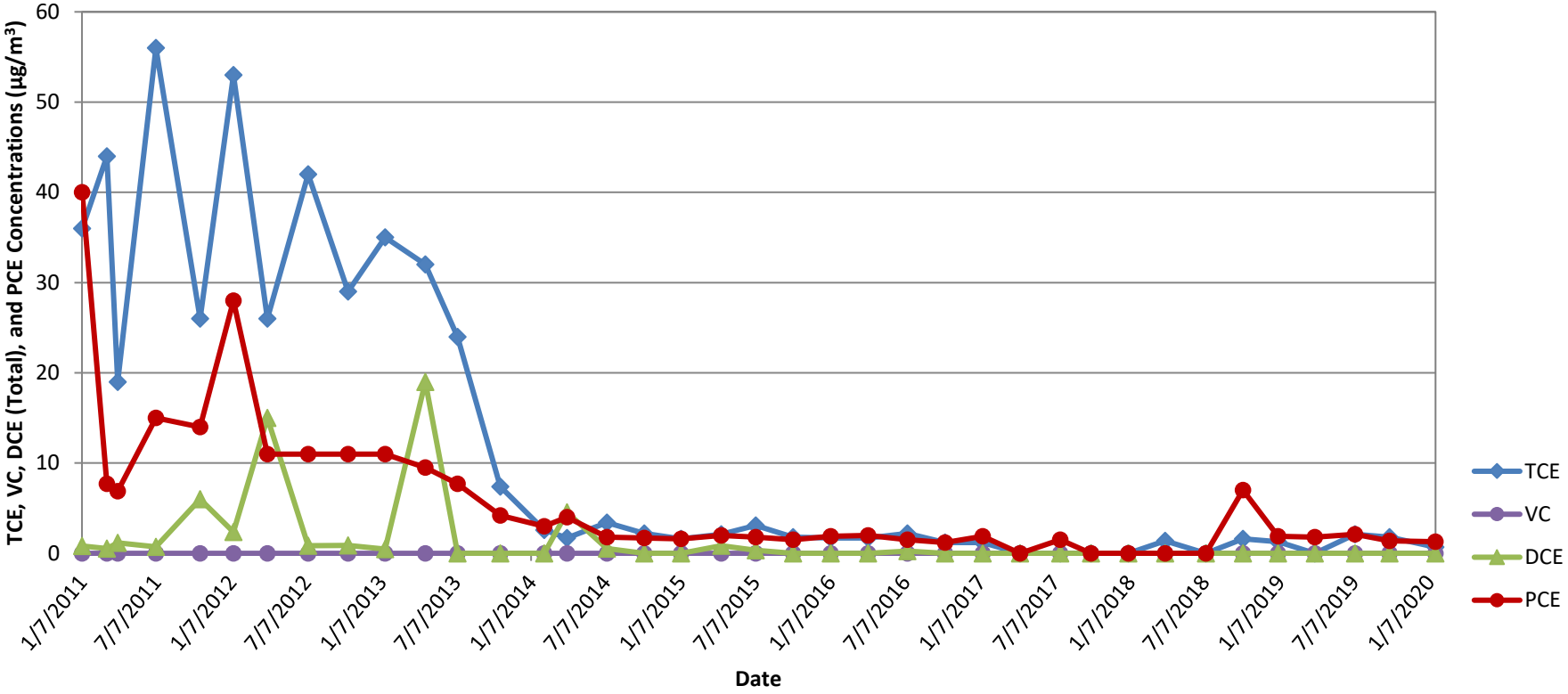
SDS-6 SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME	
TETRA TECH	FIGURE **A-34**

Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

SDS-7



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FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

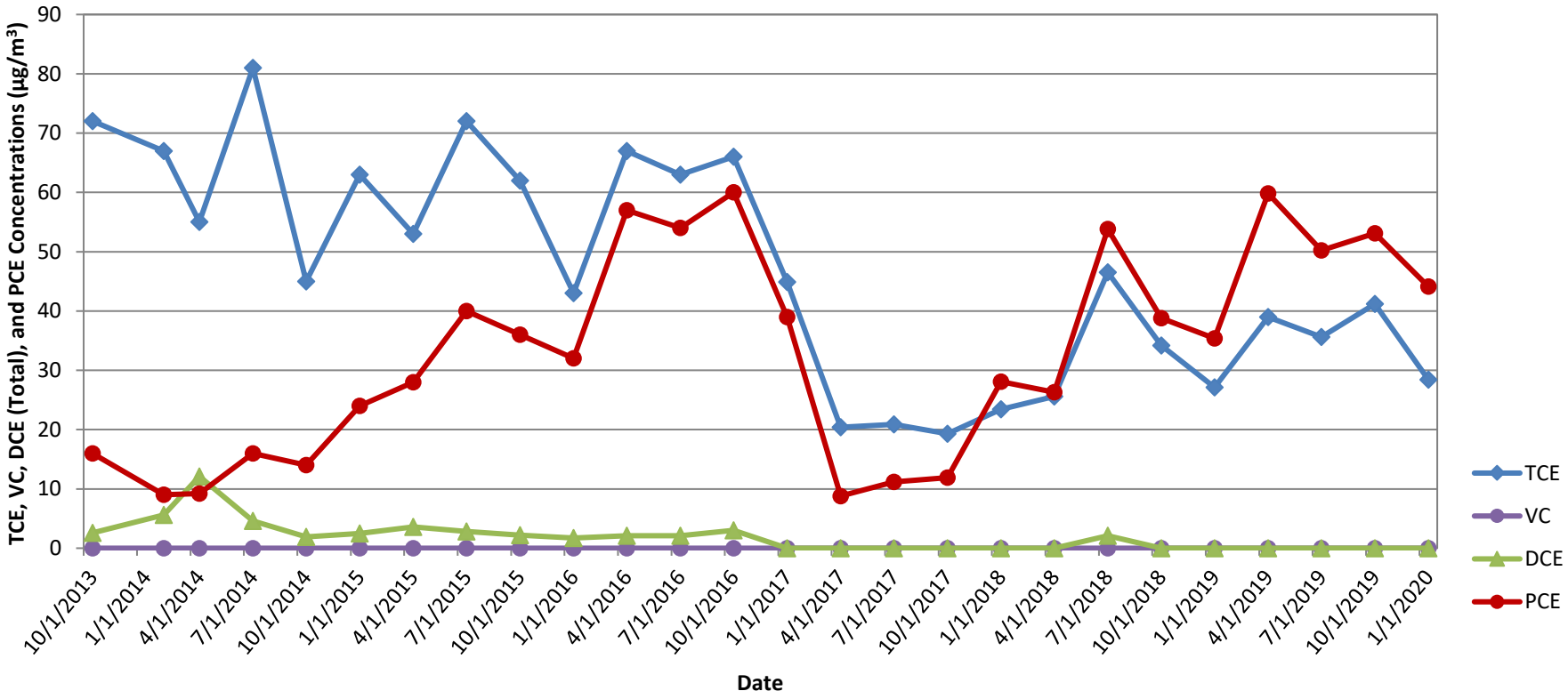
SDS-7 SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE A-35

Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

SDS-8



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FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

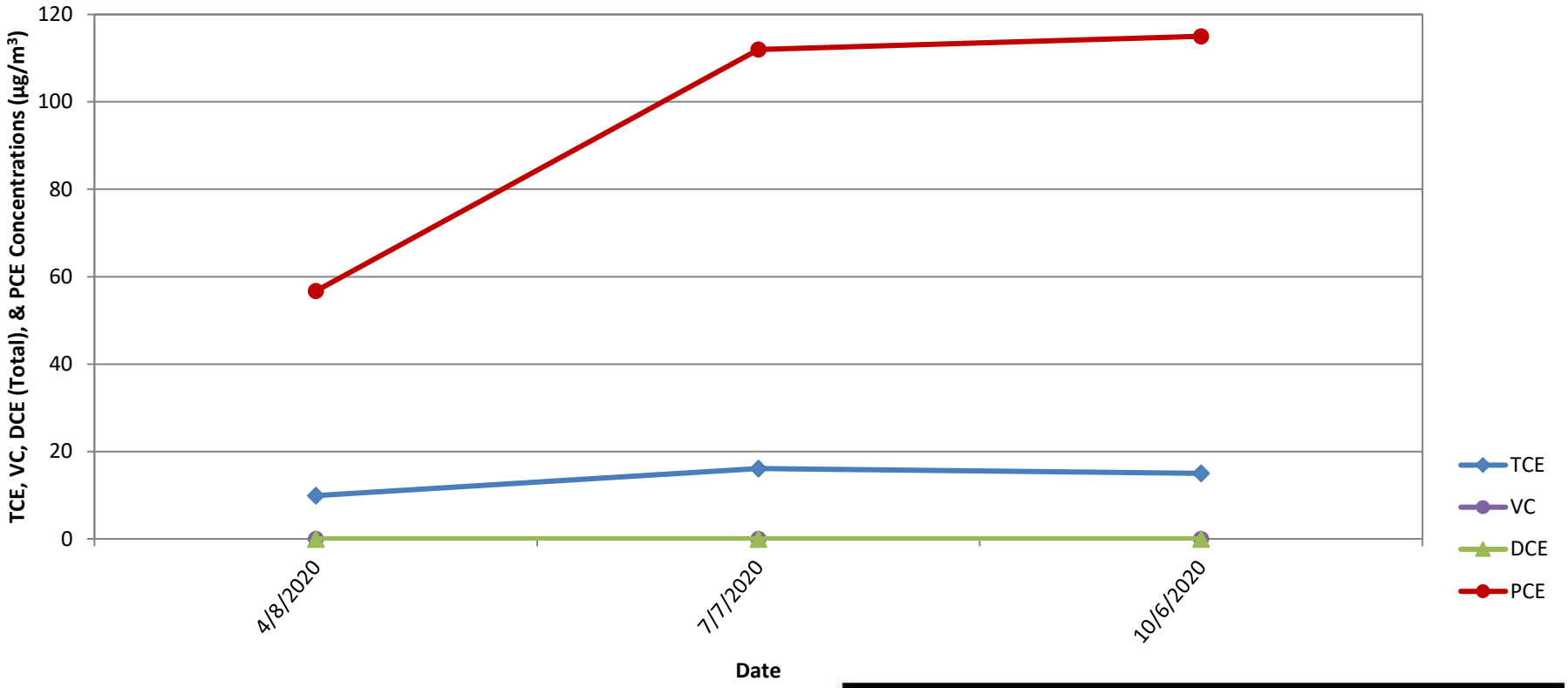
SDS-8 SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE
A-36

Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

PRE-CARBON



2020 SITE MANAGEMENT REPORT
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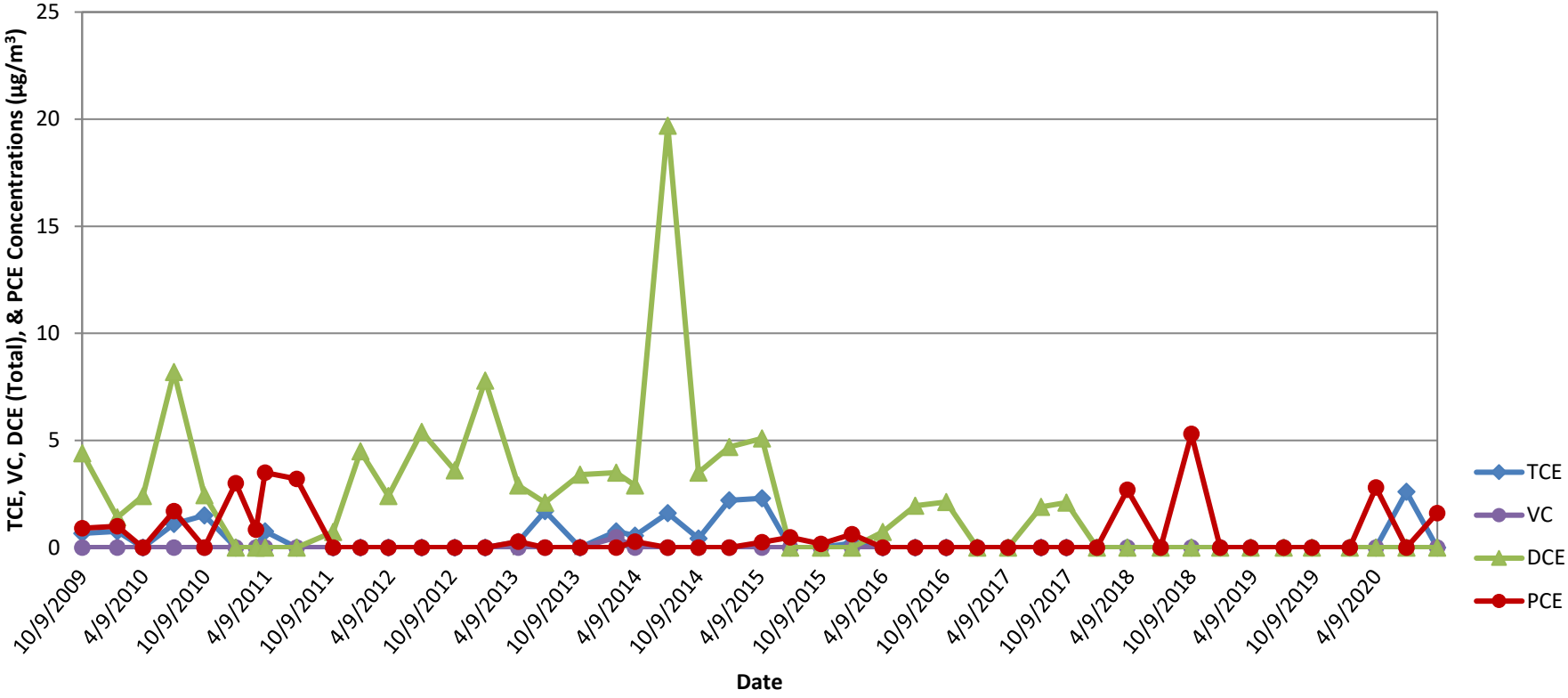
PRE-CARBON SELECTED ANALYTE CONCENTRATION VS. TIME

TETRA TECH

FIGURE
A-37

Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

MID-CARBON



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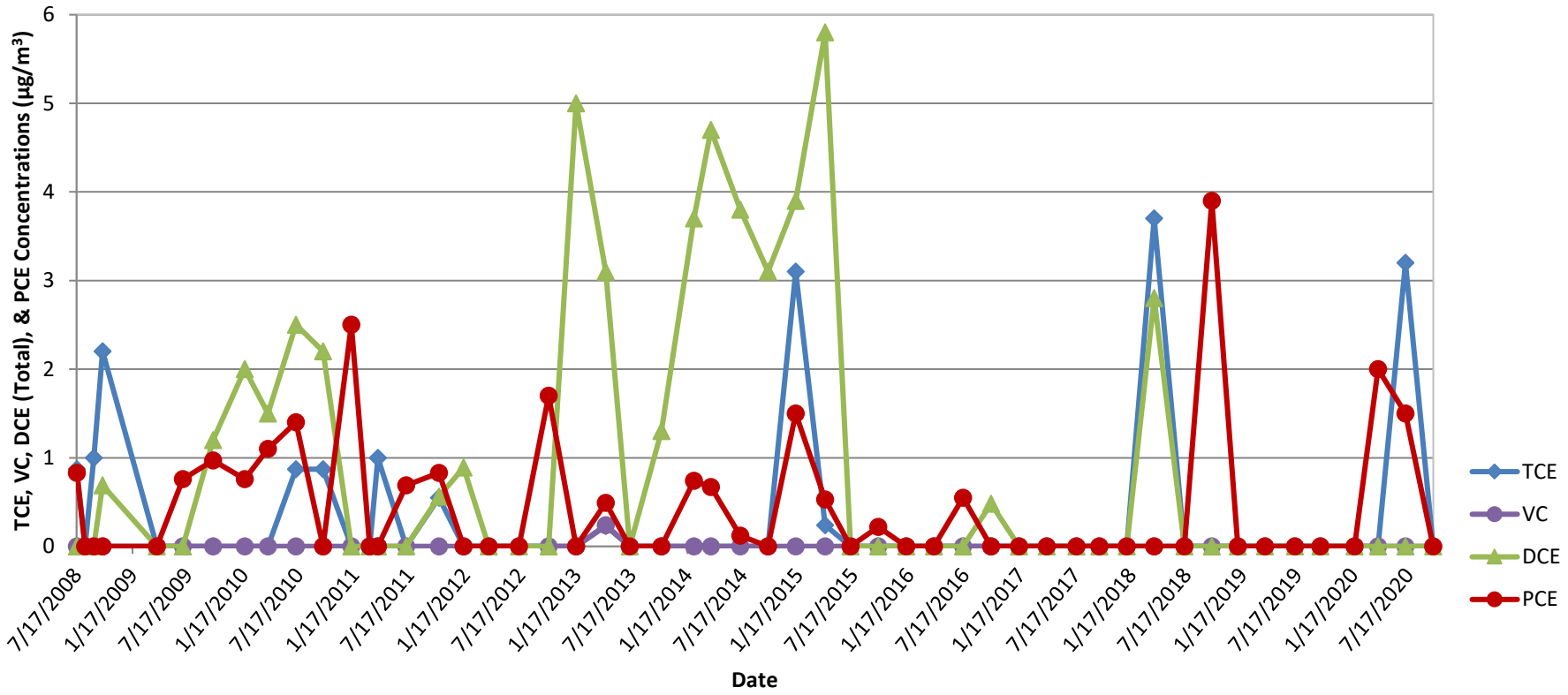
MID-CARBON SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE
A-38

Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

CARBON EFFLUENT



Notes:
TCE = Trichloroethene
VC = Vinyl Chloride
DCE (Total) = 1,1-dichloroethene, cis-1,2-dichloroethene, and trans-1,2-dichloroethene
PCE = Tetrachloroethylene

2020 SITE MANAGEMENT REPORT
APPENDIX A: Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Performance Report
FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

CARBON EFFLUENT SELECTED ANALYTE CONCENTRATION RESULTS VS. TIME

TETRA TECH

FIGURE
A-39

APPENDICES

Appendix A-1
Completed OM&M Log Sheets

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 1/21/20 Time: 10:00 am

Technician: S. McCarthy and S. Schultz

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL"): (●) Auto ( ) Manual

Alarms? (list): None.

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	80	(in. W.C.)
Post-Blower Temperature	TI-201	182	(°F)	TT-201	194	(°F)
Post-Heat Exchanger Temperature	TI-301	86	(°F)	TT-301	97.4	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.28	(in. W.C.)	FT-301	89	(cfm)
Post-Blower Pressure	PI-201	2	(in. W.C.)	PT-201	4.6	(in. W.C)
Post-Filter Applied Vacuum	VI-202	92	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	2	(in. W.C.)			
Post-VPGAC Pressure	PI-302	2	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 10

Ambient Indoor Temperature (°F): 32

Barometric Pressure (in Hg): 29.5

Barometric Pressure Trend: ( ) Rising (●) Falling ( ) Other

ADDITIONAL DATA

VFD Frequency (Hz)	50.0
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1103 (fpm)
	94.86 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	658983
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	No water in system.

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	17 inches
East?	0 inches
Other notes	

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Panel Indicator Lights	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	◉ Yes ○ No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	◉ Yes ○ No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	◉ Yes ○ No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 1/20/2020 Time: 9:00

Technician: S. McCarthy and S. Schultz

VAPOR SAMPLING LOCATIONS

SDS-1 PID Tag: *SP-101* Time: 2:15

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
2239	20	7

SDS-2 PID Tag: *SP-102* Time: 2:17

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
3283	20	7

SDS-3 PID Tag: *SP-103* Time: 2:11

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
1135	18	7

SDS-4 PID Tag: *SP-104* Time: 2:13

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
1030	18	7

SDS-5 PID Tag:*SP-105* Time 1:59

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
2854	20	7

SDS-6 PID Tag:*SP-106* Time 2:02

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
2004	20	7

SDS-7 PID Tag:*SP-107* Time 2:05

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
2212	25	7

SDS-8 PID Tag:*SP-108* Time 2:06

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
3033	18	7

Mid-Carbon PID Tag:*SP-302* Time 2:31

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
2911	21	7

Effluent (Post-Carbon) PID Tag:*SP-303* Time 2:34

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
2781	20	7

Definitions: NR= Not Recorded
SP = Sample Port
PID = Piping and Instrumentation Design
in. Hg. - inches of mercury
SDS = Sub-Slab Depressurization Sump
VOCs = Volatile Organic Compounds
VMP = Vacuum Monitoring Point

24 HOUR CONTINUOUS SUBSLAB MONITORING SCHEDULE

VMP Location	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
VMP-1A	X	X	X	X
VMP-1B				X
VMP-1C			X	
VMP-2A	X			
VMP-2B		X		
VMP-2C				X
VMP-3A	X	X		
VMP-3B		X		
VMP-3C			X	
VMP-3D			X	
VMP-3E	X	X	X	X
VMP-4	X			
VMP-5			X	
VMP-5A	X			
VMP-5B		X		
VMP-6			X	
VMP-6A				X
VMP-6B		X		
VMP-7				X
VMP-7A	X			X
VMP-7B		X		
VMP-8A	X			
VMP-8B		X		
VMP-8C	X	X	X	X
VMP-8D				X

VACUUM MONITORING POINTS -- DIFFERENTIAL PRESSURE (in. W.C.)

VMP-1A	VMP-1B	VMP-1C
0.003	0.246	0.109
VMP-2A	VMP-2B	VMP-2C
0.059	0.118	0.105
VMP-3A	VMP-3B	VMP-3C
0.071	0.009	0.025
VMP-3D	VMP-3E	VMP-4
0.019	0.007	0.027
VMP-5	VMP-5A	VMP-5B
0.645	0.069	0.027
VMP-6	VMP-6A	VMP-6B
0.186	0.825	0.285
VMP-7	VMP-7A	VMP-7B
0.715	5.1	0.137
VMP-8A	VMP-8B	VMP-8C
2.86	16	0.004
VMP-8D		
0.017		

Definitions: NR= Not Recorded
SP = Sample Port
PID = Piping and Instrumentation Design
in. Hg. - inches of mercury
SDS = Sub-Slab Depressurization Sump
VOCs = Volatile Organic Compouds
VMP = Vacuum Monitoring Point

SUB-SLAB DEPRESSURIZATION SUMPS

SDS-1 Orifice Plate Differential Pressure Typical Range = 0.03-0.07

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
78	0.020	7

SDS-2 Orifice Plate Differential Pressure Typical Range = 0.02-0.09

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
0.664	0.04	1

SDS-3 Orifice Plate Differential Pressure Typical Range = 0.2-1.1

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
3.5	0.8	1

SDS-4 Orifice Plate Differential Pressure Typical Range = 0.80-2.3

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
1.91	2.5	1

SDS-5 Orifice Plate Differential Pressure Typical Range = 0.08-0.30

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
78	0.22	5

SDS-6 Orifice Plate Differential Pressure Typical Range = 0.02-0.08

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
78	0.01	4

SDS-7 Orifice Plate Differential Pressure Typical Range = 0.02-0.04

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
79	0.01	7

SDS-8

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
76	1.0	7

CRITICAL DEVICE/ALARM TESTING

Test the following critical alarms (note that the system must be in AUTO to observe proper alarm response)

Vacuum Transmitter

Corresponding Transmitter/Sensor: *VT-201*

PLC Alarm Name: *VA_201*

Alarm Type: (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused alarm and shutdown.

Flow Transmitter

Corresponding Transmitter/Sensor: *FT-301*

PLC Alarm Name: *FA_301*

Alarm Type: ( ) Fatal (●) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused alarm, no shutdown.

Pressure Transmitter

Corresponding Transmitter/Sensor: *PT-201*

PLC Alarm Name: *PA_201*

Alarm Type: (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused fatal alarm and shutdown.

Temperature Transmitter

Corresponding Transmitter/Sensor: *VT-201*

PLC Alarm Name: *TA_201*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Changed set point. Triggered alarm and caused shutdown.

Temperature Transmitter

Corresponding Transmitter/Sensor: *TT-301*

PLC Alarm Name: *TA_301*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Changed set point. Triggered alarm and caused shutdown.

Air Water Separator High Level Switch

Corresponding Transmitter/Sensor: *LSH-201*

PLC Alarm Name: *AWS_HI*

Alarm Type ○ Fatal ◉ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed ◉ Yes ○ No

Notes: Filled tank with water to trigger alarm.

Air Water Separator High-High Level Switch

Corresponding Transmitter/Sensor: *LSHH-201*

PLC Alarm Name: *AWS_HH*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Continued to fill tank with water until alarm and shutdown.

Wet Floor Sensor

Corresponding Transmitter/Sensor: *LSH-201*

PLC Alarm Name: *FLRWET*

Alarm Type ○ Fatal ◉ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed ◉ Yes ○ No

Notes: Added water to sensor, tripped alarm.

CRITICAL DEVICE CORRECTIVE ACTION LOG SHEET

Date 1/22/20 Time 10:00 am

Critical Device Failure:

None

Device Failure:

None

Corrective Action:

None

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 2/5/2020 Time: 2:30 pm

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL" ◉ Auto ○ Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	78.7	(in. W.C.)
Post-Blower Temperature	TI-201	190	(°F)	TT-201	192.6	(°F)
Post-Heat Exchanger Temperature	TI-301	86	(°F)	TT-301	74.6	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.27	(in. W.C.)	FT-301	90	(cfm)
Post-Blower Pressure	PI-201	4	(in. W.C.)	PT-201	4.3	(in. W.C)
Post-Filter Applied Vacuum	VI-202	90	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	2	(in. W.C.)			
Post-VPGAC Pressure	PI-302	2	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 31

Ambient Indoor Temperature (°F): 35

Barometric Pressure (in Hg): 30.14

Barometric Pressure Trend ○ Rising ◉ Falling ○ Other

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1400 (fpm)
	112 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	662403
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	None.

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	15 inches East? 1 inch
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:	Replaced battery.	
Panel Indicator Lights	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 3/4/2020 Time: 12:30 pm

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL" ◉ Auto ○ Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	77.7	(in. W.C.)
Post-Blower Temperature	TI-201	196	(°F)	TT-201	198	(°F)
Post-Heat Exchanger Temperature	TI-301	86	(°F)	TT-301	88	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.23	(in. W.C.)	FT-301	78.1	(cfm)
Post-Blower Pressure	PI-201	2	(in. W.C.)	PT-201	4.1	(in. W.C)
Post-Filter Applied Vacuum	VI-202	90	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	2	(in. W.C.)			
Post-VPGAC Pressure	PI-302	4	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 40

Ambient Indoor Temperature (°F): 40

Barometric Pressure (in Hg): 30.1

Barometric Pressure Trend ○ Rising ◉ Falling ○ Other

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1220 (fpm)
	104.92 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	668725
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	◉ Yes ○ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	AWS was almost half-full; just under alarm setpoint.

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	17 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:	Replaced battery.	
Panel Indicator Lights	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 4/6/2020 Time: 2:00 pm

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

****Monitoring was modified (as discussed with the NYSDEC/NYSDOH on April 1, 2020). No entry to ConMed facility will be conducted due to COVID-19. Performance monitoring of the vapor monitoring points and sub-slab depressurization sumps was not performed.****

System operational? (PLC screen indicating system in "AUTO" or "MANUAL" ◉ Auto ○ Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	78.1	(in. W.C.)
Post-Blower Temperature	TI-201	200	(°F)	TT-201	196.2	(°F)
Post-Heat Exchanger Temperature	TI-301	88	(°F)	TT-301	74.5	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.26	(in. W.C.)	FT-301	94	(cfm)
Post-Blower Pressure	PI-201	2	(in. W.C.)	PT-201	4.4	(in. W.C)
Post-Filter Applied Vacuum	VI-202	90	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	2	(in. W.C.)			
Post-VPGAC Pressure	PI-302	4	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 50

Ambient Indoor Temperature (°F): 40

Barometric Pressure (in Hg): 30.7

Barometric Pressure Trend ○ Rising ○ Falling ◉ Other: Steady

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1363 (fpm)
	117.2 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	676208
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	No water present.

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	16 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Panel Indicator Lights	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	◉ Yes ○ No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	◉ Yes ○ No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	◉ Yes ○ No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date 4/8/2020 Time 12:30 pm

Technician S. McCarthy

VAPOR SAMPLING LOCATIONS ****NOTE: Due to COVID-19, no entry to ConMed facility.****

SDS-1 PID Tag:*SP-101* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-2 PID Tag:*SP-102* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-3 PID Tag:*SP-103* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-4 PID Tag:*SP-104* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-5 PID Tag:*SP-105* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-6 PID Tag:*SP-106* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-7 PID Tag:*SP-107* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

Pre-Carbon PID Tag:*SP-301* Time 12:30 pm
(Influent collected due to COVID-19)

Vapor Sample Collected? ◉ Yes ◯ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
617	30	10

Mid-Carbon PID Tag:*SP-302* Time 12:35 pm

Vapor Sample Collected? ◉ Yes ◯ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
236	30	10

Effluent (Post-Carbon) PID Tag:*SP-303* Time 12:40 pm

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
513	30	10

Definitions: NR= Not Recorded
SP = Sample Port
PID = Piping and Instrumentation Design
in. Hg. - inches of mercury
SDS = Sub-Slab Depressurization Sump
VOCs = Volatile Organic Compounds
VMP = Vacuum Monitoring Point

24 HOUR CONTINUOUS SUBSLAB MONITORING SCHEDULE

VMP Location	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
VMP-1A	X	X	X	X
VMP-1B				X
VMP-1C			X	
VMP-2A	X			
VMP-2B		X		
VMP-2C				X
VMP-3A	X	X		
VMP-3B		X		
VMP-3C			X	
VMP-3D			X	
VMP-3E	X	X	X	X
VMP-4	X			
VMP-5			X	
VMP-5A	X			
VMP-5B		X		
VMP-6			X	
VMP-6A				X
VMP-6B		X		
VMP-7				X
VMP-7A	X			X
VMP-7B		X		
VMP-8A	X			
VMP-8B		X		
VMP-8C	X	X	X	X
VMP-8D				X

VACUUM MONITORING POINTS -- DIFFERENTIAL PRESSURE (in. W.C.)

NOTE: Due to COVID-19, no entry to ConMed facility.

VMP-1A	VMP-1B	VMP-1C
VMP-2A	VMP-2B	VMP-2C
VMP-3A	VMP-3B	VMP-3C
VMP-3D	VMP-3E	VMP-4
VMP-5	VMP-5A	VMP-5B
VMP-6	VMP-6A	VMP-6B
VMP-7	VMP-7A	VMP-7B
VMP-8A	VMP-8B	VMP-8C
VMP-8D		

Definitions: NR= Not Recorded
SP = Sample Port
PID = Piping and Instrumentation Design
in. Hg. - inches of mercury
SDS = Sub-Slab Depressurization Sump
VOCs = Volatile Organic Compouds
VMP = Vacuum Monitoring Point

SUB-SLAB DEPRESSURIZATION SUMPS **NOTE: Due to COVID-19, no entry to ConMed facility.**

SDS-1 Orifice Plate Differential Pressure Typical Range = 0.03-0.07

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)

SDS-2 Orifice Plate Differential Pressure Typical Range = 0.02-0.09

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)

SDS-3 Orifice Plate Differential Pressure Typical Range = 0.2-1.1

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)

SDS-4 Orifice Plate Differential Pressure Typical Range = 0.80-2.3

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)

SDS-5 Orifice Plate Differential Pressure Typical Range = 0.08-0.30

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)

SDS-6 Orifice Plate Differential Pressure Typical Range = 0.02-0.08

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)

SDS-7 Orifice Plate Differential Pressure Typical Range = 0.02-0.04

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)

SDS-8

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)

CRITICAL DEVICE/ALARM TESTING

Test the following critical alarms (note that the system must be in AUTO to observe proper alarm response)

Vacuum Transmitter

Corresponding Transmitter/Sensor: *VT-201*

PLC Alarm Name: *VA_201*

Alarm Type: (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused alarm and shutdown.

Flow Transmitter

Corresponding Transmitter/Sensor: *FT-301*

PLC Alarm Name: *FA_301*

Alarm Type: ( ) Fatal (●) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused alarm, no shutdown.

Pressure Transmitter

Corresponding Transmitter/Sensor: *PT-201*

PLC Alarm Name: *PA_201*

Alarm Type: (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused fatal alarm and shutdown.

Temperature Transmitter

Corresponding Transmitter/Sensor: *VT-201*

PLC Alarm Name: *TA_201*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Changed set point. Triggered alarm and caused shutdown.

Temperature Transmitter

Corresponding Transmitter/Sensor: *TT-301*

PLC Alarm Name: *TA_301*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Changed set point. Triggered alarm and caused shutdown.

Air Water Separator High Level Switch

Corresponding Transmitter/Sensor: *LSH-201*

PLC Alarm Name: *AWS_HI*

Alarm Type ○ Fatal ◉ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed ◉ Yes ○ No

Notes: Filled tank with water to trigger alarm.

Air Water Separator High-High Level Switch

Corresponding Transmitter/Sensor: *LSHH-201*

PLC Alarm Name: *AWS_HH*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Continued to fill tank with water until alarm and shutdown.

Wet Floor Sensor

Corresponding Transmitter/Sensor: *LSH-201*

PLC Alarm Name: *FLRWET*

Alarm Type ○ Fatal ◉ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed ◉ Yes ○ No

Notes: Added water to sensor, tripped alarm.

CRITICAL DEVICE CORRECTIVE ACTION LOG SHEET

Date 4/8/2020 Time 2:00 pm

Critical Device Failure:

None

Device Failure:

None

Corrective Action:

None

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 5/5/2020 Time: 11:15 am

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL"): (●) Auto ( ) Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	78.3	(in. W.C.)
Post-Blower Temperature	TI-201	196	(°F)	TT-201	194.5	(°F)
Post-Heat Exchanger Temperature	TI-301	86	(°F)	TT-301	84	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.25	(in. W.C.)	FT-301	84	(cfm)
Post-Blower Pressure	PI-201	4	(in. W.C.)	PT-201	4.2	(in. W.C)
Post-Filter Applied Vacuum	VI-202	90	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	2	(in. W.C.)			
Post-VPGAC Pressure	PI-302	3	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 50

Ambient Indoor Temperature (°F): 45

Barometric Pressure (in Hg): 30.03

Barometric Pressure Trend: ( ) Rising ( ) Falling (●) Other: Steady

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1575 (fpm)
	135.45 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	682614
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	15 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:	Replaced battery.	
Panel Indicator Lights	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 6/1/2020 Time: 9:01 am

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL"): (•) Auto ( ) Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	78	(in. W.C.)
Post-Blower Temperature	TI-201	206	(°F)	TT-201	204	(°F)
Post-Heat Exchanger Temperature	TI-301	88	(°F)	TT-301	72.8	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.28	(in. W.C.)	FT-301	103	(cfm)
Post-Blower Pressure	PI-201	4	(in. W.C.)	PT-201	4.4	(in. W.C)
Post-Filter Applied Vacuum	VI-202	90	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	2	(in. W.C.)			
Post-VPGAC Pressure	PI-302	4	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 55

Ambient Indoor Temperature (°F): 50

Barometric Pressure (in Hg): 30.24

Barometric Pressure Trend: ( ) Rising ( ) Falling (•) Other: Steady

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1237 (fpm)
	106.3 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	688664
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	16 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:	Replaced battery.	
Panel Indicator Lights	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 7/7/2020 Time: 8:30 am

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL" ◉ Auto ○ Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	76	(in. W.C.)
Post-Blower Temperature	TI-201	212	(°F)	TT-201	217	(°F)
Post-Heat Exchanger Temperature	TI-301	92	(°F)	TT-301	70.1	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.32	(in. W.C.)	FT-301	102	(cfm)
Post-Blower Pressure	PI-201	4	(in. W.C.)	PT-201	4.3	(in. W.C)
Post-Filter Applied Vacuum	VI-202	90	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	2	(in. W.C.)			
Post-VPGAC Pressure	PI-302	4	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 80

Ambient Indoor Temperature (°F): 80

Barometric Pressure (in Hg): 30.7

Barometric Pressure Trend ○ Rising ○ Falling ◉ Other: Steady

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1407 (fpm)
	121 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	696487
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	No water present.

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	16 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Panel Indicator Lights	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	◉ Yes ○ No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	◉ Yes ○ No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	◉ Yes ○ No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date 7/7/2020 Time

Technician S. McCarthy

VAPOR SAMPLING LOCATIONS

NOTE: The NYSDEC has approved request to modify the vapor sampling to only the combined influent (pre-carbon).

SDS-1 PID Tag:*SP-101* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-2 PID Tag:*SP-102* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-3 PID Tag:*SP-103* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-4 PID Tag:*SP-104* Time

Vapor Sample Collected? ◯ Yes ◉ No

Condensate Present in Sample? ◯ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-5 PID Tag:*SP-105* Time

Vapor Sample Collected? ○ Yes ◉ No

Condensate Present in Sample? ○ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-6 PID Tag:*SP-106* Time

Vapor Sample Collected? ○ Yes ◉ No

Condensate Present in Sample? ○ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

SDS-7 PID Tag:*SP-107* Time

Vapor Sample Collected? ○ Yes ◉ No

Condensate Present in Sample? ○ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)

Pre-Carbon PID Tag:*SP-301* Time 4:27 pm
(Influent collected on 7-27-2020)

Vapor Sample Collected? ◉ Yes ○ No

Condensate Present in Sample? ○ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
1419	15	10

Mid-Carbon PID Tag:*SP-302* Time 1:38 pm

Vapor Sample Collected? ◉ Yes ○ No

Condensate Present in Sample? ○ Yes ◉ No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
1416	20	10

Effluent (Post-Carbon) PID Tag:*SP-303* Time 1:41 pm

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
1431	18	10

Definitions: NR= Not Recorded
SP = Sample Port
PID = Piping and Instrumentation Design
in. Hg. - inches of mercury
SDS = Sub-Slab Depressurization Sump
VOCs = Volatile Organic Compounds
VMP = Vacuum Monitoring Point

24 HOUR CONTINUOUS SUBSLAB MONITORING SCHEDULE

VMP Location	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
VMP-1A	X	X	X	X
VMP-1B				X
VMP-1C			X	
VMP-2A	X			
VMP-2B		X		
VMP-2C				X
VMP-3A	X	X		
VMP-3B		X		
VMP-3C			X	
VMP-3D			X	
VMP-3E	X	X	X	X
VMP-4	X			
VMP-5			X	
VMP-5A	X			
VMP-5B		X		
VMP-6			X	
VMP-6A				X
VMP-6B		X		
VMP-7				X
VMP-7A	X			X
VMP-7B		X		
VMP-8A	X			
VMP-8B		X		
VMP-8C	X	X	X	X
VMP-8D				X

VACUUM MONITORING POINTS -- DIFFERENTIAL PRESSURE (in. W.C.)

VMP-1A	VMP-1B	VMP-1C
0.030	0.330	0.127
VMP-2A	VMP-2B	VMP-2C
0.057	0.109	0.108
VMP-3A	VMP-3B	VMP-3C
0.065	0.020	0.044
VMP-3D	VMP-3E	VMP-4
0.032	0.023	0.028
VMP-5	VMP-5A	VMP-5B
0.754	0.065	0.043
VMP-6	VMP-6A	VMP-6B
0.213	0.818	0.290
VMP-7	VMP-7A	VMP-7B
0.879	36.0	0.137
VMP-8A	VMP-8B	VMP-8C
3.090	20.0	0.005
VMP-8D		
0.024		

Definitions: NR= Not Recorded
SP = Sample Port
PID = Piping and Instrumentation Design
in. Hg. - inches of mercury
SDS = Sub-Slab Depressurization Sump
VOCs = Volatile Organic Compouds
VMP = Vacuum Monitoring Point

SUB-SLAB DEPRESSURIZATION SUMPS

SDS-1 Orifice Plate Differential Pressure Typical Range = 0.03-0.07

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
78	0.01	7

SDS-2 Orifice Plate Differential Pressure Typical Range = 0.02-0.09

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
0.664	0.04	1

SDS-3 Orifice Plate Differential Pressure Typical Range = 0.2-1.1

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
3.8	0.8	1

SDS-4 Orifice Plate Differential Pressure Typical Range = 0.80-2.3

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
1.965	0.3	1

SDS-5 Orifice Plate Differential Pressure Typical Range = 0.08-0.30

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
78	0.24	5

SDS-6 Orifice Plate Differential Pressure Typical Range = 0.02-0.08

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
78	0.09	4

SDS-7 Orifice Plate Differential Pressure Typical Range = 0.02-0.04

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
78	0.02	7

SDS-8

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
76	2.8	7

CRITICAL DEVICE/ALARM TESTING

Test the following critical alarms (note that the system must be in AUTO to observe proper alarm response)

Vacuum Transmitter

Corresponding Transmitter/Sensor: *VT-201*

PLC Alarm Name: *VA_201*

Alarm Type: (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused alarm and shutdown.

Flow Transmitter

Corresponding Transmitter/Sensor: *FT-301*

PLC Alarm Name: *FA_301*

Alarm Type: ( ) Fatal (●) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused alarm, no shutdown.

Pressure Transmitter

Corresponding Transmitter/Sensor: *PT-201*

PLC Alarm Name: *PA_201*

Alarm Type: (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused fatal alarm and shutdown.

Temperature Transmitter

Corresponding Transmitter/Sensor: *VT-201*

PLC Alarm Name: *TA_201*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Changed set point. Triggered alarm and caused shutdown.

Temperature Transmitter

Corresponding Transmitter/Sensor: *TT-301*

PLC Alarm Name: *TA_301*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Changed set point. Triggered alarm and caused shutdown.

Air Water Separator High Level Switch

Corresponding Transmitter/Sensor: *LSH-201*

PLC Alarm Name: *AWS_HI*

Alarm Type ○ Fatal ◉ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed ◉ Yes ○ No

Notes: Filled tank with water to trigger alarm.

Air Water Separator High-High Level Switch

Corresponding Transmitter/Sensor: *LSHH-201*

PLC Alarm Name: *AWS_HH*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Continued to fill tank with water until alarm and shutdown.

Wet Floor Sensor

Corresponding Transmitter/Sensor: *LSH-201*

PLC Alarm Name: *FLRWET*

Alarm Type ○ Fatal ◉ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed ◉ Yes ○ No

Notes: Added water to sensor, tripped alarm.

CRITICAL DEVICE CORRECTIVE ACTION LOG SHEET

Date 7/8/2020 Time 11:00 am

Critical Device Failure:

None

Device Failure:

None

Corrective Action:

None

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 8/3/2020 Time: 9:00 am

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL" ◉ Auto ○ Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	82	(in. W.C.)	VT-201	69	(in. W.C.)
Post-Blower Temperature	TI-201	212	(°F)	TT-201	199	(°F)
Post-Heat Exchanger Temperature	TI-301	94	(°F)	TT-301	89.1	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.20	(in. W.C.)	FT-301	68	(cfm)
Post-Blower Pressure	PI-201	4	(in. W.C.)	PT-201	4.3	(in. W.C)
Post-Filter Applied Vacuum	VI-202	80	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	1	(in. W.C.)			
Post-VPGAC Pressure	PI-302	3	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 70

Ambient Indoor Temperature (°F): 75

Barometric Pressure (in Hg): 29.9

Barometric Pressure Trend ○ Rising ◉ Falling ○ Other

ADDITIONAL DATA

VFD Frequency (Hz)	46
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1366 (fpm)
	117.47 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	701916
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	17 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:	Replaced battery.	
Panel Indicator Lights	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 9/2/2020 10:15 am Time: 2:00 pm

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL"): (●) Auto ( ) Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	80	(in. W.C.)	VT-201	67.8	(in. W.C.)
Post-Blower Temperature	TI-201	203	(°F)	TT-201	203.1	(°F)
Post-Heat Exchanger Temperature	TI-301	93	(°F)	TT-301	90.2	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.20	(in. W.C.)	FT-301	64	(cfm)
Post-Blower Pressure	PI-201	4	(in. W.C.)	PT-201	4.8	(in. W.C)
Post-Filter Applied Vacuum	VI-202	80	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	1	(in. W.C.)			
Post-VPGAC Pressure	PI-302	3	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 74

Ambient Indoor Temperature (°F): 74

Barometric Pressure (in Hg): 29.67

Barometric Pressure Trend: (●) Rising ( ) Falling ( ) Other

ADDITIONAL DATA

VFD Frequency (Hz)	46
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1159 (fpm)
	99.6 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	707363
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	18 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:	Replaced battery.	
Panel Indicator Lights	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 10/6/2020 Time: 1:30 pm

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL"): (•) Auto ( ) Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	77.3	(in. W.C.)
Post-Blower Temperature	TI-201	211	(°F)	TT-201	212.4	(°F)
Post-Heat Exchanger Temperature	TI-301	87	(°F)	TT-301	83.3	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.25	(in. W.C.)	FT-301	80	(cfm)
Post-Blower Pressure	PI-201	4	(in. W.C.)	PT-201	5.6	(in. W.C)
Post-Filter Applied Vacuum	VI-202	90	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	1	(in. W.C.)			
Post-VPGAC Pressure	PI-302	4	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 70

Ambient Indoor Temperature (°F): 70

Barometric Pressure (in Hg): 30.21

Barometric Pressure Trend: ( ) Rising ( ) Falling (•) Other: Steady

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1750 (fpm)
	150.5 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	713392
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	No water present.

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	17 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Panel Indicator Lights	MCC Door	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	◉ Yes ○ No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	◉ Yes ○ No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	◉ Yes ○ No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 10/6/2020 Time:

Technician: S. McCarthy

VAPOR SAMPLING LOCATIONS

Pre-Carbon PID Tag: *SP-301* Time: 2:05 pm

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
3167	28	7

Mid-Carbon PID Tag: *SP-302* Time: 2:08 pm

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
2603	25	7

Effluent (Post-Carbon) PID Tag: *SP-303* Time: 2:10 pm

Vapor Sample Collected? (•) Yes ( ) No

Condensate Present in Sample? ( ) Yes (•) No

Canister #	Canister Vacuum at Start (in. Hg)	Canister Vacuum at End (in. Hg)
2199	26	7

Definitions: NR= Not Recorded
SP = Sample Port
PID = Piping and Instrumentation Design
in. Hg. - inches of mercury

24 HOUR CONTINUOUS SUBSLAB MONITORING SCHEDULE

VMP Location	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
VMP-1A	X	X	X	X
VMP-1B				X
VMP-1C			X	
VMP-2A	X			
VMP-2B		X		
VMP-2C				X
VMP-3A	X	X		
VMP-3B		X		
VMP-3C			X	
VMP-3D			X	
VMP-3E	X	X	X	X
VMP-4	X			
VMP-5			X	
VMP-5A	X			
VMP-5B		X		
VMP-6			X	
VMP-6A				X
VMP-6B		X		
VMP-7				X
VMP-7A	X			X
VMP-7B		X		
VMP-8A	X			
VMP-8B		X		
VMP-8C	X	X	X	X
VMP-8D				X

VACUUM MONITORING POINTS -- DIFFERENTIAL PRESSURE (in. W.C.)

VMP-1A	VMP-1B	VMP-1C
0.010	0.263	0.112
VMP-2A	VMP-2B	VMP-2C
0.06	0.112	0.111
VMP-3A	VMP-3B	VMP-3C
0.064	0.017	0.037
VMP-3D	VMP-3E	VMP-4
0.025	0.014	0.008
VMP-5	VMP-5A	VMP-5B
0.746	0.070	0.040
VMP-6	VMP-6A	VMP-6B
0.218	0.787	0.217
VMP-7	VMP-7A	VMP-7B
0.534	26.0	0.124
VMP-8A	VMP-8B	VMP-8C
2.197	12.0	0.007
VMP-8D		
0.029		

Definitions: NR= Not Recorded
SP = Sample Port
PID = Piping and Instrumentation Design
in. Hg. - inches of mercury
SDS = Sub-Slab Depressurization Sump
VOCs = Volatile Organic Compouds
VMP = Vacuum Monitoring Point

SUB-SLAB DEPRESSURIZATION SUMPS

SDS-1 Orifice Plate Differential Pressure Typical Range = 0.03-0.07

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
77	0.01	7

SDS-2 Orifice Plate Differential Pressure Typical Range = 0.02-0.09

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
0.711	0.04	1

SDS-3 Orifice Plate Differential Pressure Typical Range = 0.2-1.1

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
4.1	0.8	1

SDS-4 Orifice Plate Differential Pressure Typical Range = 0.80-2.3

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
1.965	0.3	1

SDS-5 Orifice Plate Differential Pressure Typical Range = 0.08-0.30

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
77	0.24	5

SDS-6 Orifice Plate Differential Pressure Typical Range = 0.02-0.08

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
77	0.09	4

SDS-7 Orifice Plate Differential Pressure Typical Range = 0.02-0.04

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
76	0.02	7

SDS-8

Induced Vacuum (in. W.C.)	Orifice Plate Differential Pressure (in. W.C)	FCV Position (turns open)
77	1.0	7

CRITICAL DEVICE/ALARM TESTING

Test the following critical alarms (note that the system must be in AUTO to observe proper alarm response)

Vacuum Transmitter

Corresponding Transmitter/Sensor: *VT-201*

PLC Alarm Name: *VA_201*

Alarm Type: (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused alarm and shutdown.

Flow Transmitter

Corresponding Transmitter/Sensor: *FT-301*

PLC Alarm Name: *FA_301*

Alarm Type: ( ) Fatal (●) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused alarm, no shutdown.

Pressure Transmitter

Corresponding Transmitter/Sensor: *PT-201*

PLC Alarm Name: *PA_201*

Alarm Type: (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Changed both low and high set points. Both changes caused fatal alarm and shutdown.

Temperature Transmitter

Corresponding Transmitter/Sensor: *VT-201*

PLC Alarm Name: *TA_201*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Changed set point. Triggered alarm and caused shutdown.

Temperature Transmitter

Corresponding Transmitter/Sensor: *TT-301*

PLC Alarm Name: *TA_301*

Alarm Type ◉ Fatal ○ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed ◉ Yes ○ No

Notes: Changed set point. Triggered alarm and caused shutdown.

Air Water Separator High Level Switch

Corresponding Transmitter/Sensor: *LSH-201*

PLC Alarm Name: *AWS_HI*

Alarm Type ○ Fatal ◉ Non-Fatal

Caused PLC Alarm State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed ◉ Yes ○ No

Notes: Filled tank with water to trigger alarm.

Air Water Separator High-High Level Switch

Corresponding Transmitter/Sensor: *LSHH-201*

PLC Alarm Name: *AWS_HH*

Alarm Type (●) Fatal ( ) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed (●) Yes ( ) No

Notes: Continued to fill tank with water until alarm and shutdown.

Wet Floor Sensor

Corresponding Transmitter/Sensor: *LSH-201*

PLC Alarm Name: *FLRWET*

Alarm Type ( ) Fatal (●) Non-Fatal

Caused PLC Alarm State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed (●) Yes ( ) No

Notes: Added water to sensor, tripped alarm.

CRITICAL DEVICE CORRECTIVE ACTION LOG SHEET

Date 10/6/2020 Time 3:00 pm

Critical Device Failure:

None

Device Failure:

None

Corrective Action:

None

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 11/3/2020 Time: 11:05 am

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL" ◉ Auto ○ Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	79	(in. W.C.)
Post-Blower Temperature	TI-201	200	(°F)	TT-201	200.7	(°F)
Post-Heat Exchanger Temperature	TI-301	96	(°F)	TT-301	98.7	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.21	(in. W.C.)	FT-301	69	(cfm)
Post-Blower Pressure	PI-201	2	(in. W.C.)	PT-201	5.8	(in. W.C)
Post-Filter Applied Vacuum	VI-202	91	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	2	(in. W.C.)			
Post-VPGAC Pressure	PI-302	1	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 50

Ambient Indoor Temperature (°F): 40

Barometric Pressure (in Hg): 30.1

Barometric Pressure Trend ○ Rising ◉ Falling ○ Other

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	1655 (fpm)
	142.33 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	719378
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	15 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:	Replaced battery.	
Panel Indicator Lights	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

OM&M Log Sheet, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 12/2/2020 10:30 am Time: 2:30 pm

Technician: Steve McCarthy

*When on site for other routine **monthly** OM&M, record data included on **pages 1 -5** of this quarterly OM&M Log Sheet/Checklist*

SYSTEM STATUS

System operational? (PLC screen indicating system in "AUTO" or "MANUAL"): (•) Auto ( ) Manual

Alarms? (list): None

SYSTEM PARAMETER	ID	GAUGE READING		PID TAG	PLC READING	
Air/Water Tank Applied Vacuum	VI-201	90	(in. W.C.)	VT-201	80.8	(in. W.C.)
Post-Blower Temperature	TI-201	204	(°F)	TT-201	200.4	(°F)
Post-Heat Exchanger Temperature	TI-301	80	(°F)	TT-301	80.4	(°F)
Influent Pitot Tube Differential Pressure	FI-301	0.21	(in. W.C.)	FT-301	73	(cfm)
Post-Blower Pressure	PI-201	2	(in. W.C.)	PT-201	2.4	(in. W.C)
Post-Filter Applied Vacuum	VI-202	94	(in. W.C.)			
Pre-VPGAC Pressure	PI-301	1	(in. W.C.)			
Post-VPGAC Pressure	PI-302	2	(in. W.C.)			

METEORLOGICAL DATA

Ambient Outdoor Temperature (°F): 40

Ambient Indoor Temperature (°F): 40

Barometric Pressure (in Hg): 29.88

Barometric Pressure Trend: ( ) Rising (•) Falling ( ) Other

ADDITIONAL DATA

VFD Frequency (Hz)	50
Influent Vapor Velocity (from VI-202 location, 1 fpm = 0.086 cfm)	919 (fpm)
	79 (cfm)
Note position of HX-300 H-O-A switch	Auto
Electrical meter reading (KWH)	725944
Surge protector operational?	◉ Yes ○ No

SYSTEM WATER/CONDENSATE INSPECTION

Was water present in AWS-200 site gauge	○ Yes ◉ No
Note if AWS-200, VPGAC-301, VPGAC-302, or any other normally closed condensate drain component was drained. Estimate quantity.	

VALVE INSPECTION

Note position of BFV-301, 302 and 303:

BFV-301	Open
BFV-302	Open
BFV-303	Closed
Note/confirm butterfly valve configuration as it pertains to order of VPGAC vessels:	All in normal position.
Are condensate drain valves for AWS-200, VPGAC-301 and VPGAC-302 in closed position	☑ Yes ☐ No ☐ Notes

BASEMENT PUMP INSPECTION

Water present in sumps?	◉ Yes ○ No
How much in West?	15 inches East? 0 inches
Other notes	Clear, no odor

Critical System Device	Location			
MCC/MCP Mounted Equipment				
System Disconnect	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Blower O-H-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
Heat Exchanger H-O-A Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
VFD By-Pass Switch	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:		
UPS Backup Battery(1)	Inside MCP	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes:	Replaced battery.	
Panel Indicator Lights	MCC Door	Inspected/Tested?	(•) Yes ( ) No	(•) Pass ( ) Fail
		Notes		
Electrical Hazard Signage	Outside/ Inside MCP and MCC	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Electric meter	Adjacent to MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		
Surge Protection Device	Outside MCC Door	Inspected/Tested?	(•) Yes ( ) No	
		Notes:		

Process Equipment

Vacuum Relief Valve (VRV-200)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		
Filter Element (2)	Pre-Blower	Inspected/Tested?	◉ Yes ○ No	◉ Pass ○ Fail
		Notes:		

Field Mounted Equipment

System Exhaust Screen	Post-VPGAC	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Process Valve Locks/ Positions (3)	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Post Blower Piping Connections	Skid/Field	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Heat Trace (4)	AWS-200 VPGAC-301 VPGAC-302 Condensate Drains	Inspected/Tested?	◉ Yes ○ No
		Notes:	
Fire Extinguisher	Treatment Building Primary Entry/Exit Doorway	Inspected/Tested?	◉ Yes ○ No
		Notes:	
System Vapor Element Stack	Located on north building exterior wall	Inspected/Tested?	◉ Yes ○ No
		Notes:	

Definitions:

AWS = Air/Water Separator
MCC = Motor Control Center

MCP = Main Control Panel
VPGAC = Vapor Phase Granular Activated Carbon

VT = Vacuum Transmitter
FT = Flow Transmitter

LS = Level Sensor

B = Blower

NA = Not Applicable

VRV = Vacuum Relief Valve

Notes:

1 - UPS battery backup should be replaced at a minimum, annually or as needed

2 - Filter element F-201 should be replaced at a minimum, annually or as needed

3 - Equipment locations can be found on the process and instrumentation diagram

4 - Heat trace is only used during winter months

Appendix A-2

SSDS Alarm Response Log

SSDS Alarm Response Tracking Table
Former Lockheed Martin French Road Facility, Utica, NY

Alarm Date/Time	Process Code	Type	Alarm Description	Input	Output	Response Date/Time	Response Time (hours)	Response Type	System Restarted Date/Time	Downtime (days)	Site Visit Date	Time Onsite (hours)	Cause Type	Cause Description	Corrective Action Description
2/11/2020 22:25	29	non-fatal/warning	Wet Floor Sensor Alarm	WFS-201	WFS201	2/12/2020 8:50	10.4	Remote Monitoring		NA	2/13/2020 16:00	< 2 hours	Unknown	Presence of water (not from system) on floor.	Remotely monitored site on 2-12-2020 and system operating normally. Site visit was performed on 2-13-2020 and approximately 35 gallons of water (from roof leak) was removed from the floor and the alarm cleared.
4/13/2020 5:10	OTHER_SYS ON	non-fatal/warning	Other	NA	NA	4/13/2020 7:15	2.1	Remote monitoring		NA			Unknown	Did not receive the daily system status report	Tetra Tech logged into ProView and observed the system was operating
5/6/2020 5:10	OTHER_SYS ON	non-fatal/warning	Other	NA	NA	5/6/2020 15:45	10.6	Site Visit		NA	5/6/20 16:00	< 2 hours	Unknown	Did not receive the daily system status report	Tetra Tech could not log into Proview. Site visit was performed on 5-6-2020 to manually reset the Proview control unit and confirmed that the system was operating normally.
7/16/2020 23:53	10	fatal/shutdown	High Post-Blower Temperature	TT-201	TA_201	7/17/2020 7:30	7.6	Remote Monitoring	7/17/2020 7:35	0.32			Unknown	High temperature (230° F) on blower discharge (prior to heat exchanger) shutdown system.	Remotely restarted system and monitored.
7/20/2020 22:34	10	fatal/shutdown	High Post-Blower Temperature	TT-201	TA_201	7/21/2020 7:30	8.9	Remote Monitoring	7/21/2020 7:35	0.38			Unknown	High temperature (230° F) on blower discharge (prior to heat exchanger) shutdown system.	Remotely restarted system and monitored.
7/23/2020 12:03	10	fatal/shutdown	High Post-Blower Temperature	TT-201	TA_201	7/23/2020 12:10	0.1	Site Visit	7/23/2020 16:00	0.16	7/23/2020 16:05	< 2 hours	Unknown	High temperature (230° F) on blower discharge (prior to heat exchanger) shutdown system.	Site visit to re-start the system. Investigated cause of high temperature, no issues were identified. Lowered blower speed to 46 Hz.
10/29/2020 5:10	OTHER_SYS ON	non-fatal/warning	Other	NA	NA	10/29/2020 7:15	2.1	Remote monitoring		NA			Unknown	Did not receive the daily system status report	Tetra Tech logged into ProView and observed the system was operating
10/29/2020 20:46	29	non-fatal/warning	Wet Floor Sensor Alarm	WFS-201	WFS201	10/29/2020 21:00	0.2	Remote Monitoring		NA	10/31/2020 16:00	< 2 hours	Unknown	Presence of water (not from system) on floor.	Remotely monitored site on 10-29-2020 and system operating normally. Site visit was performed on 10-31-2020 and approximately 30 gallons of water (from roof leak) was removed from the floor and the alarm cleared.

Notes
White shading = data entry
Blue shading = dropdown list
Gray shading = calculated

Appendix A-3

SSDS Laboratory Analytical Reports

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

February 05, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Dear Glenn Netuschil:
Enclosed are the analytical results for sample(s) received by the laboratory on January 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Jason Drews, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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CERTIFICATIONS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70119372001	**PRE CARBON SP-401**	TO-15	MJL	61	PASI-M
70119372002	**MID CARBON SP-402**	TO-15	MJL	61	PASI-M
70119372003	**POST CARBON SP-403**	TO-15	MJL	61	PASI-M
70119372004	**SDS-1 SP-101**	TO-15	MJL	61	PASI-M
70119372005	**SDS-2 SP-102**	TO-15	MJL	61	PASI-M
70119372006	**SDS-3 SP-103**	TO-15	MJL	61	PASI-M
70119372007	**SDS-4 SP-104**	TO-15	MJL	61	PASI-M
70119372008	**SDS-5 SP-105**	TO-15	MJL	61	PASI-M
70119372009	**SDS-6 SP-106**	TO-15	MJL	61	PASI-M
70119372010	**SDS-7 SP-107**	TO-15	MJL	61	PASI-M
70119372011	**SDS-8 SP-108**	TO-15	MJL	61	PASI-M
70119372012	**MID CARBON -SP302**	TO-15	MJL	61	PASI-M
70119372013	**EFFLUENT POST CARBON**	TO-15	MJL	61	PASI-M

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PROJECT NARRATIVE

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: February 05, 2020

General Information:
13 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: 657863

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- LCS (Lab ID: 3532450)
  - Vinyl acetate

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-1 SP-101 **Lab ID: 70119372004** Collected: 01/21/20 14:15 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**59.3**	ug/m3	5.5	2.29		02/03/20 00:30	67-64-1	
Benzene	**<0.35**	ug/m3	0.74	2.29		02/03/20 00:30	71-43-2	
Benzyl chloride	**<2.7**	ug/m3	6.0	2.29		02/03/20 00:30	100-44-7	
Bromodichloromethane	**<0.84**	ug/m3	3.1	2.29		02/03/20 00:30	75-27-4	
Bromoform	**<3.3**	ug/m3	12.0	2.29		02/03/20 00:30	75-25-2	
Bromomethane	**<0.52**	ug/m3	1.8	2.29		02/03/20 00:30	74-83-9	
1,3-Butadiene	**<0.29**	ug/m3	1.0	2.29		02/03/20 00:30	106-99-0	
2-Butanone (MEK)	**4.8J**	ug/m3	6.9	2.29		02/03/20 00:30	78-93-3	
Carbon disulfide	**<0.50**	ug/m3	1.4	2.29		02/03/20 00:30	75-15-0	
Carbon tetrachloride	**<0.98**	ug/m3	2.9	2.29		02/03/20 00:30	56-23-5	
Chlorobenzene	**<0.63**	ug/m3	2.1	2.29		02/03/20 00:30	108-90-7	
Chloroethane	**<0.60**	ug/m3	1.2	2.29		02/03/20 00:30	75-00-3	
Chloroform	**1.3**	ug/m3	1.1	2.29		02/03/20 00:30	67-66-3	
Chloromethane	**0.73J**	ug/m3	0.96	2.29		02/03/20 00:30	74-87-3	
Cyclohexane	**1.9J**	ug/m3	4.0	2.29		02/03/20 00:30	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	4.0	2.29		02/03/20 00:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.84**	ug/m3	1.8	2.29		02/03/20 00:30	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.8	2.29		02/03/20 00:30	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.8	2.29		02/03/20 00:30	541-73-1	
1,4-Dichlorobenzene	**<2.3**	ug/m3	7.0	2.29		02/03/20 00:30	106-46-7	
Dichlorodifluoromethane	**7.6**	ug/m3	2.3	2.29		02/03/20 00:30	75-71-8	
1,1-Dichloroethane	**<0.52**	ug/m3	1.9	2.29		02/03/20 00:30	75-34-3	
1,2-Dichloroethane	**<0.34**	ug/m3	0.94	2.29		02/03/20 00:30	107-06-2	
1,1-Dichloroethene	**<0.63**	ug/m3	1.8	2.29		02/03/20 00:30	75-35-4	
cis-1,2-Dichloroethene	**4.9**	ug/m3	1.8	2.29		02/03/20 00:30	156-59-2	
trans-1,2-Dichloroethene	**0.81J**	ug/m3	1.8	2.29		02/03/20 00:30	156-60-5	
1,2-Dichloropropane	**<0.53**	ug/m3	2.2	2.29		02/03/20 00:30	78-87-5	
cis-1,3-Dichloropropene	**<0.70**	ug/m3	2.1	2.29		02/03/20 00:30	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/m3	2.1	2.29		02/03/20 00:30	10061-02-6	
Dichlorotetrafluoroethane	**<1.0**	ug/m3	3.3	2.29		02/03/20 00:30	76-14-2	
Ethanol	**20.0**	ug/m3	11.0	2.29		02/03/20 00:30	64-17-5	
Ethyl acetate	**<0.44**	ug/m3	1.7	2.29		02/03/20 00:30	141-78-6	
Ethylbenzene	**<0.70**	ug/m3	2.0	2.29		02/03/20 00:30	100-41-4	
4-Ethyltoluene	**<1.3**	ug/m3	5.7	2.29		02/03/20 00:30	622-96-8	
n-Heptane	**<0.87**	ug/m3	1.9	2.29		02/03/20 00:30	142-82-5	
Hexachloro-1,3-butadiene	**<4.5**	ug/m3	12.4	2.29		02/03/20 00:30	87-68-3	
n-Hexane	**<0.71**	ug/m3	1.6	2.29		02/03/20 00:30	110-54-3	
2-Hexanone	**<1.7**	ug/m3	9.5	2.29		02/03/20 00:30	591-78-6	
Methylene Chloride	**10.9**	ug/m3	8.1	2.29		02/03/20 00:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	9.5	2.29		02/03/20 00:30	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.4	2.29		02/03/20 00:30	1634-04-4	
Naphthalene	**<3.0**	ug/m3	6.1	2.29		02/03/20 00:30	91-20-3	
2-Propanol	**272**	ug/m3	5.7	2.29		02/03/20 00:30	67-63-0	
Propylene	**0.92**	ug/m3	0.80	2.29		02/03/20 00:30	115-07-1	
Styrene	**<0.79**	ug/m3	2.0	2.29		02/03/20 00:30	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.71**	ug/m3	1.6	2.29		02/03/20 00:30	79-34-5	
Tetrachloroethene	**744**	ug/m3	15.8	22.9		02/03/20 12:44	127-18-4	

REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-1 SP-101 **Lab ID: 70119372004** Collected: 01/21/20 14:15 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.60**	ug/m3	1.4	2.29		02/03/20 00:30	109-99-9	
Toluene	**1.3J**	ug/m3	1.8	2.29		02/03/20 00:30	108-88-3	
1,2,4-Trichlorobenzene	**<8.5**	ug/m3	17.3	2.29		02/03/20 00:30	120-82-1	
1,1,1-Trichloroethane	**<0.71**	ug/m3	2.5	2.29		02/03/20 00:30	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/m3	1.3	2.29		02/03/20 00:30	79-00-5	
Trichloroethene	**21.6**	ug/m3	1.3	2.29		02/03/20 00:30	79-01-6	
Trichlorofluoromethane	**1.5J**	ug/m3	2.6	2.29		02/03/20 00:30	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/m3	3.6	2.29		02/03/20 00:30	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/m3	2.3	2.29		02/03/20 00:30	95-63-6	
1,3,5-Trimethylbenzene	**<0.91**	ug/m3	2.3	2.29		02/03/20 00:30	108-67-8	
Vinyl acetate	**<0.62**	ug/m3	1.6	2.29		02/03/20 00:30	108-05-4	
Vinyl chloride	**<0.29**	ug/m3	0.60	2.29		02/03/20 00:30	75-01-4	
m&p-Xylene	**<1.6**	ug/m3	4.1	2.29		02/03/20 00:30	179601-23-1	
o-Xylene	**<0.79**	ug/m3	2.0	2.29		02/03/20 00:30	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-2 SP-102 **Lab ID: 70119372005** Collected: 01/21/20 14:17 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**74.1**	ug/m3	5.3	2.19		02/03/20 01:29	67-64-1	
Benzene	**<0.34**	ug/m3	0.71	2.19		02/03/20 01:29	71-43-2	
Benzyl chloride	**<2.6**	ug/m3	5.8	2.19		02/03/20 01:29	100-44-7	
Bromodichloromethane	**<0.80**	ug/m3	3.0	2.19		02/03/20 01:29	75-27-4	
Bromoform	**<3.1**	ug/m3	11.5	2.19		02/03/20 01:29	75-25-2	
Bromomethane	**<0.50**	ug/m3	1.7	2.19		02/03/20 01:29	74-83-9	
1,3-Butadiene	**<0.28**	ug/m3	0.99	2.19		02/03/20 01:29	106-99-0	
2-Butanone (MEK)	**6.3J**	ug/m3	6.6	2.19		02/03/20 01:29	78-93-3	
Carbon disulfide	**<0.48**	ug/m3	1.4	2.19		02/03/20 01:29	75-15-0	
Carbon tetrachloride	**<0.94**	ug/m3	2.8	2.19		02/03/20 01:29	56-23-5	
Chlorobenzene	**<0.60**	ug/m3	2.0	2.19		02/03/20 01:29	108-90-7	
Chloroethane	**<0.57**	ug/m3	1.2	2.19		02/03/20 01:29	75-00-3	
Chloroform	**1.8**	ug/m3	1.1	2.19		02/03/20 01:29	67-66-3	
Chloromethane	**<0.34**	ug/m3	0.92	2.19		02/03/20 01:29	74-87-3	
Cyclohexane	**2.4J**	ug/m3	3.8	2.19		02/03/20 01:29	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	3.8	2.19		02/03/20 01:29	124-48-1	
1,2-Dibromoethane (EDB)	**<0.80**	ug/m3	1.7	2.19		02/03/20 01:29	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.7	2.19		02/03/20 01:29	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.7	2.19		02/03/20 01:29	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	6.7	2.19		02/03/20 01:29	106-46-7	
Dichlorodifluoromethane	**21.7**	ug/m3	2.2	2.19		02/03/20 01:29	75-71-8	
1,1-Dichloroethane	**<0.49**	ug/m3	1.8	2.19		02/03/20 01:29	75-34-3	
1,2-Dichloroethane	**<0.33**	ug/m3	0.90	2.19		02/03/20 01:29	107-06-2	
1,1-Dichloroethene	**<0.60**	ug/m3	1.8	2.19		02/03/20 01:29	75-35-4	
cis-1,2-Dichloroethene	**<0.48**	ug/m3	1.8	2.19		02/03/20 01:29	156-59-2	
trans-1,2-Dichloroethene	**<0.62**	ug/m3	1.8	2.19		02/03/20 01:29	156-60-5	
1,2-Dichloropropane	**<0.50**	ug/m3	2.1	2.19		02/03/20 01:29	78-87-5	
cis-1,3-Dichloropropene	**<0.67**	ug/m3	2.0	2.19		02/03/20 01:29	10061-01-5	
trans-1,3-Dichloropropene	**<0.96**	ug/m3	2.0	2.19		02/03/20 01:29	10061-02-6	
Dichlorotetrafluoroethane	**<0.96**	ug/m3	3.1	2.19		02/03/20 01:29	76-14-2	
Ethanol	**15.3**	ug/m3	10.5	2.19		02/03/20 01:29	64-17-5	
Ethyl acetate	**<0.42**	ug/m3	1.6	2.19		02/03/20 01:29	141-78-6	
Ethylbenzene	**<0.67**	ug/m3	1.9	2.19		02/03/20 01:29	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.5	2.19		02/03/20 01:29	622-96-8	
n-Heptane	**<0.83**	ug/m3	1.8	2.19		02/03/20 01:29	142-82-5	
Hexachloro-1,3-butadiene	**<4.3**	ug/m3	11.9	2.19		02/03/20 01:29	87-68-3	
n-Hexane	**<0.68**	ug/m3	1.6	2.19		02/03/20 01:29	110-54-3	
2-Hexanone	**<1.6**	ug/m3	9.1	2.19		02/03/20 01:29	591-78-6	
Methylene Chloride	**10.9**	ug/m3	7.7	2.19		02/03/20 01:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.1**	ug/m3	9.1	2.19		02/03/20 01:29	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.0	2.19		02/03/20 01:29	1634-04-4	
Naphthalene	**<2.9**	ug/m3	5.8	2.19		02/03/20 01:29	91-20-3	
2-Propanol	**349**	ug/m3	5.5	2.19		02/03/20 01:29	67-63-0	
Propylene	**<0.31**	ug/m3	0.77	2.19		02/03/20 01:29	115-07-1	
Styrene	**<0.75**	ug/m3	1.9	2.19		02/03/20 01:29	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.68**	ug/m3	1.5	2.19		02/03/20 01:29	79-34-5	
Tetrachloroethene	**35.0**	ug/m3	1.5	2.19		02/03/20 01:29	127-18-4	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-2 SP-102 **Lab ID: 70119372005** Collected: 01/21/20 14:17 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.57**	ug/m3	1.3	2.19		02/03/20 01:29	109-99-9	
Toluene	**1.5J**	ug/m3	1.7	2.19		02/03/20 01:29	108-88-3	
1,2,4-Trichlorobenzene	**<8.1**	ug/m3	16.5	2.19		02/03/20 01:29	120-82-1	
1,1,1-Trichloroethane	**9.9**	ug/m3	2.4	2.19		02/03/20 01:29	71-55-6	
1,1,2-Trichloroethane	**<0.53**	ug/m3	1.2	2.19		02/03/20 01:29	79-00-5	
Trichloroethene	**12.5**	ug/m3	1.2	2.19		02/03/20 01:29	79-01-6	
Trichlorofluoromethane	**2.7**	ug/m3	2.5	2.19		02/03/20 01:29	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.2**	ug/m3	3.4	2.19		02/03/20 01:29	76-13-1	
1,2,4-Trimethylbenzene	**<0.99**	ug/m3	2.2	2.19		02/03/20 01:29	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/m3	2.2	2.19		02/03/20 01:29	108-67-8	
Vinyl acetate	**<0.59**	ug/m3	1.6	2.19		02/03/20 01:29	108-05-4	
Vinyl chloride	**<0.28**	ug/m3	0.57	2.19		02/03/20 01:29	75-01-4	
m&p-Xylene	**<1.5**	ug/m3	3.9	2.19		02/03/20 01:29	179601-23-1	
o-Xylene	**<0.75**	ug/m3	1.9	2.19		02/03/20 01:29	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-3 SP-103 **Lab ID: 70119372006** Collected: 01/21/20 14:11 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**23.2**	ug/m3	5.3	2.19		02/03/20 01:59	67-64-1	
Benzene	**<0.34**	ug/m3	0.71	2.19		02/03/20 01:59	71-43-2	
Benzyl chloride	**<2.6**	ug/m3	5.8	2.19		02/03/20 01:59	100-44-7	
Bromodichloromethane	**<0.80**	ug/m3	3.0	2.19		02/03/20 01:59	75-27-4	
Bromoform	**<3.1**	ug/m3	11.5	2.19		02/03/20 01:59	75-25-2	
Bromomethane	**<0.50**	ug/m3	1.7	2.19		02/03/20 01:59	74-83-9	
1,3-Butadiene	**<0.28**	ug/m3	0.99	2.19		02/03/20 01:59	106-99-0	
2-Butanone (MEK)	**2.6J**	ug/m3	6.6	2.19		02/03/20 01:59	78-93-3	
Carbon disulfide	**<0.48**	ug/m3	1.4	2.19		02/03/20 01:59	75-15-0	
Carbon tetrachloride	**<0.94**	ug/m3	2.8	2.19		02/03/20 01:59	56-23-5	
Chlorobenzene	**<0.60**	ug/m3	2.0	2.19		02/03/20 01:59	108-90-7	
Chloroethane	**<0.57**	ug/m3	1.2	2.19		02/03/20 01:59	75-00-3	
Chloroform	**0.55J**	ug/m3	1.1	2.19		02/03/20 01:59	67-66-3	
Chloromethane	**0.47J**	ug/m3	0.92	2.19		02/03/20 01:59	74-87-3	
Cyclohexane	**<0.77**	ug/m3	3.8	2.19		02/03/20 01:59	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	3.8	2.19		02/03/20 01:59	124-48-1	
1,2-Dibromoethane (EDB)	**<0.80**	ug/m3	1.7	2.19		02/03/20 01:59	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.7	2.19		02/03/20 01:59	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.7	2.19		02/03/20 01:59	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	6.7	2.19		02/03/20 01:59	106-46-7	
Dichlorodifluoromethane	**2.2J**	ug/m3	2.2	2.19		02/03/20 01:59	75-71-8	
1,1-Dichloroethane	**<0.49**	ug/m3	1.8	2.19		02/03/20 01:59	75-34-3	
1,2-Dichloroethane	**<0.33**	ug/m3	0.90	2.19		02/03/20 01:59	107-06-2	
1,1-Dichloroethene	**<0.60**	ug/m3	1.8	2.19		02/03/20 01:59	75-35-4	
cis-1,2-Dichloroethene	**<0.48**	ug/m3	1.8	2.19		02/03/20 01:59	156-59-2	
trans-1,2-Dichloroethene	**<0.62**	ug/m3	1.8	2.19		02/03/20 01:59	156-60-5	
1,2-Dichloropropane	**<0.50**	ug/m3	2.1	2.19		02/03/20 01:59	78-87-5	
cis-1,3-Dichloropropene	**<0.67**	ug/m3	2.0	2.19		02/03/20 01:59	10061-01-5	
trans-1,3-Dichloropropene	**<0.96**	ug/m3	2.0	2.19		02/03/20 01:59	10061-02-6	
Dichlorotetrafluoroethane	**<0.96**	ug/m3	3.1	2.19		02/03/20 01:59	76-14-2	
Ethanol	**16.6**	ug/m3	10.5	2.19		02/03/20 01:59	64-17-5	
Ethyl acetate	**<0.42**	ug/m3	1.6	2.19		02/03/20 01:59	141-78-6	
Ethylbenzene	**<0.67**	ug/m3	1.9	2.19		02/03/20 01:59	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.5	2.19		02/03/20 01:59	622-96-8	
n-Heptane	**<0.83**	ug/m3	1.8	2.19		02/03/20 01:59	142-82-5	
Hexachloro-1,3-butadiene	**<4.3**	ug/m3	11.9	2.19		02/03/20 01:59	87-68-3	
n-Hexane	**0.73J**	ug/m3	1.6	2.19		02/03/20 01:59	110-54-3	
2-Hexanone	**<1.6**	ug/m3	9.1	2.19		02/03/20 01:59	591-78-6	
Methylene Chloride	**36.6**	ug/m3	7.7	2.19		02/03/20 01:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.1**	ug/m3	9.1	2.19		02/03/20 01:59	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.0	2.19		02/03/20 01:59	1634-04-4	
Naphthalene	**<2.9**	ug/m3	5.8	2.19		02/03/20 01:59	91-20-3	
2-Propanol	**53.7**	ug/m3	5.5	2.19		02/03/20 01:59	67-63-0	
Propylene	**<0.31**	ug/m3	0.77	2.19		02/03/20 01:59	115-07-1	
Styrene	**<0.75**	ug/m3	1.9	2.19		02/03/20 01:59	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.68**	ug/m3	1.5	2.19		02/03/20 01:59	79-34-5	
Tetrachloroethene	**11.5**	ug/m3	1.5	2.19		02/03/20 01:59	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-3 SP-103 **Lab ID: 70119372006** Collected: 01/21/20 14:11 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.57**	ug/m3	1.3	2.19		02/03/20 01:59	109-99-9	
Toluene	**0.81J**	ug/m3	1.7	2.19		02/03/20 01:59	108-88-3	
1,2,4-Trichlorobenzene	**<8.1**	ug/m3	16.5	2.19		02/03/20 01:59	120-82-1	
1,1,1-Trichloroethane	**<0.68**	ug/m3	2.4	2.19		02/03/20 01:59	71-55-6	
1,1,2-Trichloroethane	**<0.53**	ug/m3	1.2	2.19		02/03/20 01:59	79-00-5	
Trichloroethene	**5.1**	ug/m3	1.2	2.19		02/03/20 01:59	79-01-6	
Trichlorofluoromethane	**1.2J**	ug/m3	2.5	2.19		02/03/20 01:59	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.2**	ug/m3	3.4	2.19		02/03/20 01:59	76-13-1	
1,2,4-Trimethylbenzene	**<0.99**	ug/m3	2.2	2.19		02/03/20 01:59	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/m3	2.2	2.19		02/03/20 01:59	108-67-8	
Vinyl acetate	**<0.59**	ug/m3	1.6	2.19		02/03/20 01:59	108-05-4	
Vinyl chloride	**<0.28**	ug/m3	0.57	2.19		02/03/20 01:59	75-01-4	
m&p-Xylene	**<1.5**	ug/m3	3.9	2.19		02/03/20 01:59	179601-23-1	
o-Xylene	**<0.75**	ug/m3	1.9	2.19		02/03/20 01:59	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-4 SP-104 **Lab ID: 70119372007** Collected: 01/21/20 14:13 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**87.3**	ug/m3	5.8	2.4		02/02/20 22:02	67-64-1	
Benzene	**<0.37**	ug/m3	0.78	2.4		02/02/20 22:02	71-43-2	
Benzyl chloride	**<2.9**	ug/m3	6.3	2.4		02/02/20 22:02	100-44-7	
Bromodichloromethane	**<0.88**	ug/m3	3.3	2.4		02/02/20 22:02	75-27-4	
Bromoform	**<3.4**	ug/m3	12.6	2.4		02/02/20 22:02	75-25-2	
Bromomethane	**<0.54**	ug/m3	1.9	2.4		02/02/20 22:02	74-83-9	
1,3-Butadiene	**<0.31**	ug/m3	1.1	2.4		02/02/20 22:02	106-99-0	
2-Butanone (MEK)	**3.1J**	ug/m3	7.2	2.4		02/02/20 22:02	78-93-3	
Carbon disulfide	**2.9**	ug/m3	1.5	2.4		02/02/20 22:02	75-15-0	
Carbon tetrachloride	**<1.0**	ug/m3	3.1	2.4		02/02/20 22:02	56-23-5	
Chlorobenzene	**<0.66**	ug/m3	2.2	2.4		02/02/20 22:02	108-90-7	
Chloroethane	**<0.62**	ug/m3	1.3	2.4		02/02/20 22:02	75-00-3	
Chloroform	**1.3**	ug/m3	1.2	2.4		02/02/20 22:02	67-66-3	
Chloromethane	**0.53J**	ug/m3	1.0	2.4		02/02/20 22:02	74-87-3	
Cyclohexane	**2.6J**	ug/m3	4.2	2.4		02/02/20 22:02	110-82-7	
Dibromochloromethane	**<1.7**	ug/m3	4.2	2.4		02/02/20 22:02	124-48-1	
1,2-Dibromoethane (EDB)	**<0.88**	ug/m3	1.9	2.4		02/02/20 22:02	106-93-4	
1,2-Dichlorobenzene	**<1.2**	ug/m3	2.9	2.4		02/02/20 22:02	95-50-1	
1,3-Dichlorobenzene	**<1.4**	ug/m3	2.9	2.4		02/02/20 22:02	541-73-1	
1,4-Dichlorobenzene	**<2.4**	ug/m3	7.3	2.4		02/02/20 22:02	106-46-7	
Dichlorodifluoromethane	**2.1J**	ug/m3	2.4	2.4		02/02/20 22:02	75-71-8	
1,1-Dichloroethane	**<0.54**	ug/m3	2.0	2.4		02/02/20 22:02	75-34-3	
1,2-Dichloroethane	**<0.36**	ug/m3	0.99	2.4		02/02/20 22:02	107-06-2	
1,1-Dichloroethene	**<0.66**	ug/m3	1.9	2.4		02/02/20 22:02	75-35-4	
cis-1,2-Dichloroethene	**1.3J**	ug/m3	1.9	2.4		02/02/20 22:02	156-59-2	
trans-1,2-Dichloroethene	**<0.68**	ug/m3	1.9	2.4		02/02/20 22:02	156-60-5	
1,2-Dichloropropane	**<0.55**	ug/m3	2.3	2.4		02/02/20 22:02	78-87-5	
cis-1,3-Dichloropropene	**<0.73**	ug/m3	2.2	2.4		02/02/20 22:02	10061-01-5	
trans-1,3-Dichloropropene	**<1.1**	ug/m3	2.2	2.4		02/02/20 22:02	10061-02-6	
Dichlorotetrafluoroethane	**<1.0**	ug/m3	3.4	2.4		02/02/20 22:02	76-14-2	
Ethanol	**16.7**	ug/m3	11.5	2.4		02/02/20 22:02	64-17-5	
Ethyl acetate	**<0.46**	ug/m3	1.8	2.4		02/02/20 22:02	141-78-6	
Ethylbenzene	**<0.73**	ug/m3	2.1	2.4		02/02/20 22:02	100-41-4	
4-Ethyltoluene	**<1.4**	ug/m3	6.0	2.4		02/02/20 22:02	622-96-8	
n-Heptane	**<0.91**	ug/m3	2.0	2.4		02/02/20 22:02	142-82-5	
Hexachloro-1,3-butadiene	**<4.7**	ug/m3	13.0	2.4		02/02/20 22:02	87-68-3	
n-Hexane	**<0.75**	ug/m3	1.7	2.4		02/02/20 22:02	110-54-3	
2-Hexanone	**<1.8**	ug/m3	10	2.4		02/02/20 22:02	591-78-6	
Methylene Chloride	**38.3**	ug/m3	8.5	2.4		02/02/20 22:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	10	2.4		02/02/20 22:02	108-10-1	
Methyl-tert-butyl ether	**<1.6**	ug/m3	8.8	2.4		02/02/20 22:02	1634-04-4	
Naphthalene	**<3.1**	ug/m3	6.4	2.4		02/02/20 22:02	91-20-3	
2-Propanol	**340**	ug/m3	6.0	2.4		02/02/20 22:02	67-63-0	
Propylene	**1.5**	ug/m3	0.84	2.4		02/02/20 22:02	115-07-1	
Styrene	**<0.83**	ug/m3	2.1	2.4		02/02/20 22:02	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.74**	ug/m3	1.7	2.4		02/02/20 22:02	79-34-5	
Tetrachloroethene	**136**	ug/m3	1.7	2.4		02/02/20 22:02	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-4 SP-104 **Lab ID: 70119372007** Collected: 01/21/20 14:13 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.63**	ug/m3	1.4	2.4		02/02/20 22:02	109-99-9	
Toluene	**2.4**	ug/m3	1.8	2.4		02/02/20 22:02	108-88-3	
1,2,4-Trichlorobenzene	**<8.9**	ug/m3	18.1	2.4		02/02/20 22:02	120-82-1	
1,1,1-Trichloroethane	**<0.74**	ug/m3	2.7	2.4		02/02/20 22:02	71-55-6	
1,1,2-Trichloroethane	**<0.58**	ug/m3	1.3	2.4		02/02/20 22:02	79-00-5	
Trichloroethene	**7.3**	ug/m3	1.3	2.4		02/02/20 22:02	79-01-6	
Trichlorofluoromethane	**1.4J**	ug/m3	2.7	2.4		02/02/20 22:02	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.4**	ug/m3	3.7	2.4		02/02/20 22:02	76-13-1	
1,2,4-Trimethylbenzene	**1.5J**	ug/m3	2.4	2.4		02/02/20 22:02	95-63-6	
1,3,5-Trimethylbenzene	**1.4J**	ug/m3	2.4	2.4		02/02/20 22:02	108-67-8	
Vinyl acetate	**<0.65**	ug/m3	1.7	2.4		02/02/20 22:02	108-05-4	
Vinyl chloride	**<0.30**	ug/m3	0.62	2.4		02/02/20 22:02	75-01-4	
m&p-Xylene	**<1.7**	ug/m3	4.2	2.4		02/02/20 22:02	179601-23-1	
o-Xylene	**0.86J**	ug/m3	2.1	2.4		02/02/20 22:02	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-5 SP-105 **Lab ID: 70119372008** Collected: 01/21/20 13:59 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**49.0**	ug/m3	5.1	2.1		02/02/20 22:32	67-64-1	
Benzene	**<0.32**	ug/m3	0.68	2.1		02/02/20 22:32	71-43-2	
Benzyl chloride	**<2.5**	ug/m3	5.5	2.1		02/02/20 22:32	100-44-7	
Bromodichloromethane	**<0.77**	ug/m3	2.9	2.1		02/02/20 22:32	75-27-4	
Bromoform	**<3.0**	ug/m3	11.0	2.1		02/02/20 22:32	75-25-2	
Bromomethane	**<0.48**	ug/m3	1.7	2.1		02/02/20 22:32	74-83-9	
1,3-Butadiene	**<0.27**	ug/m3	0.94	2.1		02/02/20 22:32	106-99-0	
2-Butanone (MEK)	**8.8**	ug/m3	6.3	2.1		02/02/20 22:32	78-93-3	
Carbon disulfide	**<0.46**	ug/m3	1.3	2.1		02/02/20 22:32	75-15-0	
Carbon tetrachloride	**<0.90**	ug/m3	2.7	2.1		02/02/20 22:32	56-23-5	
Chlorobenzene	**<0.58**	ug/m3	2.0	2.1		02/02/20 22:32	108-90-7	
Chloroethane	**<0.55**	ug/m3	1.1	2.1		02/02/20 22:32	75-00-3	
Chloroform	**0.87J**	ug/m3	1.0	2.1		02/02/20 22:32	67-66-3	
Chloromethane	**<0.33**	ug/m3	0.88	2.1		02/02/20 22:32	74-87-3	
Cyclohexane	**3.4J**	ug/m3	3.7	2.1		02/02/20 22:32	110-82-7	
Dibromochloromethane	**<1.5**	ug/m3	3.6	2.1		02/02/20 22:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.77**	ug/m3	1.6	2.1		02/02/20 22:32	106-93-4	
1,2-Dichlorobenzene	**<1.0**	ug/m3	2.6	2.1		02/02/20 22:32	95-50-1	
1,3-Dichlorobenzene	**<1.2**	ug/m3	2.6	2.1		02/02/20 22:32	541-73-1	
1,4-Dichlorobenzene	**<2.1**	ug/m3	6.4	2.1		02/02/20 22:32	106-46-7	
Dichlorodifluoromethane	**2.3**	ug/m3	2.1	2.1		02/02/20 22:32	75-71-8	
1,1-Dichloroethane	**<0.47**	ug/m3	1.7	2.1		02/02/20 22:32	75-34-3	
1,2-Dichloroethane	**<0.32**	ug/m3	0.86	2.1		02/02/20 22:32	107-06-2	
1,1-Dichloroethene	**<0.58**	ug/m3	1.7	2.1		02/02/20 22:32	75-35-4	
cis-1,2-Dichloroethene	**<0.46**	ug/m3	1.7	2.1		02/02/20 22:32	156-59-2	
trans-1,2-Dichloroethene	**<0.60**	ug/m3	1.7	2.1		02/02/20 22:32	156-60-5	
1,2-Dichloropropane	**<0.48**	ug/m3	2.0	2.1		02/02/20 22:32	78-87-5	
cis-1,3-Dichloropropene	**<0.64**	ug/m3	1.9	2.1		02/02/20 22:32	10061-01-5	
trans-1,3-Dichloropropene	**<0.92**	ug/m3	1.9	2.1		02/02/20 22:32	10061-02-6	
Dichlorotetrafluoroethane	**<0.92**	ug/m3	3.0	2.1		02/02/20 22:32	76-14-2	
Ethanol	**76.4**	ug/m3	10.1	2.1		02/02/20 22:32	64-17-5	
Ethyl acetate	**<0.40**	ug/m3	1.5	2.1		02/02/20 22:32	141-78-6	
Ethylbenzene	**<0.64**	ug/m3	1.9	2.1		02/02/20 22:32	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.2	2.1		02/02/20 22:32	622-96-8	
n-Heptane	**1.5J**	ug/m3	1.7	2.1		02/02/20 22:32	142-82-5	
Hexachloro-1,3-butadiene	**<4.1**	ug/m3	11.4	2.1		02/02/20 22:32	87-68-3	
n-Hexane	**0.76J**	ug/m3	1.5	2.1		02/02/20 22:32	110-54-3	
2-Hexanone	**<1.6**	ug/m3	8.7	2.1		02/02/20 22:32	591-78-6	
Methylene Chloride	**202**	ug/m3	7.4	2.1		02/02/20 22:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.1**	ug/m3	8.7	2.1		02/02/20 22:32	108-10-1	
Methyl-tert-butyl ether	**<1.4**	ug/m3	7.7	2.1		02/02/20 22:32	1634-04-4	
Naphthalene	**<2.8**	ug/m3	5.6	2.1		02/02/20 22:32	91-20-3	
2-Propanol	**219**	ug/m3	5.2	2.1		02/02/20 22:32	67-63-0	
Propylene	**<0.29**	ug/m3	0.74	2.1		02/02/20 22:32	115-07-1	
Styrene	**<0.72**	ug/m3	1.8	2.1		02/02/20 22:32	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.65**	ug/m3	1.5	2.1		02/02/20 22:32	79-34-5	
Tetrachloroethene	**2.5**	ug/m3	1.4	2.1		02/02/20 22:32	127-18-4	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-5 SP-105 **Lab ID: 70119372008** Collected: 01/21/20 13:59 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.55**	ug/m3	1.3	2.1		02/02/20 22:32	109-99-9	
Toluene	**1.9**	ug/m3	1.6	2.1		02/02/20 22:32	108-88-3	
1,2,4-Trichlorobenzene	**<7.8**	ug/m3	15.8	2.1		02/02/20 22:32	120-82-1	
1,1,1-Trichloroethane	**<0.65**	ug/m3	2.3	2.1		02/02/20 22:32	71-55-6	
1,1,2-Trichloroethane	**<0.51**	ug/m3	1.2	2.1		02/02/20 22:32	79-00-5	
Trichloroethene	**4.4**	ug/m3	1.1	2.1		02/02/20 22:32	79-01-6	
Trichlorofluoromethane	**1.3J**	ug/m3	2.4	2.1		02/02/20 22:32	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.2**	ug/m3	3.3	2.1		02/02/20 22:32	76-13-1	
1,2,4-Trimethylbenzene	**<0.95**	ug/m3	2.1	2.1		02/02/20 22:32	95-63-6	
1,3,5-Trimethylbenzene	**<0.84**	ug/m3	2.1	2.1		02/02/20 22:32	108-67-8	
Vinyl acetate	**<0.57**	ug/m3	1.5	2.1		02/02/20 22:32	108-05-4	
Vinyl chloride	**<0.26**	ug/m3	0.55	2.1		02/02/20 22:32	75-01-4	
m&p-Xylene	**<1.5**	ug/m3	3.7	2.1		02/02/20 22:32	179601-23-1	
o-Xylene	**<0.72**	ug/m3	1.9	2.1		02/02/20 22:32	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-6 SP-106 **Lab ID: 70119372009** Collected: 01/21/20 14:02 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**115**	ug/m3	4.8	1.98		02/02/20 23:31	67-64-1	
Benzene	**0.39J**	ug/m3	0.64	1.98		02/02/20 23:31	71-43-2	
Benzyl chloride	**<2.4**	ug/m3	5.2	1.98		02/02/20 23:31	100-44-7	
Bromodichloromethane	**<0.72**	ug/m3	2.7	1.98		02/02/20 23:31	75-27-4	
Bromoform	**<2.8**	ug/m3	10.4	1.98		02/02/20 23:31	75-25-2	
Bromomethane	**<0.45**	ug/m3	1.6	1.98		02/02/20 23:31	74-83-9	
1,3-Butadiene	**<0.25**	ug/m3	0.89	1.98		02/02/20 23:31	106-99-0	
2-Butanone (MEK)	**8.9**	ug/m3	5.9	1.98		02/02/20 23:31	78-93-3	
Carbon disulfide	**0.48J**	ug/m3	1.3	1.98		02/02/20 23:31	75-15-0	
Carbon tetrachloride	**<0.85**	ug/m3	2.5	1.98		02/02/20 23:31	56-23-5	
Chlorobenzene	**<0.54**	ug/m3	1.9	1.98		02/02/20 23:31	108-90-7	
Chloroethane	**<0.51**	ug/m3	1.1	1.98		02/02/20 23:31	75-00-3	
Chloroform	**<0.39**	ug/m3	0.98	1.98		02/02/20 23:31	67-66-3	
Chloromethane	**1.2**	ug/m3	0.83	1.98		02/02/20 23:31	74-87-3	
Cyclohexane	**9.0**	ug/m3	3.5	1.98		02/02/20 23:31	110-82-7	
Dibromochloromethane	**<1.4**	ug/m3	3.4	1.98		02/02/20 23:31	124-48-1	
1,2-Dibromoethane (EDB)	**<0.72**	ug/m3	1.5	1.98		02/02/20 23:31	106-93-4	
1,2-Dichlorobenzene	**<0.99**	ug/m3	2.4	1.98		02/02/20 23:31	95-50-1	
1,3-Dichlorobenzene	**<1.2**	ug/m3	2.4	1.98		02/02/20 23:31	541-73-1	
1,4-Dichlorobenzene	**<2.0**	ug/m3	6.1	1.98		02/02/20 23:31	106-46-7	
Dichlorodifluoromethane	**2.3**	ug/m3	2.0	1.98		02/02/20 23:31	75-71-8	
1,1-Dichloroethane	**<0.45**	ug/m3	1.6	1.98		02/02/20 23:31	75-34-3	
1,2-Dichloroethane	**<0.30**	ug/m3	0.81	1.98		02/02/20 23:31	107-06-2	
1,1-Dichloroethene	**<0.54**	ug/m3	1.6	1.98		02/02/20 23:31	75-35-4	
cis-1,2-Dichloroethene	**<0.43**	ug/m3	1.6	1.98		02/02/20 23:31	156-59-2	
trans-1,2-Dichloroethene	**<0.56**	ug/m3	1.6	1.98		02/02/20 23:31	156-60-5	
1,2-Dichloropropane	**<0.46**	ug/m3	1.9	1.98		02/02/20 23:31	78-87-5	
cis-1,3-Dichloropropene	**<0.60**	ug/m3	1.8	1.98		02/02/20 23:31	10061-01-5	
trans-1,3-Dichloropropene	**<0.87**	ug/m3	1.8	1.98		02/02/20 23:31	10061-02-6	
Dichlorotetrafluoroethane	**<0.87**	ug/m3	2.8	1.98		02/02/20 23:31	76-14-2	
Ethanol	**161**	ug/m3	9.5	1.98		02/02/20 23:31	64-17-5	
Ethyl acetate	**<0.38**	ug/m3	1.5	1.98		02/02/20 23:31	141-78-6	
Ethylbenzene	**<0.60**	ug/m3	1.7	1.98		02/02/20 23:31	100-41-4	
4-Ethyltoluene	**<1.1**	ug/m3	5.0	1.98		02/02/20 23:31	622-96-8	
n-Heptane	**2.1**	ug/m3	1.6	1.98		02/02/20 23:31	142-82-5	
Hexachloro-1,3-butadiene	**<3.9**	ug/m3	10.7	1.98		02/02/20 23:31	87-68-3	
n-Hexane	**1.2J**	ug/m3	1.4	1.98		02/02/20 23:31	110-54-3	
2-Hexanone	**<1.5**	ug/m3	8.2	1.98		02/02/20 23:31	591-78-6	
Methylene Chloride	**421**	ug/m3	7.0	1.98		02/02/20 23:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2.0J**	ug/m3	8.2	1.98		02/02/20 23:31	108-10-1	
Methyl-tert-butyl ether	**<1.3**	ug/m3	7.2	1.98		02/02/20 23:31	1634-04-4	
Naphthalene	**<2.6**	ug/m3	5.3	1.98		02/02/20 23:31	91-20-3	
2-Propanol	**602**	ug/m3	5.0	1.98		02/02/20 23:31	67-63-0	
Propylene	**<0.28**	ug/m3	0.69	1.98		02/02/20 23:31	115-07-1	
Styrene	**0.84J**	ug/m3	1.7	1.98		02/02/20 23:31	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.61**	ug/m3	1.4	1.98		02/02/20 23:31	79-34-5	
Tetrachloroethene	**3.0**	ug/m3	1.4	1.98		02/02/20 23:31	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-6 SP-106 **Lab ID: 70119372009** Collected: 01/21/20 14:02 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.52**	ug/m3	1.2	1.98		02/02/20 23:31	109-99-9	
Toluene	**5.2**	ug/m3	1.5	1.98		02/02/20 23:31	108-88-3	
1,2,4-Trichlorobenzene	**<7.4**	ug/m3	14.9	1.98		02/02/20 23:31	120-82-1	
1,1,1-Trichloroethane	**<0.61**	ug/m3	2.2	1.98		02/02/20 23:31	71-55-6	
1,1,2-Trichloroethane	**<0.48**	ug/m3	1.1	1.98		02/02/20 23:31	79-00-5	
Trichloroethene	**<0.50**	ug/m3	1.1	1.98		02/02/20 23:31	79-01-6	
Trichlorofluoromethane	**1.3J**	ug/m3	2.3	1.98		02/02/20 23:31	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.1**	ug/m3	3.1	1.98		02/02/20 23:31	76-13-1	
1,2,4-Trimethylbenzene	**1.4J**	ug/m3	2.0	1.98		02/02/20 23:31	95-63-6	
1,3,5-Trimethylbenzene	**0.80J**	ug/m3	2.0	1.98		02/02/20 23:31	108-67-8	
Vinyl acetate	**<0.53**	ug/m3	1.4	1.98		02/02/20 23:31	108-05-4	
Vinyl chloride	**<0.25**	ug/m3	0.51	1.98		02/02/20 23:31	75-01-4	
m&p-Xylene	**<1.4**	ug/m3	3.5	1.98		02/02/20 23:31	179601-23-1	
o-Xylene	**<0.68**	ug/m3	1.7	1.98		02/02/20 23:31	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-7 SP-107 **Lab ID: 70119372010** Collected: 01/21/20 14:05 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**40.6**	ug/m3	4.9	2.02		02/02/20 21:03	67-64-1	
Benzene	**<0.31**	ug/m3	0.66	2.02		02/02/20 21:03	71-43-2	
Benzyl chloride	**<2.4**	ug/m3	5.3	2.02		02/02/20 21:03	100-44-7	
Bromodichloromethane	**<0.74**	ug/m3	2.7	2.02		02/02/20 21:03	75-27-4	
Bromoform	**<2.9**	ug/m3	10.6	2.02		02/02/20 21:03	75-25-2	
Bromomethane	**<0.46**	ug/m3	1.6	2.02		02/02/20 21:03	74-83-9	
1,3-Butadiene	**<0.26**	ug/m3	0.91	2.02		02/02/20 21:03	106-99-0	
2-Butanone (MEK)	**7.5**	ug/m3	6.1	2.02		02/02/20 21:03	78-93-3	
Carbon disulfide	**0.81J**	ug/m3	1.3	2.02		02/02/20 21:03	75-15-0	
Carbon tetrachloride	**<0.87**	ug/m3	2.6	2.02		02/02/20 21:03	56-23-5	
Chlorobenzene	**<0.56**	ug/m3	1.9	2.02		02/02/20 21:03	108-90-7	
Chloroethane	**<0.53**	ug/m3	1.1	2.02		02/02/20 21:03	75-00-3	
Chloroform	**2.6**	ug/m3	1.0	2.02		02/02/20 21:03	67-66-3	
Chloromethane	**1.1**	ug/m3	0.85	2.02		02/02/20 21:03	74-87-3	
Cyclohexane	**2.0J**	ug/m3	3.5	2.02		02/02/20 21:03	110-82-7	
Dibromochloromethane	**<1.5**	ug/m3	3.5	2.02		02/02/20 21:03	124-48-1	
1,2-Dibromoethane (EDB)	**<0.74**	ug/m3	1.6	2.02		02/02/20 21:03	106-93-4	
1,2-Dichlorobenzene	**<1.0**	ug/m3	2.5	2.02		02/02/20 21:03	95-50-1	
1,3-Dichlorobenzene	**<1.2**	ug/m3	2.5	2.02		02/02/20 21:03	541-73-1	
1,4-Dichlorobenzene	**<2.0**	ug/m3	6.2	2.02		02/02/20 21:03	106-46-7	
Dichlorodifluoromethane	**2.2**	ug/m3	2.0	2.02		02/02/20 21:03	75-71-8	
1,1-Dichloroethane	**<0.45**	ug/m3	1.7	2.02		02/02/20 21:03	75-34-3	
1,2-Dichloroethane	**<0.30**	ug/m3	0.83	2.02		02/02/20 21:03	107-06-2	
1,1-Dichloroethene	**<0.55**	ug/m3	1.6	2.02		02/02/20 21:03	75-35-4	
cis-1,2-Dichloroethene	**<0.44**	ug/m3	1.6	2.02		02/02/20 21:03	156-59-2	
trans-1,2-Dichloroethene	**<0.58**	ug/m3	1.6	2.02		02/02/20 21:03	156-60-5	
1,2-Dichloropropane	**<0.46**	ug/m3	1.9	2.02		02/02/20 21:03	78-87-5	
cis-1,3-Dichloropropene	**<0.61**	ug/m3	1.9	2.02		02/02/20 21:03	10061-01-5	
trans-1,3-Dichloropropene	**<0.89**	ug/m3	1.9	2.02		02/02/20 21:03	10061-02-6	
Dichlorotetrafluoroethane	**<0.88**	ug/m3	2.9	2.02		02/02/20 21:03	76-14-2	
Ethanol	**47.0**	ug/m3	9.7	2.02		02/02/20 21:03	64-17-5	
Ethyl acetate	**<0.38**	ug/m3	1.5	2.02		02/02/20 21:03	141-78-6	
Ethylbenzene	**<0.62**	ug/m3	1.8	2.02		02/02/20 21:03	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.0	2.02		02/02/20 21:03	622-96-8	
n-Heptane	**<0.77**	ug/m3	1.7	2.02		02/02/20 21:03	142-82-5	
Hexachloro-1,3-butadiene	**<4.0**	ug/m3	10.9	2.02		02/02/20 21:03	87-68-3	
n-Hexane	**<0.63**	ug/m3	1.4	2.02		02/02/20 21:03	110-54-3	
2-Hexanone	**<1.5**	ug/m3	8.4	2.02		02/02/20 21:03	591-78-6	
Methylene Chloride	**39.6**	ug/m3	7.1	2.02		02/02/20 21:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3.1J**	ug/m3	8.4	2.02		02/02/20 21:03	108-10-1	
Methyl-tert-butyl ether	**<1.3**	ug/m3	7.4	2.02		02/02/20 21:03	1634-04-4	
Naphthalene	**<2.6**	ug/m3	5.4	2.02		02/02/20 21:03	91-20-3	
2-Propanol	**165**	ug/m3	5.0	2.02		02/02/20 21:03	67-63-0	
Propylene	**<0.28**	ug/m3	0.71	2.02		02/02/20 21:03	115-07-1	
Styrene	**<0.69**	ug/m3	1.7	2.02		02/02/20 21:03	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.62**	ug/m3	1.4	2.02		02/02/20 21:03	79-34-5	
Tetrachloroethene	**1.3J**	ug/m3	1.4	2.02		02/02/20 21:03	127-18-4	

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-7 SP-107 **Lab ID: 70119372010** Collected: 01/21/20 14:05 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.53**	ug/m3	1.2	2.02		02/02/20 21:03	109-99-9	
Toluene	**0.83J**	ug/m3	1.5	2.02		02/02/20 21:03	108-88-3	
1,2,4-Trichlorobenzene	**<7.5**	ug/m3	15.2	2.02		02/02/20 21:03	120-82-1	
1,1,1-Trichloroethane	**<0.62**	ug/m3	2.2	2.02		02/02/20 21:03	71-55-6	
1,1,2-Trichloroethane	**<0.49**	ug/m3	1.1	2.02		02/02/20 21:03	79-00-5	
Trichloroethene	**0.79J**	ug/m3	1.1	2.02		02/02/20 21:03	79-01-6	
Trichlorofluoromethane	**1.2J**	ug/m3	2.3	2.02		02/02/20 21:03	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.1**	ug/m3	3.2	2.02		02/02/20 21:03	76-13-1	
1,2,4-Trimethylbenzene	**<0.91**	ug/m3	2.0	2.02		02/02/20 21:03	95-63-6	
1,3,5-Trimethylbenzene	**<0.81**	ug/m3	2.0	2.02		02/02/20 21:03	108-67-8	
Vinyl acetate	**<0.55**	ug/m3	1.4	2.02		02/02/20 21:03	108-05-4	
Vinyl chloride	**<0.25**	ug/m3	0.53	2.02		02/02/20 21:03	75-01-4	
m&p-Xylene	**<1.4**	ug/m3	3.6	2.02		02/02/20 21:03	179601-23-1	
o-Xylene	**<0.69**	ug/m3	1.8	2.02		02/02/20 21:03	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-8 SP-108 **Lab ID: 70119372011** Collected: 01/21/20 14:06 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**27.9**	ug/m3	5.4	2.24		02/02/20 20:04	67-64-1	
Benzene	**<0.34**	ug/m3	0.73	2.24		02/02/20 20:04	71-43-2	
Benzyl chloride	**<2.7**	ug/m3	5.9	2.24		02/02/20 20:04	100-44-7	
Bromodichloromethane	**<0.82**	ug/m3	3.0	2.24		02/02/20 20:04	75-27-4	
Bromoform	**<3.2**	ug/m3	11.8	2.24		02/02/20 20:04	75-25-2	
Bromomethane	**<0.51**	ug/m3	1.8	2.24		02/02/20 20:04	74-83-9	
1,3-Butadiene	**<0.29**	ug/m3	1.0	2.24		02/02/20 20:04	106-99-0	
2-Butanone (MEK)	**8.0**	ug/m3	6.7	2.24		02/02/20 20:04	78-93-3	
Carbon disulfide	**<0.49**	ug/m3	1.4	2.24		02/02/20 20:04	75-15-0	
Carbon tetrachloride	**<0.96**	ug/m3	2.9	2.24		02/02/20 20:04	56-23-5	
Chlorobenzene	**<0.62**	ug/m3	2.1	2.24		02/02/20 20:04	108-90-7	
Chloroethane	**<0.58**	ug/m3	1.2	2.24		02/02/20 20:04	75-00-3	
Chloroform	**23.3**	ug/m3	1.1	2.24		02/02/20 20:04	67-66-3	
Chloromethane	**<0.35**	ug/m3	0.94	2.24		02/02/20 20:04	74-87-3	
Cyclohexane	**<0.79**	ug/m3	3.9	2.24		02/02/20 20:04	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	3.9	2.24		02/02/20 20:04	124-48-1	
1,2-Dibromoethane (EDB)	**<0.82**	ug/m3	1.7	2.24		02/02/20 20:04	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.7	2.24		02/02/20 20:04	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.7	2.24		02/02/20 20:04	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	6.9	2.24		02/02/20 20:04	106-46-7	
Dichlorodifluoromethane	**4.9**	ug/m3	2.3	2.24		02/02/20 20:04	75-71-8	
1,1-Dichloroethane	**<0.50**	ug/m3	1.8	2.24		02/02/20 20:04	75-34-3	
1,2-Dichloroethane	**<0.34**	ug/m3	0.92	2.24		02/02/20 20:04	107-06-2	
1,1-Dichloroethene	**<0.61**	ug/m3	1.8	2.24		02/02/20 20:04	75-35-4	
cis-1,2-Dichloroethene	**<0.49**	ug/m3	1.8	2.24		02/02/20 20:04	156-59-2	
trans-1,2-Dichloroethene	**<0.64**	ug/m3	1.8	2.24		02/02/20 20:04	156-60-5	
1,2-Dichloropropane	**<0.52**	ug/m3	2.1	2.24		02/02/20 20:04	78-87-5	
cis-1,3-Dichloropropene	**<0.68**	ug/m3	2.1	2.24		02/02/20 20:04	10061-01-5	
trans-1,3-Dichloropropene	**<0.99**	ug/m3	2.1	2.24		02/02/20 20:04	10061-02-6	
Dichlorotetrafluoroethane	**<0.98**	ug/m3	3.2	2.24		02/02/20 20:04	76-14-2	
Ethanol	**26.9**	ug/m3	10.7	2.24		02/02/20 20:04	64-17-5	
Ethyl acetate	**<0.43**	ug/m3	1.6	2.24		02/02/20 20:04	141-78-6	
Ethylbenzene	**<0.68**	ug/m3	2.0	2.24		02/02/20 20:04	100-41-4	
4-Ethyltoluene	**<1.3**	ug/m3	5.6	2.24		02/02/20 20:04	622-96-8	
n-Heptane	**<0.85**	ug/m3	1.9	2.24		02/02/20 20:04	142-82-5	
Hexachloro-1,3-butadiene	**<4.4**	ug/m3	12.1	2.24		02/02/20 20:04	87-68-3	
n-Hexane	**<0.70**	ug/m3	1.6	2.24		02/02/20 20:04	110-54-3	
2-Hexanone	**<1.7**	ug/m3	9.3	2.24		02/02/20 20:04	591-78-6	
Methylene Chloride	**15.0**	ug/m3	7.9	2.24		02/02/20 20:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	9.3	2.24		02/02/20 20:04	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.2	2.24		02/02/20 20:04	1634-04-4	
Naphthalene	**<2.9**	ug/m3	6.0	2.24		02/02/20 20:04	91-20-3	
2-Propanol	**68.1**	ug/m3	5.6	2.24		02/02/20 20:04	67-63-0	
Propylene	**<0.31**	ug/m3	0.78	2.24		02/02/20 20:04	115-07-1	
Styrene	**<0.77**	ug/m3	1.9	2.24		02/02/20 20:04	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.69**	ug/m3	1.6	2.24		02/02/20 20:04	79-34-5	
Tetrachloroethene	**44.1**	ug/m3	1.5	2.24		02/02/20 20:04	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-8 SP-108 **Lab ID: 70119372011** Collected: 01/21/20 14:06 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.58**	ug/m3	1.3	2.24		02/02/20 20:04	109-99-9	
Toluene	**2.7**	ug/m3	1.7	2.24		02/02/20 20:04	108-88-3	
1,2,4-Trichlorobenzene	**<8.3**	ug/m3	16.9	2.24		02/02/20 20:04	120-82-1	
1,1,1-Trichloroethane	**3.0**	ug/m3	2.5	2.24		02/02/20 20:04	71-55-6	
1,1,2-Trichloroethane	**<0.54**	ug/m3	1.2	2.24		02/02/20 20:04	79-00-5	
Trichloroethene	**28.4**	ug/m3	1.2	2.24		02/02/20 20:04	79-01-6	
Trichlorofluoromethane	**1.3J**	ug/m3	2.6	2.24		02/02/20 20:04	75-69-4	
1,1,2-Trichlorotrifluoroethane	**3.8**	ug/m3	3.5	2.24		02/02/20 20:04	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/m3	2.2	2.24		02/02/20 20:04	95-63-6	
1,3,5-Trimethylbenzene	**<0.89**	ug/m3	2.2	2.24		02/02/20 20:04	108-67-8	
Vinyl acetate	**<0.60**	ug/m3	1.6	2.24		02/02/20 20:04	108-05-4	
Vinyl chloride	**<0.28**	ug/m3	0.58	2.24		02/02/20 20:04	75-01-4	
m&p-Xylene	**<1.6**	ug/m3	4.0	2.24		02/02/20 20:04	179601-23-1	
o-Xylene	**<0.77**	ug/m3	2.0	2.24		02/02/20 20:04	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: MID CARBON -SP302 **Lab ID: 70119372012** Collected: 01/21/20 14:31 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**45.4**	ug/m3	4.9	2.02		02/02/20 23:01	67-64-1	
Benzene	**1.2**	ug/m3	0.66	2.02		02/02/20 23:01	71-43-2	
Benzyl chloride	**<2.4**	ug/m3	5.3	2.02		02/02/20 23:01	100-44-7	
Bromodichloromethane	**<0.74**	ug/m3	2.7	2.02		02/02/20 23:01	75-27-4	
Bromoform	**<2.9**	ug/m3	10.6	2.02		02/02/20 23:01	75-25-2	
Bromomethane	**<0.46**	ug/m3	1.6	2.02		02/02/20 23:01	74-83-9	
1,3-Butadiene	**<0.26**	ug/m3	0.91	2.02		02/02/20 23:01	106-99-0	
2-Butanone (MEK)	**5.7J**	ug/m3	6.1	2.02		02/02/20 23:01	78-93-3	
Carbon disulfide	**<0.44**	ug/m3	1.3	2.02		02/02/20 23:01	75-15-0	
Carbon tetrachloride	**<0.87**	ug/m3	2.6	2.02		02/02/20 23:01	56-23-5	
Chlorobenzene	**<0.56**	ug/m3	1.9	2.02		02/02/20 23:01	108-90-7	
Chloroethane	**<0.53**	ug/m3	1.1	2.02		02/02/20 23:01	75-00-3	
Chloroform	**10.5**	ug/m3	1.0	2.02		02/02/20 23:01	67-66-3	
Chloromethane	**<0.32**	ug/m3	0.85	2.02		02/02/20 23:01	74-87-3	
Cyclohexane	**<0.71**	ug/m3	3.5	2.02		02/02/20 23:01	110-82-7	
Dibromochloromethane	**<1.5**	ug/m3	3.5	2.02		02/02/20 23:01	124-48-1	
1,2-Dibromoethane (EDB)	**<0.74**	ug/m3	1.6	2.02		02/02/20 23:01	106-93-4	
1,2-Dichlorobenzene	**<1.0**	ug/m3	2.5	2.02		02/02/20 23:01	95-50-1	
1,3-Dichlorobenzene	**<1.2**	ug/m3	2.5	2.02		02/02/20 23:01	541-73-1	
1,4-Dichlorobenzene	**<2.0**	ug/m3	6.2	2.02		02/02/20 23:01	106-46-7	
Dichlorodifluoromethane	**3.4**	ug/m3	2.0	2.02		02/02/20 23:01	75-71-8	
1,1-Dichloroethane	**<0.45**	ug/m3	1.7	2.02		02/02/20 23:01	75-34-3	
1,2-Dichloroethane	**<0.30**	ug/m3	0.83	2.02		02/02/20 23:01	107-06-2	
1,1-Dichloroethene	**<0.55**	ug/m3	1.6	2.02		02/02/20 23:01	75-35-4	
cis-1,2-Dichloroethene	**0.49J**	ug/m3	1.6	2.02		02/02/20 23:01	156-59-2	
trans-1,2-Dichloroethene	**<0.58**	ug/m3	1.6	2.02		02/02/20 23:01	156-60-5	
1,2-Dichloropropane	**<0.46**	ug/m3	1.9	2.02		02/02/20 23:01	78-87-5	
cis-1,3-Dichloropropene	**<0.61**	ug/m3	1.9	2.02		02/02/20 23:01	10061-01-5	
trans-1,3-Dichloropropene	**<0.89**	ug/m3	1.9	2.02		02/02/20 23:01	10061-02-6	
Dichlorotetrafluoroethane	**<0.88**	ug/m3	2.9	2.02		02/02/20 23:01	76-14-2	
Ethanol	**9.8**	ug/m3	9.7	2.02		02/02/20 23:01	64-17-5	
Ethyl acetate	**<0.38**	ug/m3	1.5	2.02		02/02/20 23:01	141-78-6	
Ethylbenzene	**<0.62**	ug/m3	1.8	2.02		02/02/20 23:01	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.0	2.02		02/02/20 23:01	622-96-8	
n-Heptane	**<0.77**	ug/m3	1.7	2.02		02/02/20 23:01	142-82-5	
Hexachloro-1,3-butadiene	**<4.0**	ug/m3	10.9	2.02		02/02/20 23:01	87-68-3	
n-Hexane	**<0.63**	ug/m3	1.4	2.02		02/02/20 23:01	110-54-3	
2-Hexanone	**<1.5**	ug/m3	8.4	2.02		02/02/20 23:01	591-78-6	
Methylene Chloride	**41.2**	ug/m3	7.1	2.02		02/02/20 23:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.0**	ug/m3	8.4	2.02		02/02/20 23:01	108-10-1	
Methyl-tert-butyl ether	**<1.3**	ug/m3	7.4	2.02		02/02/20 23:01	1634-04-4	
Naphthalene	**<2.6**	ug/m3	5.4	2.02		02/02/20 23:01	91-20-3	
2-Propanol	**146**	ug/m3	5.0	2.02		02/02/20 23:01	67-63-0	
Propylene	**<0.28**	ug/m3	0.71	2.02		02/02/20 23:01	115-07-1	
Styrene	**<0.69**	ug/m3	1.7	2.02		02/02/20 23:01	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.62**	ug/m3	1.4	2.02		02/02/20 23:01	79-34-5	
Tetrachloroethene	**<0.63**	ug/m3	1.4	2.02		02/02/20 23:01	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: MID CARBON -SP302 **Lab ID: 70119372012** Collected: 01/21/20 14:31 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**0.98J**	ug/m3	1.2	2.02		02/02/20 23:01	109-99-9	
Toluene	**<0.71**	ug/m3	1.5	2.02		02/02/20 23:01	108-88-3	
1,2,4-Trichlorobenzene	**<7.5**	ug/m3	15.2	2.02		02/02/20 23:01	120-82-1	
1,1,1-Trichloroethane	**<0.62**	ug/m3	2.2	2.02		02/02/20 23:01	71-55-6	
1,1,2-Trichloroethane	**<0.49**	ug/m3	1.1	2.02		02/02/20 23:01	79-00-5	
Trichloroethene	**<0.51**	ug/m3	1.1	2.02		02/02/20 23:01	79-01-6	
Trichlorofluoromethane	**1.9J**	ug/m3	2.3	2.02		02/02/20 23:01	75-69-4	
1,1,2-Trichlorotrifluoroethane	**2.0J**	ug/m3	3.2	2.02		02/02/20 23:01	76-13-1	
1,2,4-Trimethylbenzene	**<0.91**	ug/m3	2.0	2.02		02/02/20 23:01	95-63-6	
1,3,5-Trimethylbenzene	**<0.81**	ug/m3	2.0	2.02		02/02/20 23:01	108-67-8	
Vinyl acetate	**<0.55**	ug/m3	1.4	2.02		02/02/20 23:01	108-05-4	
Vinyl chloride	**<0.25**	ug/m3	0.53	2.02		02/02/20 23:01	75-01-4	
m&p-Xylene	**<1.4**	ug/m3	3.6	2.02		02/02/20 23:01	179601-23-1	
o-Xylene	**<0.69**	ug/m3	1.8	2.02		02/02/20 23:01	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: EFFLUENT POST CARBON **Lab ID: 70119372013** Collected: 01/21/20 14:34 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**52.5**	ug/m3	5.3	2.19		02/02/20 21:33	67-64-1	
Benzene	**<0.34**	ug/m3	0.71	2.19		02/02/20 21:33	71-43-2	
Benzyl chloride	**<2.6**	ug/m3	5.8	2.19		02/02/20 21:33	100-44-7	
Bromodichloromethane	**<0.80**	ug/m3	3.0	2.19		02/02/20 21:33	75-27-4	
Bromoform	**<3.1**	ug/m3	11.5	2.19		02/02/20 21:33	75-25-2	
Bromomethane	**<0.50**	ug/m3	1.7	2.19		02/02/20 21:33	74-83-9	
1,3-Butadiene	**<0.28**	ug/m3	0.99	2.19		02/02/20 21:33	106-99-0	
2-Butanone (MEK)	**3.8J**	ug/m3	6.6	2.19		02/02/20 21:33	78-93-3	
Carbon disulfide	**<0.48**	ug/m3	1.4	2.19		02/02/20 21:33	75-15-0	
Carbon tetrachloride	**<0.94**	ug/m3	2.8	2.19		02/02/20 21:33	56-23-5	
Chlorobenzene	**<0.60**	ug/m3	2.0	2.19		02/02/20 21:33	108-90-7	
Chloroethane	**<0.57**	ug/m3	1.2	2.19		02/02/20 21:33	75-00-3	
Chloroform	**10.3**	ug/m3	1.1	2.19		02/02/20 21:33	67-66-3	
Chloromethane	**0.76J**	ug/m3	0.92	2.19		02/02/20 21:33	74-87-3	
Cyclohexane	**<0.77**	ug/m3	3.8	2.19		02/02/20 21:33	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	3.8	2.19		02/02/20 21:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.80**	ug/m3	1.7	2.19		02/02/20 21:33	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.7	2.19		02/02/20 21:33	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.7	2.19		02/02/20 21:33	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	6.7	2.19		02/02/20 21:33	106-46-7	
Dichlorodifluoromethane	**3.4**	ug/m3	2.2	2.19		02/02/20 21:33	75-71-8	
1,1-Dichloroethane	**<0.49**	ug/m3	1.8	2.19		02/02/20 21:33	75-34-3	
1,2-Dichloroethane	**<0.33**	ug/m3	0.90	2.19		02/02/20 21:33	107-06-2	
1,1-Dichloroethene	**<0.60**	ug/m3	1.8	2.19		02/02/20 21:33	75-35-4	
cis-1,2-Dichloroethene	**<0.48**	ug/m3	1.8	2.19		02/02/20 21:33	156-59-2	
trans-1,2-Dichloroethene	**<0.62**	ug/m3	1.8	2.19		02/02/20 21:33	156-60-5	
1,2-Dichloropropane	**<0.50**	ug/m3	2.1	2.19		02/02/20 21:33	78-87-5	
cis-1,3-Dichloropropene	**<0.67**	ug/m3	2.0	2.19		02/02/20 21:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.96**	ug/m3	2.0	2.19		02/02/20 21:33	10061-02-6	
Dichlorotetrafluoroethane	**<0.96**	ug/m3	3.1	2.19		02/02/20 21:33	76-14-2	
Ethanol	**11.1**	ug/m3	10.5	2.19		02/02/20 21:33	64-17-5	
Ethyl acetate	**<0.42**	ug/m3	1.6	2.19		02/02/20 21:33	141-78-6	
Ethylbenzene	**<0.67**	ug/m3	1.9	2.19		02/02/20 21:33	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.5	2.19		02/02/20 21:33	622-96-8	
n-Heptane	**<0.83**	ug/m3	1.8	2.19		02/02/20 21:33	142-82-5	
Hexachloro-1,3-butadiene	**<4.3**	ug/m3	11.9	2.19		02/02/20 21:33	87-68-3	
n-Hexane	**<0.68**	ug/m3	1.6	2.19		02/02/20 21:33	110-54-3	
2-Hexanone	**<1.6**	ug/m3	9.1	2.19		02/02/20 21:33	591-78-6	
Methylene Chloride	**48.2**	ug/m3	7.7	2.19		02/02/20 21:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.3J**	ug/m3	9.1	2.19		02/02/20 21:33	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.0	2.19		02/02/20 21:33	1634-04-4	
Naphthalene	**<2.9**	ug/m3	5.8	2.19		02/02/20 21:33	91-20-3	
2-Propanol	**166**	ug/m3	5.5	2.19		02/02/20 21:33	67-63-0	
Propylene	**0.81**	ug/m3	0.77	2.19		02/02/20 21:33	115-07-1	
Styrene	**<0.75**	ug/m3	1.9	2.19		02/02/20 21:33	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.68**	ug/m3	1.5	2.19		02/02/20 21:33	79-34-5	
Tetrachloroethene	**<0.69**	ug/m3	1.5	2.19		02/02/20 21:33	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: EFFLUENT POST CARBON **Lab ID: 70119372013** Collected: 01/21/20 14:34 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**0.64J**	ug/m3	1.3	2.19		02/02/20 21:33	109-99-9	
Toluene	**<0.77**	ug/m3	1.7	2.19		02/02/20 21:33	108-88-3	
1,2,4-Trichlorobenzene	**<8.1**	ug/m3	16.5	2.19		02/02/20 21:33	120-82-1	
1,1,1-Trichloroethane	**<0.68**	ug/m3	2.4	2.19		02/02/20 21:33	71-55-6	
1,1,2-Trichloroethane	**<0.53**	ug/m3	1.2	2.19		02/02/20 21:33	79-00-5	
Trichloroethene	**<0.55**	ug/m3	1.2	2.19		02/02/20 21:33	79-01-6	
Trichlorofluoromethane	**2.8**	ug/m3	2.5	2.19		02/02/20 21:33	75-69-4	
1,1,2-Trichlorotrifluoroethane	**2.9J**	ug/m3	3.4	2.19		02/02/20 21:33	76-13-1	
1,2,4-Trimethylbenzene	**<0.99**	ug/m3	2.2	2.19		02/02/20 21:33	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/m3	2.2	2.19		02/02/20 21:33	108-67-8	
Vinyl acetate	**<0.59**	ug/m3	1.6	2.19		02/02/20 21:33	108-05-4	
Vinyl chloride	**<0.28**	ug/m3	0.57	2.19		02/02/20 21:33	75-01-4	
m&p-Xylene	**<1.5**	ug/m3	3.9	2.19		02/02/20 21:33	179601-23-1	
o-Xylene	**<0.75**	ug/m3	1.9	2.19		02/02/20 21:33	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

QC Batch: 657863 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 70119372001, 70119372002, 70119372003, 70119372004, 70119372005, 70119372006, 70119372007, 70119372008, 70119372009, 70119372010, 70119372011, 70119372012, 70119372013

METHOD BLANK: 3532449 Matrix: Air
Associated Lab Samples: 70119372001, 70119372002, 70119372003, 70119372004, 70119372005, 70119372006, 70119372007, 70119372008, 70119372009, 70119372010, 70119372011, 70119372012, 70119372013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.31	1.1	02/02/20 08:47	
1,1,2,2-Tetrachloroethane	ug/m3	<0.31	0.70	02/02/20 08:47	
1,1,2-Trichloroethane	ug/m3	<0.24	0.56	02/02/20 08:47	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.56	1.6	02/02/20 08:47	
1,1-Dichloroethane	ug/m3	<0.22	0.82	02/02/20 08:47	
1,1-Dichloroethene	ug/m3	<0.27	0.81	02/02/20 08:47	
1,2,4-Trichlorobenzene	ug/m3	<3.7	7.5	02/02/20 08:47	
1,2,4-Trimethylbenzene	ug/m3	<0.45	1.0	02/02/20 08:47	
1,2-Dibromoethane (EDB)	ug/m3	<0.37	0.78	02/02/20 08:47	
1,2-Dichlorobenzene	ug/m3	<0.50	1.2	02/02/20 08:47	
1,2-Dichloroethane	ug/m3	<0.15	0.41	02/02/20 08:47	
1,2-Dichloropropane	ug/m3	<0.23	0.94	02/02/20 08:47	
1,3,5-Trimethylbenzene	ug/m3	<0.40	1.0	02/02/20 08:47	
1,3-Butadiene	ug/m3	<0.13	0.45	02/02/20 08:47	
1,3-Dichlorobenzene	ug/m3	<0.58	1.2	02/02/20 08:47	
1,4-Dichlorobenzene	ug/m3	<1.0	3.1	02/02/20 08:47	
2-Butanone (MEK)	ug/m3	<0.37	3.0	02/02/20 08:47	
2-Hexanone	ug/m3	<0.74	4.2	02/02/20 08:47	
2-Propanol	ug/m3	<0.70	2.5	02/02/20 08:47	
4-Ethyltoluene	ug/m3	<0.57	2.5	02/02/20 08:47	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.52	4.2	02/02/20 08:47	
Acetone	ug/m3	<1.2	2.4	02/02/20 08:47	
Benzene	ug/m3	<0.15	0.32	02/02/20 08:47	
Benzyl chloride	ug/m3	<1.2	2.6	02/02/20 08:47	
Bromodichloromethane	ug/m3	<0.37	1.4	02/02/20 08:47	
Bromoform	ug/m3	<1.4	5.2	02/02/20 08:47	
Bromomethane	ug/m3	<0.23	0.79	02/02/20 08:47	
Carbon disulfide	ug/m3	<0.22	0.63	02/02/20 08:47	
Carbon tetrachloride	ug/m3	<0.43	1.3	02/02/20 08:47	
Chlorobenzene	ug/m3	<0.28	0.94	02/02/20 08:47	
Chloroethane	ug/m3	<0.26	0.54	02/02/20 08:47	
Chloroform	ug/m3	<0.20	0.50	02/02/20 08:47	
Chloromethane	ug/m3	<0.16	0.42	02/02/20 08:47	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	02/02/20 08:47	
cis-1,3-Dichloropropene	ug/m3	<0.30	0.92	02/02/20 08:47	
Cyclohexane	ug/m3	<0.35	1.8	02/02/20 08:47	
Dibromochloromethane	ug/m3	<0.72	1.7	02/02/20 08:47	
Dichlorodifluoromethane	ug/m3	<0.29	1.0	02/02/20 08:47	
Dichlorotetrafluoroethane	ug/m3	<0.44	1.4	02/02/20 08:47	
Ethanol	ug/m3	<0.81	4.8	02/02/20 08:47	MN

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

METHOD BLANK: 3532449 Matrix: Air

Associated Lab Samples: 70119372001, 70119372002, 70119372003, 70119372004, 70119372005, 70119372006, 70119372007, 70119372008, 70119372009, 70119372010, 70119372011, 70119372012, 70119372013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.19	0.73	02/02/20 08:47	
Ethylbenzene	ug/m3	<0.30	0.88	02/02/20 08:47	
Hexachloro-1,3-butadiene	ug/m3	<2.0	5.4	02/02/20 08:47	
m&p-Xylene	ug/m3	<0.70	1.8	02/02/20 08:47	
Methyl-tert-butyl ether	ug/m3	<0.66	3.7	02/02/20 08:47	
Methylene Chloride	ug/m3	<1.2	3.5	02/02/20 08:47	
n-Heptane	ug/m3	<0.38	0.83	02/02/20 08:47	
n-Hexane	ug/m3	<0.31	0.72	02/02/20 08:47	
Naphthalene	ug/m3	<1.3	2.7	02/02/20 08:47	
o-Xylene	ug/m3	<0.34	0.88	02/02/20 08:47	
Propylene	ug/m3	<0.14	0.35	02/02/20 08:47	
Styrene	ug/m3	<0.34	0.87	02/02/20 08:47	
Tetrachloroethene	ug/m3	<0.31	0.69	02/02/20 08:47	
Tetrahydrofuran	ug/m3	<0.26	0.60	02/02/20 08:47	
Toluene	ug/m3	<0.35	0.77	02/02/20 08:47	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	02/02/20 08:47	
trans-1,3-Dichloropropene	ug/m3	<0.44	0.92	02/02/20 08:47	
Trichloroethene	ug/m3	<0.25	0.55	02/02/20 08:47	
Trichlorofluoromethane	ug/m3	<0.37	1.1	02/02/20 08:47	
Vinyl acetate	ug/m3	<0.27	0.72	02/02/20 08:47	
Vinyl chloride	ug/m3	<0.13	0.26	02/02/20 08:47	

LABORATORY CONTROL SAMPLE: 3532450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	55.1	99	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	67.2	96	70-132	
1,1,2-Trichloroethane	ug/m3	55.5	56.4	102	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	72.6	93	70-130	
1,1-Dichloroethane	ug/m3	41.1	40.0	97	70-130	
1,1-Dichloroethene	ug/m3	40.3	38.5	96	69-137	
1,2,4-Trichlorobenzene	ug/m3	75.4	74.3	98	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	49.8	100	70-137	
1,2-Dibromoethane (EDB)	ug/m3	78.1	82.2	105	70-138	
1,2-Dichlorobenzene	ug/m3	61.1	64.2	105	70-136	
1,2-Dichloroethane	ug/m3	41.1	41.3	100	70-130	
1,2-Dichloropropane	ug/m3	47	46.5	99	70-132	
1,3,5-Trimethylbenzene	ug/m3	50	48.2	96	70-136	
1,3-Butadiene	ug/m3	22.5	22.5	100	67-139	
1,3-Dichlorobenzene	ug/m3	61.1	63.8	104	70-138	
1,4-Dichlorobenzene	ug/m3	61.1	65.0	106	70-145	
2-Butanone (MEK)	ug/m3	30	25.4	85	61-130	
2-Hexanone	ug/m3	41.6	38.7	93	70-138	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

LABORATORY CONTROL SAMPLE: 3532450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/m3	125	124	99	70-136	
4-Ethyltoluene	ug/m3	50	49.6	99	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.6	38.3	92	70-134	
Acetone	ug/m3	121	109	90	59-137	
Benzene	ug/m3	32.5	30.8	95	70-133	
Benzyl chloride	ug/m3	52.6	56.6	108	70-139	
Bromodichloromethane	ug/m3	68.1	71.2	105	70-130	
Bromoform	ug/m3	105	115	109	60-140	
Bromomethane	ug/m3	39.5	37.1	94	70-131	
Carbon disulfide	ug/m3	31.6	31.4	99	70-130	
Carbon tetrachloride	ug/m3	64	68.6	107	70-133	
Chlorobenzene	ug/m3	46.8	47.6	102	70-131	
Chloroethane	ug/m3	26.8	29.0	108	70-141	
Chloroform	ug/m3	49.6	49.2	99	70-130	
Chloromethane	ug/m3	21	19.5	93	64-137	
cis-1,2-Dichloroethene	ug/m3	40.3	40.9	102	70-132	
cis-1,3-Dichloropropene	ug/m3	46.1	47.7	103	70-138	
Cyclohexane	ug/m3	35	33.3	95	70-133	
Dibromochloromethane	ug/m3	86.6	100	116	70-139	
Dichlorodifluoromethane	ug/m3	50.3	48.1	96	70-130	
Dichlorotetrafluoroethane	ug/m3	71	66.5	94	65-133	
Ethanol	ug/m3	95.8	103	108	65-135	
Ethyl acetate	ug/m3	36.6	34.8	95	70-135	
Ethylbenzene	ug/m3	44.1	43.8	99	70-142	
Hexachloro-1,3-butadiene	ug/m3	108	98.1	90	70-134	
m&p-Xylene	ug/m3	88.3	86.8	98	70-141	
Methyl-tert-butyl ether	ug/m3	36.6	36.0	98	70-131	
Methylene Chloride	ug/m3	177	160	90	69-130	
n-Heptane	ug/m3	41.7	38.0	91	70-130	
n-Hexane	ug/m3	35.8	33.8	94	70-131	
Naphthalene	ug/m3	53.3	48.0	90	63-130	
o-Xylene	ug/m3	44.1	42.6	97	70-135	
Propylene	ug/m3	17.5	16.0	91	63-139	
Styrene	ug/m3	43.3	45.1	104	70-143	
Tetrachloroethene	ug/m3	68.9	69.8	101	70-136	
Tetrahydrofuran	ug/m3	30	29.6	99	70-137	
Toluene	ug/m3	38.3	37.2	97	70-136	
trans-1,2-Dichloroethene	ug/m3	40.3	40.6	101	70-132	
trans-1,3-Dichloropropene	ug/m3	46.1	50.9	110	70-139	
Trichloroethene	ug/m3	54.6	57.2	105	70-132	
Trichlorofluoromethane	ug/m3	57.1	54.2	95	65-136	
Vinyl acetate	ug/m3	35.8	30.0	84	66-140	SS
Vinyl chloride	ug/m3	26	24.7	95	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

SAMPLE DUPLICATE: 3532749

Parameter	Units	10506325001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.62		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.62		
1,1,2-Trichloroethane	ug/m3	ND	<0.49		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<1.1		
1,1-Dichloroethane	ug/m3	ND	<0.45		
1,1-Dichloroethene	ug/m3	ND	<0.55		
1,2,4-Trichlorobenzene	ug/m3	ND	<7.5		
1,2,4-Trimethylbenzene	ug/m3	ND	<0.91		
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.74		
1,2-Dichlorobenzene	ug/m3	ND	<1.0		
1,2-Dichloroethane	ug/m3	ND	<0.30		
1,2-Dichloropropane	ug/m3	ND	<0.46		
1,3,5-Trimethylbenzene	ug/m3	ND	<0.80		
1,3-Butadiene	ug/m3	ND	<0.26		
1,3-Dichlorobenzene	ug/m3	ND	<1.2		
1,4-Dichlorobenzene	ug/m3	ND	<2.0		
2-Butanone (MEK)	ug/m3	ND	4.0J		
2-Hexanone	ug/m3	ND	<1.5		
2-Propanol	ug/m3	ND	<1.4		
4-Ethyltoluene	ug/m3	ND	<1.1		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<1.0		
Acetone	ug/m3	7.7	7.2	7	
Benzene	ug/m3	ND	0.40J		
Benzyl chloride	ug/m3	ND	<2.4		
Bromodichloromethane	ug/m3	ND	<0.74		
Bromoform	ug/m3	ND	<2.9		
Bromomethane	ug/m3	ND	<0.46		
Carbon disulfide	ug/m3	ND	<0.44		
Carbon tetrachloride	ug/m3	ND	<0.86		
Chlorobenzene	ug/m3	ND	<0.55		
Chloroethane	ug/m3	ND	<0.52		
Chloroform	ug/m3	ND	<0.39		
Chloromethane	ug/m3	ND	0.53J		
cis-1,2-Dichloroethene	ug/m3	ND	<0.44		
cis-1,3-Dichloropropene	ug/m3	ND	<0.61		
Cyclohexane	ug/m3	ND	<0.71		
Dibromochloromethane	ug/m3	ND	<1.4		
Dichlorodifluoromethane	ug/m3	ND	1.9J		
Dichlorotetrafluoroethane	ug/m3	ND	<0.88		
Ethanol	ug/m3	ND	4.6J		
Ethyl acetate	ug/m3	ND	<0.38		
Ethylbenzene	ug/m3	ND	<0.61		
Hexachloro-1,3-butadiene	ug/m3	ND	<4.0		
m&p-Xylene	ug/m3	ND	<1.4		
Methyl-tert-butyl ether	ug/m3	ND	<1.3		
Methylene Chloride	ug/m3	ND	<2.4		
n-Heptane	ug/m3	ND	<0.76		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

SAMPLE DUPLICATE: 3532749

Parameter	Units	10506325001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	ND	0.75J		
Naphthalene	ug/m3	ND	<2.6		
o-Xylene	ug/m3	ND	<0.69		
Propylene	ug/m3	ND	<0.28		
Styrene	ug/m3	ND	<0.69		
Tetrachloroethene	ug/m3	ND	<0.63		
Tetrahydrofuran	ug/m3	ND	<0.52		
Toluene	ug/m3	ND	<0.71		
trans-1,2-Dichloroethene	ug/m3	ND	<0.57		
trans-1,3-Dichloropropene	ug/m3	ND	<0.88		
Trichloroethene	ug/m3	ND	<0.51		
Trichlorofluoromethane	ug/m3	ND	0.99J		
Vinyl acetate	ug/m3	ND	<0.54		
Vinyl chloride	ug/m3	ND	<0.25		

SAMPLE DUPLICATE: 3532750

Parameter	Units	10506325003 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.44		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.44		
1,1,2-Trichloroethane	ug/m3	ND	<0.35		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<0.81		
1,1-Dichloroethane	ug/m3	ND	<0.32		
1,1-Dichloroethene	ug/m3	ND	<0.39		
1,2,4-Trichlorobenzene	ug/m3	ND	<5.4		
1,2,4-Trimethylbenzene	ug/m3	1.6	1.5	5	
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.53		
1,2-Dichlorobenzene	ug/m3	ND	<0.72		
1,2-Dichloroethane	ug/m3	ND	<0.22		
1,2-Dichloropropane	ug/m3	ND	<0.33		
1,3,5-Trimethylbenzene	ug/m3	ND	0.68J		
1,3-Butadiene	ug/m3	ND	<0.18		
1,3-Dichlorobenzene	ug/m3	ND	<0.84		
1,4-Dichlorobenzene	ug/m3	ND	<1.4		
2-Butanone (MEK)	ug/m3	ND	0.67J		
2-Hexanone	ug/m3	ND	<1.1		
2-Propanol	ug/m3	ND	<1.0		
4-Ethyltoluene	ug/m3	ND	<0.82		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<0.75		
Acetone	ug/m3	ND	3.2J		
Benzene	ug/m3	ND	0.43J		
Benzyl chloride	ug/m3	ND	<1.7		
Bromodichloromethane	ug/m3	ND	<0.53		
Bromoform	ug/m3	ND	<2.0		
Bromomethane	ug/m3	ND	<0.33		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

SAMPLE DUPLICATE: 3532750

Parameter	Units	10506325003 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	ND	0.66J		
Carbon tetrachloride	ug/m3	ND	<0.62		
Chlorobenzene	ug/m3	ND	<0.40		
Chloroethane	ug/m3	ND	<0.37		
Chloroform	ug/m3	ND	<0.28		
Chloromethane	ug/m3	0.91	0.95	5	
cis-1,2-Dichloroethene	ug/m3	ND	<0.32		
cis-1,3-Dichloropropene	ug/m3	ND	<0.44		
Cyclohexane	ug/m3	ND	<0.51		
Dibromochloromethane	ug/m3	ND	<1.0		
Dichlorodifluoromethane	ug/m3	2.2	2.1	4	
Dichlorotetrafluoroethane	ug/m3	ND	<0.63		
Ethanol	ug/m3	ND	<1.2		
Ethyl acetate	ug/m3	ND	<0.27		
Ethylbenzene	ug/m3	ND	<0.44		
Hexachloro-1,3-butadiene	ug/m3	ND	<2.8		
m&p-Xylene	ug/m3	2.7	2.6	3	
Methyl-tert-butyl ether	ug/m3	ND	<0.95		
Methylene Chloride	ug/m3	ND	2.1J		
n-Heptane	ug/m3	ND	<0.55		
n-Hexane	ug/m3	ND	<0.45		
Naphthalene	ug/m3	ND	3.1J		
o-Xylene	ug/m3	ND	1.2J		
Propylene	ug/m3	ND	<0.20		
Styrene	ug/m3	ND	<0.50		
Tetrachloroethene	ug/m3	ND	<0.45		
Tetrahydrofuran	ug/m3	ND	<0.38		
Toluene	ug/m3	1.6	1.6	3	
trans-1,2-Dichloroethene	ug/m3	ND	<0.41		
trans-1,3-Dichloropropene	ug/m3	ND	<0.63		
Trichloroethene	ug/m3	ND	<0.36		
Trichlorofluoromethane	ug/m3	ND	1.1J		
Vinyl acetate	ug/m3	ND	<0.39		
Vinyl chloride	ug/m3	ND	<0.18		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

MN	The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70119372001	**PRE CARBON SP-401**	TO-15	657863		
70119372002	**MID CARBON SP-402**	TO-15	657863		
70119372003	**POST CARBON SP-403**	TO-15	657863		
70119372004	**SDS-1 SP-101**	TO-15	657863		
70119372005	**SDS-2 SP-102**	TO-15	657863		
70119372006	**SDS-3 SP-103**	TO-15	657863		
70119372007	**SDS-4 SP-104**	TO-15	657863		
70119372008	**SDS-5 SP-105**	TO-15	657863		
70119372009	**SDS-6 SP-106**	TO-15	657863		
70119372010	**SDS-7 SP-107**	TO-15	657863		
70119372011	**SDS-8 SP-108**	TO-15	657863		
70119372012	**MID CARBON -SP302**	TO-15	657863		
70119372013	**EFFLUENT POST CARBON**	TO-15	657863		

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AIR: CHAIN-OF-CUSTODY /

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO#:70119372

70119372

43295

Page: 1 of 2

Section A Required Client Information:

Company: TeTraTech
Address: 175 N Corporate Dr Brookfield WI
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Glen Netuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed
Project Number:

Section C Invoice Information:

Attention: Glen Netuschil
Company Name: TeTraTech
Address: 175 N Corporate dr, Brookfield WI
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39570

Program
☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act
☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State

Reporting Units
ug/m³ mg/m³
PPBV PPMV
Other

Report Level II. III. IV. Other

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	Section D Required Client Information / AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Pre Carbon SP-401	1LC		1/21/20	9:20			27	7	2465						X					
2																					
3	mid Carbon SP-402	1LC		1/21/20	9:25			18	7	2617						X					
4																					
5	POST Carbon SP-403	1LC		1/21/20	9:27			18	7	2855						X					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	1/22/20	8:24	[illegible] Pace	1.22.20	8:24 am
[illegible]	1/22	1200	[illegible] Pace	1/23/20	9:30

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: [illegible] DATE Signed (MM / DD / YY): 1/21/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

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www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

43294 | Page: 2 of 2

Section A Required Client Information:

Company: TeTraTech
Address: 175 N Corporate dr Brookfield WI
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Glen Netuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed Martin
Project Number:

Section C Invoice Information:

Attention: Glen Netuschil
Company Name: TeTraTech
Address: 175 N Corporate Dr Brookfield WI
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39570

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. Other

Method: PM10 | 3C - Fixed Gas (%) | TO-3 BTEX | TO-3M (Methane) | TO-14 | TO-15 Full List VOCs | TO-15 Short List BTEX | TO-15 Short List Chlorinated | TO-15 Short List (other)

*Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Pace Lab ID
1	SDS-1 SP-101	1LC		1/20/20	2:15			20	7	2239		
2	SDS-2 SP-102	1LC		1/20/20	2:17			20	7	3283		
3	SDS-3 SP-103	1LC		1/20/20	2:11			18	7	1135		
4	SDS-4 SP-104	1LC		1/20/20	2:13			18	7	1030		
5	SDS-5 SP-105	1LC		1/20/20	1:59			20	7	2854		
6	SDS-6 SP-106	1LC		1/20/20	2:02			20	7	2004		
7	SDS-7 SP-107	1LC		1/20/20	2:05			25	7	2212		
8	SDS-8 SP-108	1LC		1/20/20	2:00			18	7	3033		
9	Mid Carbon - SP302	1LC		1/20/20	2:31			28	7	2911		
10	EFFluent Post Carbon	1LC		1/20/20	2:34			20	7	2781		
11												
12												

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	1/22/20	5:24	[signature] Pace	1-22-20	824a
[signature]	1/22	1200	WJOL Pace	1/23/20	9:30

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 1/20/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Nov2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.20	Pace Analytical Services - Minneapolis

Air Sample Condition Upon Receipt **Client Name:** TETRA TECH **Project #:**

WO#:70119372
PM: DJF Due Date: 02/06/20
CLIENT: TETRA

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial **See Exception** [ ]

Tracking Number: 7775 7575 8533, 8566

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [X] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other: _____ **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): X **Corrected Temp (°C):** X **Thermometer Used:** [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 1/23/20 CMY

Type of ice Received [ ] Blue [ ] Wet [X] None

		Comments:
Chain of Custody Present?	[X] Yes [ ] No	1.
Chain of Custody Filled Out?	[X] Yes [ ] No	2.
Chain of Custody Relinquished?	[X] Yes [ ] No	3.
Sampler Name and/or Signature on COC?	[X] Yes [ ] No [ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes [ ] No	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes [X] No	6.
Rush Turn Around Time Requested?	[ ] Yes [X] No	7.
Sufficient Volume?	[X] Yes [ ] No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	[X] Yes [ ] No [X] Yes [ ] No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	[X] Yes [ ] No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes [ ] No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	[X] Yes [ ] No	13.

Gauge # [X] 10AIR26 [ ] 10AIR34 [ ] 10AIR35 [ ] 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
PRE CARBON	2465		-8	~0	" 6	2004		-4.5	~0
MID CARBON	2617		-9	~0	" 7	2212		-5	~0
POST CARBON	2855		-8	~0	" 8	3033		-7.5	~0
SDS-1	2239		-8	~0	MID CARBON SPLIT	2911		-5	~0
" 2	3283		-7	~0	EFF	2781		-7	~0
" 3	1135		-7	~0	UNUSED	2253		-28	
" 4	1030		-9	~0					
" 5	2854		-6	~0					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** [ ] Yes [ ] No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

April 24, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on April 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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CERTIFICATIONS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70127698001	**PRE CARBON SP-401**	TO-15	MJL	61	PASI-M
70127698002	**MID CARBON SP-402**	TO-15	MJL	61	PASI-M
70127698003	**POST CARBON SP-403**	TO-15	MJL	61	PASI-M
70127698004	**PRE CARBON SP-301**	TO-15	MJL	61	PASI-M
70127698005	**MID CARON SP-302**	TO-15	MJL	61	PASI-M
70127698006	**POST CARBON SP-303**	TO-15	MJL	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: April 24, 2020

General Information:
6 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: 670792

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- DUP (Lab ID: 3594857)
  - Ethanol
- DUP (Lab ID: 3594858)
  - Ethanol
- LCS (Lab ID: 3594623)
  - Ethanol
- MID CARBON SP-402 (Lab ID: 70127698002)
  - Ethanol
- MID CARON SP-302 (Lab ID: 70127698005)
  - Ethanol
- POST CARBON SP-303 (Lab ID: 70127698006)
  - Ethanol
- POST CARBON SP-403 (Lab ID: 70127698003)
  - Ethanol
- PRE CARBON SP-301 (Lab ID: 70127698004)
  - Ethanol

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
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(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: April 24, 2020

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: PRE CARBON SP-301 **Lab ID: 70127698004** Collected: 04/08/20 12:30 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<13.5**	ug/m3	13.5	2.24		04/19/20 20:57	67-64-1	
Benzene	**<0.73**	ug/m3	0.73	2.24		04/19/20 20:57	71-43-2	
Benzyl chloride	**<5.9**	ug/m3	5.9	2.24		04/19/20 20:57	100-44-7	
Bromodichloromethane	**<3.0**	ug/m3	3.0	2.24		04/19/20 20:57	75-27-4	
Bromoform	**<11.8**	ug/m3	11.8	2.24		04/19/20 20:57	75-25-2	
Bromomethane	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	74-83-9	
1,3-Butadiene	**<1.0**	ug/m3	1.0	2.24		04/19/20 20:57	106-99-0	
2-Butanone (MEK)	**<6.7**	ug/m3	6.7	2.24		04/19/20 20:57	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.24		04/19/20 20:57	75-15-0	
Carbon tetrachloride	**<2.9**	ug/m3	2.9	2.24		04/19/20 20:57	56-23-5	
Chlorobenzene	**<2.1**	ug/m3	2.1	2.24		04/19/20 20:57	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.24		04/19/20 20:57	75-00-3	
Chloroform	**6.0**	ug/m3	1.1	2.24		04/19/20 20:57	67-66-3	
Chloromethane	**<0.94**	ug/m3	0.94	2.24		04/19/20 20:57	74-87-3	
Cyclohexane	**<3.9**	ug/m3	3.9	2.24		04/19/20 20:57	110-82-7	
Dibromochloromethane	**<3.9**	ug/m3	3.9	2.24		04/19/20 20:57	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.24		04/19/20 20:57	106-93-4	
1,2-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.24		04/19/20 20:57	95-50-1	
1,3-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.24		04/19/20 20:57	541-73-1	
1,4-Dichlorobenzene	**<6.9**	ug/m3	6.9	2.24		04/19/20 20:57	106-46-7	
Dichlorodifluoromethane	**3.6**	ug/m3	2.3	2.24		04/19/20 20:57	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	75-34-3	
1,2-Dichloroethane	**<0.92**	ug/m3	0.92	2.24		04/19/20 20:57	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	156-60-5	
1,2-Dichloropropane	**<2.1**	ug/m3	2.1	2.24		04/19/20 20:57	78-87-5	
cis-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.24		04/19/20 20:57	10061-01-5	
trans-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.24		04/19/20 20:57	10061-02-6	
Dichlorotetrafluoroethane	**<3.2**	ug/m3	3.2	2.24		04/19/20 20:57	76-14-2	
Ethanol	**46.0**	ug/m3	4.3	2.24		04/19/20 20:57	64-17-5	SS
Ethyl acetate	**<1.6**	ug/m3	1.6	2.24		04/19/20 20:57	141-78-6	
Ethylbenzene	**<2.0**	ug/m3	2.0	2.24		04/19/20 20:57	100-41-4	
4-Ethyltoluene	**<5.6**	ug/m3	5.6	2.24		04/19/20 20:57	622-96-8	
n-Heptane	**<1.9**	ug/m3	1.9	2.24		04/19/20 20:57	142-82-5	
Hexachloro-1,3-butadiene	**<12.1**	ug/m3	12.1	2.24		04/19/20 20:57	87-68-3	
n-Hexane	**<4.0**	ug/m3	4.0	2.24		04/19/20 20:57	110-54-3	
2-Hexanone	**<9.3**	ug/m3	9.3	2.24		04/19/20 20:57	591-78-6	
Methylene Chloride	**27.9**	ug/m3	7.9	2.24		04/19/20 20:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.3**	ug/m3	9.3	2.24		04/19/20 20:57	108-10-1	
Methyl-tert-butyl ether	**<8.2**	ug/m3	8.2	2.24		04/19/20 20:57	1634-04-4	
Naphthalene	**<6.0**	ug/m3	6.0	2.24		04/19/20 20:57	91-20-3	
2-Propanol	**388**	ug/m3	5.6	2.24		04/19/20 20:57	67-63-0	
Propylene	**<0.78**	ug/m3	0.78	2.24		04/19/20 20:57	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.24		04/19/20 20:57	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.24		04/19/20 20:57	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: PRE CARBON SP-301 **Lab ID: 70127698004** Collected: 04/08/20 12:30 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**56.7**	ug/m3	1.5	2.24		04/19/20 20:57	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.24		04/19/20 20:57	109-99-9	
Toluene	**2.8**	ug/m3	1.7	2.24		04/19/20 20:57	108-88-3	
1,2,4-Trichlorobenzene	**<16.9**	ug/m3	16.9	2.24		04/19/20 20:57	120-82-1	
1,1,1-Trichloroethane	**<2.5**	ug/m3	2.5	2.24		04/19/20 20:57	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.24		04/19/20 20:57	79-00-5	
Trichloroethene	**9.9**	ug/m3	1.2	2.24		04/19/20 20:57	79-01-6	
Trichlorofluoromethane	**3.8**	ug/m3	2.6	2.24		04/19/20 20:57	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.5**	ug/m3	3.5	2.24		04/19/20 20:57	76-13-1	
1,2,4-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.24		04/19/20 20:57	95-63-6	
1,3,5-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.24		04/19/20 20:57	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.24		04/19/20 20:57	108-05-4	
Vinyl chloride	**<0.58**	ug/m3	0.58	2.24		04/19/20 20:57	75-01-4	
m&p-Xylene	**<4.0**	ug/m3	4.0	2.24		04/19/20 20:57	179601-23-1	
o-Xylene	**<2.0**	ug/m3	2.0	2.24		04/19/20 20:57	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: MID CARON SP-302 **Lab ID: 70127698005** Collected: 04/08/20 12:35 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<12.8**	ug/m3	12.8	2.12		04/19/20 21:27	67-64-1	
Benzene	**0.93**	ug/m3	0.69	2.12		04/19/20 21:27	71-43-2	
Benzyl chloride	**<5.6**	ug/m3	5.6	2.12		04/19/20 21:27	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.12		04/19/20 21:27	75-27-4	
Bromoform	**<11.1**	ug/m3	11.1	2.12		04/19/20 21:27	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	74-83-9	
1,3-Butadiene	**<0.95**	ug/m3	0.95	2.12		04/19/20 21:27	106-99-0	
2-Butanone (MEK)	**<6.4**	ug/m3	6.4	2.12		04/19/20 21:27	78-93-3	
Carbon disulfide	**<1.3**	ug/m3	1.3	2.12		04/19/20 21:27	75-15-0	
Carbon tetrachloride	**<2.7**	ug/m3	2.7	2.12		04/19/20 21:27	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.12		04/19/20 21:27	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.12		04/19/20 21:27	75-00-3	
Chloroform	**10.7**	ug/m3	1.1	2.12		04/19/20 21:27	67-66-3	
Chloromethane	**<0.89**	ug/m3	0.89	2.12		04/19/20 21:27	74-87-3	
Cyclohexane	**<3.7**	ug/m3	3.7	2.12		04/19/20 21:27	110-82-7	
Dibromochloromethane	**<3.7**	ug/m3	3.7	2.12		04/19/20 21:27	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.12		04/19/20 21:27	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.12		04/19/20 21:27	541-73-1	
1,4-Dichlorobenzene	**<6.5**	ug/m3	6.5	2.12		04/19/20 21:27	106-46-7	
Dichlorodifluoromethane	**4.6**	ug/m3	2.1	2.12		04/19/20 21:27	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	75-34-3	
1,2-Dichloroethane	**<0.87**	ug/m3	0.87	2.12		04/19/20 21:27	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.12		04/19/20 21:27	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.12		04/19/20 21:27	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.12		04/19/20 21:27	10061-02-6	
Dichlorotetrafluoroethane	**<3.0**	ug/m3	3.0	2.12		04/19/20 21:27	76-14-2	
Ethanol	**56.3**	ug/m3	4.1	2.12		04/19/20 21:27	64-17-5	SS
Ethyl acetate	**20.5**	ug/m3	1.6	2.12		04/19/20 21:27	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.12		04/19/20 21:27	100-41-4	
4-Ethyltoluene	**<5.3**	ug/m3	5.3	2.12		04/19/20 21:27	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.12		04/19/20 21:27	142-82-5	
Hexachloro-1,3-butadiene	**<11.5**	ug/m3	11.5	2.12		04/19/20 21:27	87-68-3	
n-Hexane	**<3.8**	ug/m3	3.8	2.12		04/19/20 21:27	110-54-3	
2-Hexanone	**<8.8**	ug/m3	8.8	2.12		04/19/20 21:27	591-78-6	
Methylene Chloride	**58.3**	ug/m3	7.5	2.12		04/19/20 21:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.8**	ug/m3	8.8	2.12		04/19/20 21:27	108-10-1	
Methyl-tert-butyl ether	**<7.8**	ug/m3	7.8	2.12		04/19/20 21:27	1634-04-4	
Naphthalene	**<5.6**	ug/m3	5.6	2.12		04/19/20 21:27	91-20-3	
2-Propanol	**221**	ug/m3	5.3	2.12		04/19/20 21:27	67-63-0	
Propylene	**<0.74**	ug/m3	0.74	2.12		04/19/20 21:27	115-07-1	
Styrene	**<1.8**	ug/m3	1.8	2.12		04/19/20 21:27	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.12		04/19/20 21:27	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: MID CARON SP-302 **Lab ID: 70127698005** Collected: 04/08/20 12:35 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**2.8**	ug/m3	1.5	2.12		04/19/20 21:27	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.12		04/19/20 21:27	109-99-9	
Toluene	**7.9**	ug/m3	1.6	2.12		04/19/20 21:27	108-88-3	
1,2,4-Trichlorobenzene	**<16.0**	ug/m3	16.0	2.12		04/19/20 21:27	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.12		04/19/20 21:27	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.12		04/19/20 21:27	79-00-5	
Trichloroethene	**<1.2**	ug/m3	1.2	2.12		04/19/20 21:27	79-01-6	
Trichlorofluoromethane	**<2.4**	ug/m3	2.4	2.12		04/19/20 21:27	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.3**	ug/m3	3.3	2.12		04/19/20 21:27	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.12		04/19/20 21:27	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.12		04/19/20 21:27	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.12		04/19/20 21:27	108-05-4	
Vinyl chloride	**<0.55**	ug/m3	0.55	2.12		04/19/20 21:27	75-01-4	
m&p-Xylene	**<3.8**	ug/m3	3.8	2.12		04/19/20 21:27	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.12		04/19/20 21:27	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: POST CARBON SP-303 **Lab ID: 70127698006** Collected: 04/08/20 12:40 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<13.2**	ug/m3	13.2	2.18		04/19/20 21:57	67-64-1	
Benzene	**<0.71**	ug/m3	0.71	2.18		04/19/20 21:57	71-43-2	
Benzyl chloride	**<5.7**	ug/m3	5.7	2.18		04/19/20 21:57	100-44-7	
Bromodichloromethane	**<3.0**	ug/m3	3.0	2.18		04/19/20 21:57	75-27-4	
Bromoform	**<11.4**	ug/m3	11.4	2.18		04/19/20 21:57	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.18		04/19/20 21:57	74-83-9	
1,3-Butadiene	**<0.98**	ug/m3	0.98	2.18		04/19/20 21:57	106-99-0	
2-Butanone (MEK)	**<6.5**	ug/m3	6.5	2.18		04/19/20 21:57	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.18		04/19/20 21:57	75-15-0	
Carbon tetrachloride	**<2.8**	ug/m3	2.8	2.18		04/19/20 21:57	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.18		04/19/20 21:57	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.18		04/19/20 21:57	75-00-3	
Chloroform	**10.7**	ug/m3	1.1	2.18		04/19/20 21:57	67-66-3	
Chloromethane	**<0.92**	ug/m3	0.92	2.18		04/19/20 21:57	74-87-3	
Cyclohexane	**<3.8**	ug/m3	3.8	2.18		04/19/20 21:57	110-82-7	
Dibromochloromethane	**<3.8**	ug/m3	3.8	2.18		04/19/20 21:57	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.18		04/19/20 21:57	106-93-4	
1,2-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.18		04/19/20 21:57	95-50-1	
1,3-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.18		04/19/20 21:57	541-73-1	
1,4-Dichlorobenzene	**<6.7**	ug/m3	6.7	2.18		04/19/20 21:57	106-46-7	
Dichlorodifluoromethane	**4.6**	ug/m3	2.2	2.18		04/19/20 21:57	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	75-34-3	
1,2-Dichloroethane	**<0.90**	ug/m3	0.90	2.18		04/19/20 21:57	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.18		04/19/20 21:57	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.18		04/19/20 21:57	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.18		04/19/20 21:57	10061-02-6	
Dichlorotetrafluoroethane	**<3.1**	ug/m3	3.1	2.18		04/19/20 21:57	76-14-2	
Ethanol	**14.1**	ug/m3	4.2	2.18		04/19/20 21:57	64-17-5	SS
Ethyl acetate	**<1.6**	ug/m3	1.6	2.18		04/19/20 21:57	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.18		04/19/20 21:57	100-41-4	
4-Ethyltoluene	**<5.4**	ug/m3	5.4	2.18		04/19/20 21:57	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	142-82-5	
Hexachloro-1,3-butadiene	**<11.8**	ug/m3	11.8	2.18		04/19/20 21:57	87-68-3	
n-Hexane	**<3.9**	ug/m3	3.9	2.18		04/19/20 21:57	110-54-3	
2-Hexanone	**<9.1**	ug/m3	9.1	2.18		04/19/20 21:57	591-78-6	
Methylene Chloride	**61.1**	ug/m3	7.7	2.18		04/19/20 21:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.1**	ug/m3	9.1	2.18		04/19/20 21:57	108-10-1	
Methyl-tert-butyl ether	**<8.0**	ug/m3	8.0	2.18		04/19/20 21:57	1634-04-4	
Naphthalene	**<5.8**	ug/m3	5.8	2.18		04/19/20 21:57	91-20-3	
2-Propanol	**85.0**	ug/m3	5.4	2.18		04/19/20 21:57	67-63-0	
Propylene	**<0.76**	ug/m3	0.76	2.18		04/19/20 21:57	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.18		04/19/20 21:57	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.18		04/19/20 21:57	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: POST CARBON SP-303 **Lab ID: 70127698006** Collected: 04/08/20 12:40 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**2.0**	ug/m3	1.5	2.18		04/19/20 21:57	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.18		04/19/20 21:57	109-99-9	
Toluene	**<1.7**	ug/m3	1.7	2.18		04/19/20 21:57	108-88-3	
1,2,4-Trichlorobenzene	**<16.4**	ug/m3	16.4	2.18		04/19/20 21:57	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.18		04/19/20 21:57	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.18		04/19/20 21:57	79-00-5	
Trichloroethene	**<1.2**	ug/m3	1.2	2.18		04/19/20 21:57	79-01-6	
Trichlorofluoromethane	**<2.5**	ug/m3	2.5	2.18		04/19/20 21:57	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.4**	ug/m3	3.4	2.18		04/19/20 21:57	76-13-1	
1,2,4-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.18		04/19/20 21:57	95-63-6	
1,3,5-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.18		04/19/20 21:57	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.18		04/19/20 21:57	108-05-4	
Vinyl chloride	**<0.57**	ug/m3	0.57	2.18		04/19/20 21:57	75-01-4	
m&p-Xylene	**<3.9**	ug/m3	3.9	2.18		04/19/20 21:57	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.18		04/19/20 21:57	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

QC Batch: 670792
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 70127698001, 70127698002, 70127698003, 70127698004, 70127698005, 70127698006

METHOD BLANK: 3594622 Matrix: Air
Associated Lab Samples: 70127698001, 70127698002, 70127698003, 70127698004, 70127698005, 70127698006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.56	0.56	04/19/20 09:14	
1,1,2,2-Tetrachloroethane	ug/m3	<0.35	0.35	04/19/20 09:14	
1,1,2-Trichloroethane	ug/m3	<0.28	0.28	04/19/20 09:14	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.78	0.78	04/19/20 09:14	
1,1-Dichloroethane	ug/m3	<0.41	0.41	04/19/20 09:14	
1,1-Dichloroethene	ug/m3	<0.40	0.40	04/19/20 09:14	
1,2,4-Trichlorobenzene	ug/m3	<3.8	3.8	04/19/20 09:14	
1,2,4-Trimethylbenzene	ug/m3	<0.50	0.50	04/19/20 09:14	
1,2-Dibromoethane (EDB)	ug/m3	<0.39	0.39	04/19/20 09:14	
1,2-Dichlorobenzene	ug/m3	<0.61	0.61	04/19/20 09:14	
1,2-Dichloroethane	ug/m3	<0.21	0.21	04/19/20 09:14	
1,2-Dichloropropane	ug/m3	<0.47	0.47	04/19/20 09:14	
1,3,5-Trimethylbenzene	ug/m3	<0.50	0.50	04/19/20 09:14	
1,3-Butadiene	ug/m3	<0.22	0.22	04/19/20 09:14	
1,3-Dichlorobenzene	ug/m3	<0.61	0.61	04/19/20 09:14	
1,4-Dichlorobenzene	ug/m3	<1.5	1.5	04/19/20 09:14	
2-Butanone (MEK)	ug/m3	<1.5	1.5	04/19/20 09:14	
2-Hexanone	ug/m3	<2.1	2.1	04/19/20 09:14	
2-Propanol	ug/m3	<1.2	1.2	04/19/20 09:14	
4-Ethyltoluene	ug/m3	<1.2	1.2	04/19/20 09:14	
4-Methyl-2-pentanone (MIBK)	ug/m3	<2.1	2.1	04/19/20 09:14	
Acetone	ug/m3	<3.0	3.0	04/19/20 09:14	
Benzene	ug/m3	<0.16	0.16	04/19/20 09:14	
Benzyl chloride	ug/m3	<1.3	1.3	04/19/20 09:14	
Bromodichloromethane	ug/m3	<0.68	0.68	04/19/20 09:14	
Bromoform	ug/m3	<2.6	2.6	04/19/20 09:14	
Bromomethane	ug/m3	<0.39	0.39	04/19/20 09:14	
Carbon disulfide	ug/m3	<0.32	0.32	04/19/20 09:14	
Carbon tetrachloride	ug/m3	<0.64	0.64	04/19/20 09:14	
Chlorobenzene	ug/m3	<0.47	0.47	04/19/20 09:14	
Chloroethane	ug/m3	<0.27	0.27	04/19/20 09:14	
Chloroform	ug/m3	<0.25	0.25	04/19/20 09:14	
Chloromethane	ug/m3	<0.21	0.21	04/19/20 09:14	
cis-1,2-Dichloroethene	ug/m3	<0.40	0.40	04/19/20 09:14	
cis-1,3-Dichloropropene	ug/m3	<0.46	0.46	04/19/20 09:14	
Cyclohexane	ug/m3	<0.88	0.88	04/19/20 09:14	
Dibromochloromethane	ug/m3	<0.86	0.86	04/19/20 09:14	
Dichlorodifluoromethane	ug/m3	<0.50	0.50	04/19/20 09:14	
Dichlorotetrafluoroethane	ug/m3	<0.71	0.71	04/19/20 09:14	
Ethanol	ug/m3	<0.96	0.96	04/19/20 09:14	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

METHOD BLANK: 3594622 Matrix: Air
Associated Lab Samples: 70127698001, 70127698002, 70127698003, 70127698004, 70127698005, 70127698006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.37	0.37	04/19/20 09:14	
Ethylbenzene	ug/m3	<0.44	0.44	04/19/20 09:14	
Hexachloro-1,3-butadiene	ug/m3	<2.7	2.7	04/19/20 09:14	
m&p-Xylene	ug/m3	<0.88	0.88	04/19/20 09:14	
Methyl-tert-butyl ether	ug/m3	<1.8	1.8	04/19/20 09:14	
Methylene Chloride	ug/m3	<1.8	1.8	04/19/20 09:14	
n-Heptane	ug/m3	<0.42	0.42	04/19/20 09:14	
n-Hexane	ug/m3	<0.90	0.90	04/19/20 09:14	MN
Naphthalene	ug/m3	<1.3	1.3	04/19/20 09:14	
o-Xylene	ug/m3	<0.44	0.44	04/19/20 09:14	
Propylene	ug/m3	<0.18	0.18	04/19/20 09:14	
Styrene	ug/m3	<0.43	0.43	04/19/20 09:14	
Tetrachloroethene	ug/m3	<0.34	0.34	04/19/20 09:14	
Tetrahydrofuran	ug/m3	<0.30	0.30	04/19/20 09:14	
Toluene	ug/m3	<0.38	0.38	04/19/20 09:14	
trans-1,2-Dichloroethene	ug/m3	<0.40	0.40	04/19/20 09:14	
trans-1,3-Dichloropropene	ug/m3	<0.46	0.46	04/19/20 09:14	
Trichloroethene	ug/m3	<0.27	0.27	04/19/20 09:14	
Trichlorofluoromethane	ug/m3	<0.57	0.57	04/19/20 09:14	
Vinyl acetate	ug/m3	<0.36	0.36	04/19/20 09:14	
Vinyl chloride	ug/m3	<0.13	0.13	04/19/20 09:14	

LABORATORY CONTROL SAMPLE: 3594623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	59.5	104	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	78.6	109	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	64.9	113	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	80.9	101	70-130	
1,1-Dichloroethane	ug/m3	42.7	42.7	100	70-130	
1,1-Dichloroethene	ug/m3	41.4	39.7	96	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	189	121	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	54.1	105	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	93.0	116	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	74.6	118	70-136	
1,2-Dichloroethane	ug/m3	42.4	43.2	102	70-130	
1,2-Dichloropropane	ug/m3	48.6	49.9	103	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	53.8	104	70-136	
1,3-Butadiene	ug/m3	23.3	21.5	92	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	75.2	119	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	73.6	116	70-145	
2-Butanone (MEK)	ug/m3	31.4	32.8	104	61-130	
2-Hexanone	ug/m3	42.8	37.7	88	70-138	
2-Propanol	ug/m3	119	123	103	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

LABORATORY CONTROL SAMPLE: 3594623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	57.8	110	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	40.3	92	70-134	
Acetone	ug/m3	126	117	92	59-137	
Benzene	ug/m3	33.5	33.6	100	70-133	
Benzyl chloride	ug/m3	55.1	61.8	112	70-139	
Bromodichloromethane	ug/m3	71.5	76.7	107	70-130	
Bromoform	ug/m3	110	141	128	60-140	
Bromomethane	ug/m3	41.3	37.9	92	70-131	
Carbon disulfide	ug/m3	33.3	34.7	104	70-130	
Carbon tetrachloride	ug/m3	66.2	72.6	110	70-133	
Chlorobenzene	ug/m3	48.3	55.0	114	70-131	
Chloroethane	ug/m3	28.1	27.1	96	70-141	
Chloroform	ug/m3	51.1	52.6	103	70-130	
Chloromethane	ug/m3	21.9	19.1	87	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	45.3	109	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	51.8	109	70-138	
Cyclohexane	ug/m3	36.7	37.1	101	70-133	
Dibromochloromethane	ug/m3	90.7	106	117	70-139	
Dichlorodifluoromethane	ug/m3	51.6	49.8	97	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	67.8	93	65-133	
Ethanol	ug/m3	103	105	102	65-135	SS
Ethyl acetate	ug/m3	38.6	33.8	88	70-135	
Ethylbenzene	ug/m3	45.6	48.0	105	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	123	110	70-134	
m&p-Xylene	ug/m3	91.2	95.2	104	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	38.5	100	70-131	
Methylene Chloride	ug/m3	182	160	88	69-130	
n-Heptane	ug/m3	43.6	36.4	83	70-130	
n-Hexane	ug/m3	37.6	37.9	101	70-131	
Naphthalene	ug/m3	57.7	65.0	113	63-130	
o-Xylene	ug/m3	45.5	46.4	102	70-135	
Propylene	ug/m3	18.2	15.4	85	63-139	
Styrene	ug/m3	44.9	52.1	116	70-143	
Tetrachloroethene	ug/m3	71	77.3	109	70-136	
Tetrahydrofuran	ug/m3	31.5	29.6	94	70-137	
Toluene	ug/m3	39.5	41.7	106	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	45.5	108	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	53.5	112	70-139	
Trichloroethene	ug/m3	56.3	64.3	114	70-132	
Trichlorofluoromethane	ug/m3	59.7	57.9	97	65-136	
Vinyl acetate	ug/m3	34.5	33.1	96	66-140	
Vinyl chloride	ug/m3	26.7	24.3	91	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

SAMPLE DUPLICATE: 3594857

Parameter	Units	10514773001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.7		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.0		
1,1,2-Trichloroethane	ug/m3	ND	<0.83		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.3		
1,1-Dichloroethane	ug/m3	ND	<1.2		
1,1-Dichloroethene	ug/m3	ND	<1.2		
1,2,4-Trichlorobenzene	ug/m3	ND	<11.2		
1,2,4-Trimethylbenzene	ug/m3	2.0	2.0	1	
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.2		
1,2-Dichlorobenzene	ug/m3	ND	<1.8		
1,2-Dichloroethane	ug/m3	ND	<0.61		
1,2-Dichloropropane	ug/m3	ND	<1.4		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.5		
1,3-Butadiene	ug/m3	ND	<0.67		
1,3-Dichlorobenzene	ug/m3	ND	<1.8		
1,4-Dichlorobenzene	ug/m3	ND	<4.6		
2-Butanone (MEK)	ug/m3	8.4	8.2	3	
2-Hexanone	ug/m3	ND	<6.2		
2-Propanol	ug/m3	28.2	27.9	1	
4-Ethyltoluene	ug/m3	ND	<3.7		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<6.2		
Acetone	ug/m3	60.1	58.4	3	
Benzene	ug/m3	0.81	0.82	1	
Benzyl chloride	ug/m3	ND	<3.9		
Bromodichloromethane	ug/m3	ND	<2.0		
Bromoform	ug/m3	ND	<7.8		
Bromomethane	ug/m3	ND	<1.2		
Carbon disulfide	ug/m3	1.6	1.6	1	
Carbon tetrachloride	ug/m3	ND	<1.9		
Chlorobenzene	ug/m3	ND	<1.4		
Chloroethane	ug/m3	ND	<0.80		
Chloroform	ug/m3	ND	<0.74		
Chloromethane	ug/m3	1.0	1.0	3	
cis-1,2-Dichloroethene	ug/m3	ND	<1.2		
cis-1,3-Dichloropropene	ug/m3	ND	<1.4		
Cyclohexane	ug/m3	ND	<2.6		
Dibromochloromethane	ug/m3	ND	<2.6		
Dichlorodifluoromethane	ug/m3	2.4	2.4	0	
Dichlorotetrafluoroethane	ug/m3	ND	<2.1		
Ethanol	ug/m3	45.4	44.4	2	SS
Ethyl acetate	ug/m3	ND	<1.1		
Ethylbenzene	ug/m3	ND	<1.3		
Hexachloro-1,3-butadiene	ug/m3	ND	<8.1		
m&p-Xylene	ug/m3	ND	<2.6		
Methyl-tert-butyl ether	ug/m3	ND	<5.5		
Methylene Chloride	ug/m3	ND	<5.3		
n-Heptane	ug/m3	ND	<1.2		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

SAMPLE DUPLICATE: 3594857

Parameter	Units	10514773001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	ND	<2.7		
Naphthalene	ug/m3	ND	<4.0		
o-Xylene	ug/m3	ND	<1.3		
Propylene	ug/m3	ND	<0.52		
Styrene	ug/m3	ND	<1.3		
Tetrachloroethene	ug/m3	116	115	1	
Tetrahydrofuran	ug/m3	ND	<0.89		
Toluene	ug/m3	3.8	3.8	0	
trans-1,2-Dichloroethene	ug/m3	ND	<1.2		
trans-1,3-Dichloropropene	ug/m3	ND	<1.4		
Trichloroethene	ug/m3	ND	<0.81		
Trichlorofluoromethane	ug/m3	ND	<1.7		
Vinyl acetate	ug/m3	ND	<1.1		
Vinyl chloride	ug/m3	ND	<0.39		

SAMPLE DUPLICATE: 3594858

Parameter	Units	10514773003 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.6		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.0		
1,1,2-Trichloroethane	ug/m3	ND	<0.80		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.2		
1,1-Dichloroethane	ug/m3	ND	<1.2		
1,1-Dichloroethene	ug/m3	ND	<1.2		
1,2,4-Trichlorobenzene	ug/m3	ND	<10.9		
1,2,4-Trimethylbenzene	ug/m3	ND	<1.4		
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.1		
1,2-Dichlorobenzene	ug/m3	ND	<1.8		
1,2-Dichloroethane	ug/m3	ND	<0.59		
1,2-Dichloropropane	ug/m3	ND	<1.4		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.4		
1,3-Butadiene	ug/m3	ND	<0.65		
1,3-Dichlorobenzene	ug/m3	ND	<1.8		
1,4-Dichlorobenzene	ug/m3	ND	<4.4		
2-Butanone (MEK)	ug/m3	ND	<4.3		
2-Hexanone	ug/m3	ND	<6.0		
2-Propanol	ug/m3	ND	<3.6		
4-Ethyltoluene	ug/m3	ND	<3.6		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<6.0		
Acetone	ug/m3	17.3	16.0	8	
Benzene	ug/m3	0.55	0.54	1	
Benzyl chloride	ug/m3	ND	<3.8		
Bromodichloromethane	ug/m3	ND	<2.0		
Bromoform	ug/m3	ND	<7.6		
Bromomethane	ug/m3	ND	<1.1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

SAMPLE DUPLICATE: 3594858

Parameter	Units	10514773003 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	ND	<0.91		
Carbon tetrachloride	ug/m3	ND	<1.8		
Chlorobenzene	ug/m3	ND	<1.3		
Chloroethane	ug/m3	ND	<0.77		
Chloroform	ug/m3	ND	<0.71		
Chloromethane	ug/m3	1.1	0.92	15	
cis-1,2-Dichloroethene	ug/m3	ND	<1.2		
cis-1,3-Dichloropropene	ug/m3	ND	<1.3		
Cyclohexane	ug/m3	ND	<2.5		
Dibromochloromethane	ug/m3	ND	<2.5		
Dichlorodifluoromethane	ug/m3	2.5	2.4	5	
Dichlorotetrafluoroethane	ug/m3	ND	<2.0		
Ethanol	ug/m3	5.4	4.9	10	SS
Ethyl acetate	ug/m3	2.5	2.4	0	
Ethylbenzene	ug/m3	ND	<1.3		
Hexachloro-1,3-butadiene	ug/m3	ND	<7.8		
m&p-Xylene	ug/m3	ND	<2.5		
Methyl-tert-butyl ether	ug/m3	ND	<5.3		
Methylene Chloride	ug/m3	ND	<5.1		
n-Heptane	ug/m3	ND	<1.2		
n-Hexane	ug/m3	ND	<2.6		
Naphthalene	ug/m3	ND	<3.8		
o-Xylene	ug/m3	ND	<1.3		
Propylene	ug/m3	ND	<0.50		
Styrene	ug/m3	ND	<1.2		
Tetrachloroethene	ug/m3	9.7	10.7	10	
Tetrahydrofuran	ug/m3	ND	<0.86		
Toluene	ug/m3	3.6	3.6	2	
trans-1,2-Dichloroethene	ug/m3	ND	<1.2		
trans-1,3-Dichloropropene	ug/m3	ND	<1.3		
Trichloroethene	ug/m3	ND	<0.79		
Trichlorofluoromethane	ug/m3	ND	<1.6		
Vinyl acetate	ug/m3	ND	<1.0		
Vinyl chloride	ug/m3	ND	<0.37		

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REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

MN	The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70127698001	**PRE CARBON SP-401**	TO-15	670792		
70127698002	**MID CARBON SP-402**	TO-15	670792		
70127698003	**POST CARBON SP-403**	TO-15	670792		
70127698004	**PRE CARBON SP-301**	TO-15	670792		
70127698005	**MID CARON SP-302**	TO-15	670792		
70127698006	**POST CARBON SP-303**	TO-15	670792		

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WO# : 70127698

70127698

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

44773

Page: 1 of 1

Section A Required Client Information:

Company: TeTratech INC
Address: 661 Anderson dr
Pittsburgh, PA 15220
Email To: Glenn.Netuschil@tetratech.com
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Glenn Netuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed Martin
Project Number:

Section C Invoice Information:

Attention: Glenn Netuschil
Company Name: TeTra Tech
Address: Same
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 38541

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - In Hg)	Canister Pressure (Final Field - In Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Pre Carbon SP-401	1LC		4/8/20	1:25			30	10	3484						X					
2	mid carbon SP-402	1LC		4/8/20	1:26			30	10	0276						X					
3	Post Carbon SP-403	1LC		4/8/20	1:30			25	10	2725						X					
4																					
5																/					
6	Pre carbon SP-301	1LC		4/8/20	12:30			30	10	0617						X					
7	mid Carbon SP-302	1LC		4/8/20	12:35			30	10	0236						X					
8	Post Carbon SP-303	1LC		4/8/20	1240			30	10	0513						X					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	4/9/20	8:00		4-8-20	8:05
	4/9	1700	Pace	4/10/20	0945

SAMPLE CONDITIONS

Temp In °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
-	(Y) N	(Y) N	(Y) N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: Steve McCarthy DATE Signed (MM / DD / YY): 4/9/20

ORIGINAL

Pace Analytical®	Document Name: Pending Log-in Process	Document Revised: 07Feb2019 Page 1 of 1
	Document No.: F-MN-C-097 Rev.05	Issuing Authority: Pace Minnesota Quality Office

SR Tech Rory Date Initiated 4/10 PM JMR Client Name Pace-NY Profile # 38541 Pink shelf ☐ #1 ☐ #2

Issue Type (check all that apply)*	Client Name/Project Name on containers (if no COC)
[ ] COC Issue FRWO Date/Time Received	
EPIC Issue (check one) [ ] Client not in Epic [ ] Profile not in Epic [ ] Add acode [ ] Other	**Resolution** PM/Date

Sample Line Item	BP1U	BP2U	BP3U	BP3S	BP3N	AG1U	AG1H	AG3S	AGIT	JGFU	JGCU	BJFU	WPDU	VG9M	VG9H	GN	SP5T	DWC
	Check the box to the left to indicate that the container(s) received for line items 1 - 4 are identical to the container(s) documented for line item 1 for this CoC.																	
1	☒																	
2	☒																	
3	☒																	
4	☒																	
5	☒																	
6	☒																	
7	☒																	
8	☒																	
9	☒																	
10	☒																	
11	☒																	
12	☒																	

Comments:

Logged in by (initial)_____ **Date**_____ **WO** _____

Pace Analytical®	Document Name: **Air Sample Condition Upon Receipt**	Document Revised: 19Nov2019 Page 1 of 1
	Document No.: **F-MN-A-106-rev.20**	Pace Analytical Services - **Minneapolis**

Air Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☒

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): - **Corrected Temp (°C):** -

Thermometer Used: ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** -

Date & Initials of Person Examining Contents: CEG 4/10/20

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☒ Yes	☐ No		1.
Chain of Custody Filled Out?	☒ Yes	☐ No		2.
Chain of Custody Relinquished?	☒ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		6.
Rush Turn Around Time Requested?	☐ Yes	☒ No		7.
Sufficient Volume?	☒ Yes	☐ No		8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☒ Yes ☒ Yes	☐ No ☐ No		9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☒ Yes	☐ No		10.
Media: Air Can Airbag Filter TDT Passive				11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒ Yes	☐ No		12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒ Yes	☐ No		13.

Gauge # ☐ 10AIR26 ☒ 10AIR34 ☐ 10AIR35 ☐ 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SP 401	3484	-	-12.5	5	"	0081	-	-30	-
SP 402	0276	-	-11	5	"	0706	-	-30	-
SP 403	2725	-	-11.5	5	"	3496	-	-30	-
SP 301	0617	-	-12	5	"	2153	-	-27	-
SP 302	0236	-	-11	5	"	2720	-	-29	-
SP 303	0513	-	-11.5	5	"	1723	-	-30	-
Unused	1122	-	-29.5	-					
"	2417	-	-29	-					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:**

WO#: 70127698

PM: DJF Due Date: 04/24/20

CLIENT: TETRA

Document Name: SCUR Exception Form	Document Revised: 06Feb2020 Page 1 of 1
Document No.: F-MN-C-298-Rev.03	Pace Analytical Services - Minneapolis

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank		
Read Temp	Corrected Temp	Average Temp

Tracking Number/Temperature	
7702 0958 8206	
" " 8100	
" " 8180	
" " 8114	

Other Issues		
Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

July 20, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on July 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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CERTIFICATIONS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Pace Analytical Services - Minneapolis MN

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70137938001	**SP-401 PRE CARBON**	TO-15	NCK	61	PASI-M
70137938002	**SP-402 MID CARBON**	TO-15	NCK	61	PASI-M
70137938003	**SP-403 POST CARBON**	TO-15	MJL	61	PASI-M
70137938004	**MID CARBON SP-302**	TO-15	MJL	61	PASI-M
70137938005	**EFFLEUNT POST CARBON (SP-303)**	TO-15	MJL	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: July 20, 2020

General Information:
5 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-401 PRE CARBON **Lab ID: 70137938001** Collected: 07/06/20 11:40 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<14.2**	ug/m3	14.2	2.35		07/17/20 19:17	67-64-1	
Benzene	**<0.76**	ug/m3	0.76	2.35		07/17/20 19:17	71-43-2	
Benzyl chloride	**<6.2**	ug/m3	6.2	2.35		07/17/20 19:17	100-44-7	
Bromodichloromethane	**<3.2**	ug/m3	3.2	2.35		07/17/20 19:17	75-27-4	
Bromoform	**<12.3**	ug/m3	12.3	2.35		07/17/20 19:17	75-25-2	
Bromomethane	**<1.9**	ug/m3	1.9	2.35		07/17/20 19:17	74-83-9	
1,3-Butadiene	**<1.1**	ug/m3	1.1	2.35		07/17/20 19:17	106-99-0	
2-Butanone (MEK)	**<7.0**	ug/m3	7.0	2.35		07/17/20 19:17	78-93-3	
Carbon disulfide	**2.5**	ug/m3	1.5	2.35		07/17/20 19:17	75-15-0	
Carbon tetrachloride	**<3.0**	ug/m3	3.0	2.35		07/17/20 19:17	56-23-5	
Chlorobenzene	**<2.2**	ug/m3	2.2	2.35		07/17/20 19:17	108-90-7	
Chloroethane	**<1.3**	ug/m3	1.3	2.35		07/17/20 19:17	75-00-3	
Chloroform	**<1.2**	ug/m3	1.2	2.35		07/17/20 19:17	67-66-3	
Chloromethane	**1.3**	ug/m3	0.99	2.35		07/17/20 19:17	74-87-3	
Cyclohexane	**<4.1**	ug/m3	4.1	2.35		07/17/20 19:17	110-82-7	
Dibromochloromethane	**<4.1**	ug/m3	4.1	2.35		07/17/20 19:17	124-48-1	
1,2-Dibromoethane (EDB)	**<1.8**	ug/m3	1.8	2.35		07/17/20 19:17	106-93-4	
1,2-Dichlorobenzene	**<2.9**	ug/m3	2.9	2.35		07/17/20 19:17	95-50-1	
1,3-Dichlorobenzene	**<2.9**	ug/m3	2.9	2.35		07/17/20 19:17	541-73-1	
1,4-Dichlorobenzene	**<7.2**	ug/m3	7.2	2.35		07/17/20 19:17	106-46-7	
Dichlorodifluoromethane	**<2.4**	ug/m3	2.4	2.35		07/17/20 19:17	75-71-8	
1,1-Dichloroethane	**14.8**	ug/m3	1.9	2.35		07/17/20 19:17	75-34-3	
1,2-Dichloroethane	**<0.97**	ug/m3	0.97	2.35		07/17/20 19:17	107-06-2	
1,1-Dichloroethene	**<1.9**	ug/m3	1.9	2.35		07/17/20 19:17	75-35-4	
cis-1,2-Dichloroethene	**141**	ug/m3	1.9	2.35		07/17/20 19:17	156-59-2	
trans-1,2-Dichloroethene	**<1.9**	ug/m3	1.9	2.35		07/17/20 19:17	156-60-5	
1,2-Dichloropropane	**<2.2**	ug/m3	2.2	2.35		07/17/20 19:17	78-87-5	
cis-1,3-Dichloropropene	**<2.2**	ug/m3	2.2	2.35		07/17/20 19:17	10061-01-5	
trans-1,3-Dichloropropene	**<2.2**	ug/m3	2.2	2.35		07/17/20 19:17	10061-02-6	
Dichlorotetrafluoroethane	**<3.3**	ug/m3	3.3	2.35		07/17/20 19:17	76-14-2	
Ethanol	**15.8**	ug/m3	4.5	2.35		07/17/20 19:17	64-17-5	
Ethyl acetate	**<1.7**	ug/m3	1.7	2.35		07/17/20 19:17	141-78-6	
Ethylbenzene	**<2.1**	ug/m3	2.1	2.35		07/17/20 19:17	100-41-4	
4-Ethyltoluene	**7.8**	ug/m3	5.9	2.35		07/17/20 19:17	622-96-8	
n-Heptane	**<2.0**	ug/m3	2.0	2.35		07/17/20 19:17	142-82-5	
Hexachloro-1,3-butadiene	**<12.7**	ug/m3	12.7	2.35		07/17/20 19:17	87-68-3	
n-Hexane	**<1.7**	ug/m3	1.7	2.35		07/17/20 19:17	110-54-3	
2-Hexanone	**<9.8**	ug/m3	9.8	2.35		07/17/20 19:17	591-78-6	
Methylene Chloride	**<8.3**	ug/m3	8.3	2.35		07/17/20 19:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.8**	ug/m3	9.8	2.35		07/17/20 19:17	108-10-1	
Methyl-tert-butyl ether	**<8.6**	ug/m3	8.6	2.35		07/17/20 19:17	1634-04-4	
Naphthalene	**<6.3**	ug/m3	6.3	2.35		07/17/20 19:17	91-20-3	
2-Propanol	**<5.9**	ug/m3	5.9	2.35		07/17/20 19:17	67-63-0	
Propylene	**<0.82**	ug/m3	0.82	2.35		07/17/20 19:17	115-07-1	
Styrene	**<2.0**	ug/m3	2.0	2.35		07/17/20 19:17	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.35		07/17/20 19:17	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-401 PRE CARBON **Lab ID: 70137938001** Collected: 07/06/20 11:40 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**108**	ug/m3	1.6	2.35		07/17/20 19:17	127-18-4	
Tetrahydrofuran	**<1.4**	ug/m3	1.4	2.35		07/17/20 19:17	109-99-9	
Toluene	**5.6**	ug/m3	1.8	2.35		07/17/20 19:17	108-88-3	
1,2,4-Trichlorobenzene	**<17.7**	ug/m3	17.7	2.35		07/17/20 19:17	120-82-1	
1,1,1-Trichloroethane	**<2.6**	ug/m3	2.6	2.35		07/17/20 19:17	71-55-6	
1,1,2-Trichloroethane	**<1.3**	ug/m3	1.3	2.35		07/17/20 19:17	79-00-5	
Trichloroethene	**155**	ug/m3	1.3	2.35		07/17/20 19:17	79-01-6	
Trichlorofluoromethane	**<2.7**	ug/m3	2.7	2.35		07/17/20 19:17	75-69-4	
1,1,2-Trichlorotrifluoroethane	**44.5**	ug/m3	3.7	2.35		07/17/20 19:17	76-13-1	
1,2,4-Trimethylbenzene	**24.1**	ug/m3	2.3	2.35		07/17/20 19:17	95-63-6	
1,3,5-Trimethylbenzene	**8.4**	ug/m3	2.3	2.35		07/17/20 19:17	108-67-8	
Vinyl acetate	**<1.7**	ug/m3	1.7	2.35		07/17/20 19:17	108-05-4	
Vinyl chloride	**<0.61**	ug/m3	0.61	2.35		07/17/20 19:17	75-01-4	
m&p-Xylene	**<4.2**	ug/m3	4.2	2.35		07/17/20 19:17	179601-23-1	
o-Xylene	**<2.1**	ug/m3	2.1	2.35		07/17/20 19:17	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-402 MID CARBON **Lab ID: 70137938002** Collected: 07/06/20 11:44 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**13.9**	ug/m3	13.5	2.24		07/17/20 20:11	67-64-1	
Benzene	**1.4**	ug/m3	0.73	2.24		07/17/20 20:11	71-43-2	
Benzyl chloride	**<5.9**	ug/m3	5.9	2.24		07/17/20 20:11	100-44-7	
Bromodichloromethane	**<3.0**	ug/m3	3.0	2.24		07/17/20 20:11	75-27-4	
Bromoform	**<11.8**	ug/m3	11.8	2.24		07/17/20 20:11	75-25-2	
Bromomethane	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	74-83-9	
1,3-Butadiene	**<1.0**	ug/m3	1.0	2.24		07/17/20 20:11	106-99-0	
2-Butanone (MEK)	**<6.7**	ug/m3	6.7	2.24		07/17/20 20:11	78-93-3	
Carbon disulfide	**23.9**	ug/m3	1.4	2.24		07/17/20 20:11	75-15-0	
Carbon tetrachloride	**<2.9**	ug/m3	2.9	2.24		07/17/20 20:11	56-23-5	
Chlorobenzene	**<2.1**	ug/m3	2.1	2.24		07/17/20 20:11	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.24		07/17/20 20:11	75-00-3	
Chloroform	**<1.1**	ug/m3	1.1	2.24		07/17/20 20:11	67-66-3	
Chloromethane	**1.5**	ug/m3	0.94	2.24		07/17/20 20:11	74-87-3	
Cyclohexane	**<3.9**	ug/m3	3.9	2.24		07/17/20 20:11	110-82-7	
Dibromochloromethane	**<3.9**	ug/m3	3.9	2.24		07/17/20 20:11	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.24		07/17/20 20:11	106-93-4	
1,2-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.24		07/17/20 20:11	95-50-1	
1,3-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.24		07/17/20 20:11	541-73-1	
1,4-Dichlorobenzene	**<6.9**	ug/m3	6.9	2.24		07/17/20 20:11	106-46-7	
Dichlorodifluoromethane	**2.4**	ug/m3	2.3	2.24		07/17/20 20:11	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	75-34-3	
1,2-Dichloroethane	**<0.92**	ug/m3	0.92	2.24		07/17/20 20:11	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	156-60-5	
1,2-Dichloropropane	**<2.1**	ug/m3	2.1	2.24		07/17/20 20:11	78-87-5	
cis-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.24		07/17/20 20:11	10061-01-5	
trans-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.24		07/17/20 20:11	10061-02-6	
Dichlorotetrafluoroethane	**<3.2**	ug/m3	3.2	2.24		07/17/20 20:11	76-14-2	
Ethanol	**203**	ug/m3	4.3	2.24		07/17/20 20:11	64-17-5	
Ethyl acetate	**<1.6**	ug/m3	1.6	2.24		07/17/20 20:11	141-78-6	
Ethylbenzene	**2.1**	ug/m3	2.0	2.24		07/17/20 20:11	100-41-4	
4-Ethyltoluene	**<5.6**	ug/m3	5.6	2.24		07/17/20 20:11	622-96-8	
n-Heptane	**<1.9**	ug/m3	1.9	2.24		07/17/20 20:11	142-82-5	
Hexachloro-1,3-butadiene	**<12.1**	ug/m3	12.1	2.24		07/17/20 20:11	87-68-3	
n-Hexane	**<1.6**	ug/m3	1.6	2.24		07/17/20 20:11	110-54-3	
2-Hexanone	**<9.3**	ug/m3	9.3	2.24		07/17/20 20:11	591-78-6	
Methylene Chloride	**8.5**	ug/m3	7.9	2.24		07/17/20 20:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.3**	ug/m3	9.3	2.24		07/17/20 20:11	108-10-1	
Methyl-tert-butyl ether	**<8.2**	ug/m3	8.2	2.24		07/17/20 20:11	1634-04-4	
Naphthalene	**<6.0**	ug/m3	6.0	2.24		07/17/20 20:11	91-20-3	
2-Propanol	**<5.6**	ug/m3	5.6	2.24		07/17/20 20:11	67-63-0	
Propylene	**<0.78**	ug/m3	0.78	2.24		07/17/20 20:11	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.24		07/17/20 20:11	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.24		07/17/20 20:11	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-402 MID CARBON **Lab ID: 70137938002** Collected: 07/06/20 11:44 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**1.6**	ug/m3	1.5	2.24		07/17/20 20:11	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.24		07/17/20 20:11	109-99-9	
Toluene	**106**	ug/m3	1.7	2.24		07/17/20 20:11	108-88-3	
1,2,4-Trichlorobenzene	**<16.9**	ug/m3	16.9	2.24		07/17/20 20:11	120-82-1	
1,1,1-Trichloroethane	**<2.5**	ug/m3	2.5	2.24		07/17/20 20:11	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.24		07/17/20 20:11	79-00-5	
Trichloroethene	**1.4**	ug/m3	1.2	2.24		07/17/20 20:11	79-01-6	
Trichlorofluoromethane	**<2.6**	ug/m3	2.6	2.24		07/17/20 20:11	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.5**	ug/m3	3.5	2.24		07/17/20 20:11	76-13-1	
1,2,4-Trimethylbenzene	**13.1**	ug/m3	2.2	2.24		07/17/20 20:11	95-63-6	
1,3,5-Trimethylbenzene	**5.1**	ug/m3	2.2	2.24		07/17/20 20:11	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.24		07/17/20 20:11	108-05-4	
Vinyl chloride	**<0.58**	ug/m3	0.58	2.24		07/17/20 20:11	75-01-4	
m&p-Xylene	**10.5**	ug/m3	4.0	2.24		07/17/20 20:11	179601-23-1	
o-Xylene	**<2.0**	ug/m3	2.0	2.24		07/17/20 20:11	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-403 POST CARBON **Lab ID: 70137938003** Collected: 07/06/20 11:47 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**34.1**	ug/m3	13.8	2.29		07/17/20 23:59	67-64-1	
Benzene	**<0.74**	ug/m3	0.74	2.29		07/17/20 23:59	71-43-2	
Benzyl chloride	**<6.0**	ug/m3	6.0	2.29		07/17/20 23:59	100-44-7	
Bromodichloromethane	**<3.1**	ug/m3	3.1	2.29		07/17/20 23:59	75-27-4	
Bromoform	**<12.0**	ug/m3	12.0	2.29		07/17/20 23:59	75-25-2	
Bromomethane	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	74-83-9	
1,3-Butadiene	**<1.0**	ug/m3	1.0	2.29		07/17/20 23:59	106-99-0	
2-Butanone (MEK)	**57.0**	ug/m3	6.9	2.29		07/17/20 23:59	78-93-3	
Carbon disulfide	**13.4**	ug/m3	1.4	2.29		07/17/20 23:59	75-15-0	
Carbon tetrachloride	**<2.9**	ug/m3	2.9	2.29		07/17/20 23:59	56-23-5	
Chlorobenzene	**<2.1**	ug/m3	2.1	2.29		07/17/20 23:59	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.29		07/17/20 23:59	75-00-3	
Chloroform	**1.3**	ug/m3	1.1	2.29		07/17/20 23:59	67-66-3	
Chloromethane	**1.2**	ug/m3	0.96	2.29		07/17/20 23:59	74-87-3	
Cyclohexane	**<4.0**	ug/m3	4.0	2.29		07/17/20 23:59	110-82-7	
Dibromochloromethane	**<4.0**	ug/m3	4.0	2.29		07/17/20 23:59	124-48-1	
1,2-Dibromoethane (EDB)	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	106-93-4	
1,2-Dichlorobenzene	**<2.8**	ug/m3	2.8	2.29		07/17/20 23:59	95-50-1	
1,3-Dichlorobenzene	**<2.8**	ug/m3	2.8	2.29		07/17/20 23:59	541-73-1	
1,4-Dichlorobenzene	**<7.0**	ug/m3	7.0	2.29		07/17/20 23:59	106-46-7	
Dichlorodifluoromethane	**4.8**	ug/m3	2.3	2.29		07/17/20 23:59	75-71-8	
1,1-Dichloroethane	**<1.9**	ug/m3	1.9	2.29		07/17/20 23:59	75-34-3	
1,2-Dichloroethane	**<0.94**	ug/m3	0.94	2.29		07/17/20 23:59	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	156-60-5	
1,2-Dichloropropane	**<2.2**	ug/m3	2.2	2.29		07/17/20 23:59	78-87-5	
cis-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.29		07/17/20 23:59	10061-01-5	
trans-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.29		07/17/20 23:59	10061-02-6	
Dichlorotetrafluoroethane	**<3.3**	ug/m3	3.3	2.29		07/17/20 23:59	76-14-2	
Ethanol	**60.1**	ug/m3	4.4	2.29		07/17/20 23:59	64-17-5	
Ethyl acetate	**<1.7**	ug/m3	1.7	2.29		07/17/20 23:59	141-78-6	
Ethylbenzene	**<2.0**	ug/m3	2.0	2.29		07/17/20 23:59	100-41-4	
4-Ethyltoluene	**<5.7**	ug/m3	5.7	2.29		07/17/20 23:59	622-96-8	
n-Heptane	**<1.9**	ug/m3	1.9	2.29		07/17/20 23:59	142-82-5	
Hexachloro-1,3-butadiene	**<12.4**	ug/m3	12.4	2.29		07/17/20 23:59	87-68-3	
n-Hexane	**<1.6**	ug/m3	1.6	2.29		07/17/20 23:59	110-54-3	
2-Hexanone	**<9.5**	ug/m3	9.5	2.29		07/17/20 23:59	591-78-6	
Methylene Chloride	**<8.1**	ug/m3	8.1	2.29		07/17/20 23:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.5**	ug/m3	9.5	2.29		07/17/20 23:59	108-10-1	
Methyl-tert-butyl ether	**<8.4**	ug/m3	8.4	2.29		07/17/20 23:59	1634-04-4	
Naphthalene	**<6.1**	ug/m3	6.1	2.29		07/17/20 23:59	91-20-3	
2-Propanol	**<5.7**	ug/m3	5.7	2.29		07/17/20 23:59	67-63-0	
Propylene	**<0.80**	ug/m3	0.80	2.29		07/17/20 23:59	115-07-1	
Styrene	**<2.0**	ug/m3	2.0	2.29		07/17/20 23:59	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.29		07/17/20 23:59	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-403 POST CARBON **Lab ID: 70137938003** Collected: 07/06/20 11:47 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**<1.6**	ug/m3	1.6	2.29		07/17/20 23:59	127-18-4	
Tetrahydrofuran	**79.3**	ug/m3	1.4	2.29		07/17/20 23:59	109-99-9	
Toluene	**2.6**	ug/m3	1.8	2.29		07/17/20 23:59	108-88-3	
1,2,4-Trichlorobenzene	**<17.3**	ug/m3	17.3	2.29		07/17/20 23:59	120-82-1	
1,1,1-Trichloroethane	**<2.5**	ug/m3	2.5	2.29		07/17/20 23:59	71-55-6	
1,1,2-Trichloroethane	**<1.3**	ug/m3	1.3	2.29		07/17/20 23:59	79-00-5	
Trichloroethene	**<1.3**	ug/m3	1.3	2.29		07/17/20 23:59	79-01-6	
Trichlorofluoromethane	**<2.6**	ug/m3	2.6	2.29		07/17/20 23:59	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.6**	ug/m3	3.6	2.29		07/17/20 23:59	76-13-1	
1,2,4-Trimethylbenzene	**14.2**	ug/m3	2.3	2.29		07/17/20 23:59	95-63-6	
1,3,5-Trimethylbenzene	**4.0**	ug/m3	2.3	2.29		07/17/20 23:59	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.29		07/17/20 23:59	108-05-4	
Vinyl chloride	**0.89**	ug/m3	0.60	2.29		07/17/20 23:59	75-01-4	
m&p-Xylene	**<4.1**	ug/m3	4.1	2.29		07/17/20 23:59	179601-23-1	
o-Xylene	**<2.0**	ug/m3	2.0	2.29		07/17/20 23:59	95-47-6	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: MID CARBON SP-302 **Lab ID: 70137938004** Collected: 07/07/20 01:38 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**52.5**	ug/m3	15.6	2.59		07/18/20 00:34	67-64-1	
Benzene	**1.5**	ug/m3	0.84	2.59		07/18/20 00:34	71-43-2	
Benzyl chloride	**<6.8**	ug/m3	6.8	2.59		07/18/20 00:34	100-44-7	
Bromodichloromethane	**<3.5**	ug/m3	3.5	2.59		07/18/20 00:34	75-27-4	
Bromoform	**<13.6**	ug/m3	13.6	2.59		07/18/20 00:34	75-25-2	
Bromomethane	**<2.0**	ug/m3	2.0	2.59		07/18/20 00:34	74-83-9	
1,3-Butadiene	**<1.2**	ug/m3	1.2	2.59		07/18/20 00:34	106-99-0	
2-Butanone (MEK)	**49.2**	ug/m3	7.8	2.59		07/18/20 00:34	78-93-3	
Carbon disulfide	**2.7**	ug/m3	1.6	2.59		07/18/20 00:34	75-15-0	
Carbon tetrachloride	**<3.3**	ug/m3	3.3	2.59		07/18/20 00:34	56-23-5	
Chlorobenzene	**<2.4**	ug/m3	2.4	2.59		07/18/20 00:34	108-90-7	
Chloroethane	**<1.4**	ug/m3	1.4	2.59		07/18/20 00:34	75-00-3	
Chloroform	**10.6**	ug/m3	1.3	2.59		07/18/20 00:34	67-66-3	
Chloromethane	**2.5**	ug/m3	1.1	2.59		07/18/20 00:34	74-87-3	
Cyclohexane	**<4.5**	ug/m3	4.5	2.59		07/18/20 00:34	110-82-7	
Dibromochloromethane	**<4.5**	ug/m3	4.5	2.59		07/18/20 00:34	124-48-1	
1,2-Dibromoethane (EDB)	**<2.0**	ug/m3	2.0	2.59		07/18/20 00:34	106-93-4	
1,2-Dichlorobenzene	**<3.2**	ug/m3	3.2	2.59		07/18/20 00:34	95-50-1	
1,3-Dichlorobenzene	**<3.2**	ug/m3	3.2	2.59		07/18/20 00:34	541-73-1	
1,4-Dichlorobenzene	**<7.9**	ug/m3	7.9	2.59		07/18/20 00:34	106-46-7	
Dichlorodifluoromethane	**3.5**	ug/m3	2.6	2.59		07/18/20 00:34	75-71-8	
1,1-Dichloroethane	**<2.1**	ug/m3	2.1	2.59		07/18/20 00:34	75-34-3	
1,2-Dichloroethane	**<1.1**	ug/m3	1.1	2.59		07/18/20 00:34	107-06-2	
1,1-Dichloroethene	**<2.1**	ug/m3	2.1	2.59		07/18/20 00:34	75-35-4	
cis-1,2-Dichloroethene	**<2.1**	ug/m3	2.1	2.59		07/18/20 00:34	156-59-2	
trans-1,2-Dichloroethene	**<2.1**	ug/m3	2.1	2.59		07/18/20 00:34	156-60-5	
1,2-Dichloropropane	**<2.4**	ug/m3	2.4	2.59		07/18/20 00:34	78-87-5	
cis-1,3-Dichloropropene	**<2.4**	ug/m3	2.4	2.59		07/18/20 00:34	10061-01-5	
trans-1,3-Dichloropropene	**<2.4**	ug/m3	2.4	2.59		07/18/20 00:34	10061-02-6	
Dichlorotetrafluoroethane	**<3.7**	ug/m3	3.7	2.59		07/18/20 00:34	76-14-2	
Ethanol	**54.8**	ug/m3	5.0	2.59		07/18/20 00:34	64-17-5	
Ethyl acetate	**<1.9**	ug/m3	1.9	2.59		07/18/20 00:34	141-78-6	
Ethylbenzene	**<2.3**	ug/m3	2.3	2.59		07/18/20 00:34	100-41-4	
4-Ethyltoluene	**6.6**	ug/m3	6.5	2.59		07/18/20 00:34	622-96-8	
n-Heptane	**<2.2**	ug/m3	2.2	2.59		07/18/20 00:34	142-82-5	
Hexachloro-1,3-butadiene	**<14.0**	ug/m3	14.0	2.59		07/18/20 00:34	87-68-3	
n-Hexane	**<1.9**	ug/m3	1.9	2.59		07/18/20 00:34	110-54-3	
2-Hexanone	**<10.8**	ug/m3	10.8	2.59		07/18/20 00:34	591-78-6	
Methylene Chloride	**63.5**	ug/m3	9.1	2.59		07/18/20 00:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<10.8**	ug/m3	10.8	2.59		07/18/20 00:34	108-10-1	
Methyl-tert-butyl ether	**<9.5**	ug/m3	9.5	2.59		07/18/20 00:34	1634-04-4	
Naphthalene	**<6.9**	ug/m3	6.9	2.59		07/18/20 00:34	91-20-3	
2-Propanol	**179**	ug/m3	6.5	2.59		07/18/20 00:34	67-63-0	
Propylene	**1.1**	ug/m3	0.91	2.59		07/18/20 00:34	115-07-1	
Styrene	**<2.2**	ug/m3	2.2	2.59		07/18/20 00:34	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.8**	ug/m3	1.8	2.59		07/18/20 00:34	79-34-5	

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: MID CARBON SP-302 **Lab ID: 70137938004** Collected: 07/07/20 01:38 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**<1.8**	ug/m3	1.8	2.59		07/18/20 00:34	127-18-4	
Tetrahydrofuran	**1.9**	ug/m3	1.6	2.59		07/18/20 00:34	109-99-9	
Toluene	**67.9**	ug/m3	2.0	2.59		07/18/20 00:34	108-88-3	
1,2,4-Trichlorobenzene	**<19.5**	ug/m3	19.5	2.59		07/18/20 00:34	120-82-1	
1,1,1-Trichloroethane	**<2.9**	ug/m3	2.9	2.59		07/18/20 00:34	71-55-6	
1,1,2-Trichloroethane	**<1.4**	ug/m3	1.4	2.59		07/18/20 00:34	79-00-5	
Trichloroethene	**2.6**	ug/m3	1.4	2.59		07/18/20 00:34	79-01-6	
Trichlorofluoromethane	**<3.0**	ug/m3	3.0	2.59		07/18/20 00:34	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<4.0**	ug/m3	4.0	2.59		07/18/20 00:34	76-13-1	
1,2,4-Trimethylbenzene	**16.8**	ug/m3	2.6	2.59		07/18/20 00:34	95-63-6	
1,3,5-Trimethylbenzene	**5.1**	ug/m3	2.6	2.59		07/18/20 00:34	108-67-8	
Vinyl acetate	**<1.9**	ug/m3	1.9	2.59		07/18/20 00:34	108-05-4	
Vinyl chloride	**<0.67**	ug/m3	0.67	2.59		07/18/20 00:34	75-01-4	
m&p-Xylene	**<4.6**	ug/m3	4.6	2.59		07/18/20 00:34	179601-23-1	
o-Xylene	**<2.3**	ug/m3	2.3	2.59		07/18/20 00:34	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: EFFLEUNT POST CARBON (SP-303) **Lab ID: 70137938005** Collected: 07/07/20 01:41 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**45.7**	ug/m3	12.2	2.02		07/18/20 01:10	67-64-1	
Benzene	**1.5**	ug/m3	0.66	2.02		07/18/20 01:10	71-43-2	
Benzyl chloride	**<5.3**	ug/m3	5.3	2.02		07/18/20 01:10	100-44-7	
Bromodichloromethane	**<2.7**	ug/m3	2.7	2.02		07/18/20 01:10	75-27-4	
Bromoform	**<10.6**	ug/m3	10.6	2.02		07/18/20 01:10	75-25-2	
Bromomethane	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	74-83-9	
1,3-Butadiene	**<0.91**	ug/m3	0.91	2.02		07/18/20 01:10	106-99-0	
2-Butanone (MEK)	**14.6**	ug/m3	6.1	2.02		07/18/20 01:10	78-93-3	
Carbon disulfide	**23.7**	ug/m3	1.3	2.02		07/18/20 01:10	75-15-0	
Carbon tetrachloride	**<2.6**	ug/m3	2.6	2.02		07/18/20 01:10	56-23-5	
Chlorobenzene	**<1.9**	ug/m3	1.9	2.02		07/18/20 01:10	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.02		07/18/20 01:10	75-00-3	
Chloroform	**6.4**	ug/m3	1.0	2.02		07/18/20 01:10	67-66-3	
Chloromethane	**1.8**	ug/m3	0.85	2.02		07/18/20 01:10	74-87-3	
Cyclohexane	**<3.5**	ug/m3	3.5	2.02		07/18/20 01:10	110-82-7	
Dibromochloromethane	**<3.5**	ug/m3	3.5	2.02		07/18/20 01:10	124-48-1	
1,2-Dibromoethane (EDB)	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	106-93-4	
1,2-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.02		07/18/20 01:10	95-50-1	
1,3-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.02		07/18/20 01:10	541-73-1	
1,4-Dichlorobenzene	**<6.2**	ug/m3	6.2	2.02		07/18/20 01:10	106-46-7	
Dichlorodifluoromethane	**3.4**	ug/m3	2.0	2.02		07/18/20 01:10	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.02		07/18/20 01:10	75-34-3	
1,2-Dichloroethane	**<0.83**	ug/m3	0.83	2.02		07/18/20 01:10	107-06-2	
1,1-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	75-35-4	
cis-1,2-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	156-59-2	
trans-1,2-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	156-60-5	
1,2-Dichloropropane	**<1.9**	ug/m3	1.9	2.02		07/18/20 01:10	78-87-5	
cis-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.02		07/18/20 01:10	10061-01-5	
trans-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.02		07/18/20 01:10	10061-02-6	
Dichlorotetrafluoroethane	**<2.9**	ug/m3	2.9	2.02		07/18/20 01:10	76-14-2	
Ethanol	**122**	ug/m3	3.9	2.02		07/18/20 01:10	64-17-5	
Ethyl acetate	**<1.5**	ug/m3	1.5	2.02		07/18/20 01:10	141-78-6	
Ethylbenzene	**<1.8**	ug/m3	1.8	2.02		07/18/20 01:10	100-41-4	
4-Ethyltoluene	**<5.0**	ug/m3	5.0	2.02		07/18/20 01:10	622-96-8	
n-Heptane	**<1.7**	ug/m3	1.7	2.02		07/18/20 01:10	142-82-5	
Hexachloro-1,3-butadiene	**<10.9**	ug/m3	10.9	2.02		07/18/20 01:10	87-68-3	
n-Hexane	**<1.4**	ug/m3	1.4	2.02		07/18/20 01:10	110-54-3	
2-Hexanone	**<8.4**	ug/m3	8.4	2.02		07/18/20 01:10	591-78-6	
Methylene Chloride	**49.6**	ug/m3	7.1	2.02		07/18/20 01:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.4**	ug/m3	8.4	2.02		07/18/20 01:10	108-10-1	
Methyl-tert-butyl ether	**<7.4**	ug/m3	7.4	2.02		07/18/20 01:10	1634-04-4	
Naphthalene	**<5.4**	ug/m3	5.4	2.02		07/18/20 01:10	91-20-3	
2-Propanol	**72.0**	ug/m3	5.0	2.02		07/18/20 01:10	67-63-0	
Propylene	**0.89**	ug/m3	0.71	2.02		07/18/20 01:10	115-07-1	
Styrene	**<1.7**	ug/m3	1.7	2.02		07/18/20 01:10	100-42-5	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: EFFLEUNT POST CARBON (SP-303) **Lab ID: 70137938005** Collected: 07/07/20 01:41 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
1,1,2,2-Tetrachloroethane	**<1.4**	ug/m3	1.4	2.02		07/18/20 01:10	79-34-5	
Tetrachloroethene	**1.5**	ug/m3	1.4	2.02		07/18/20 01:10	127-18-4	
Tetrahydrofuran	**3.2**	ug/m3	1.2	2.02		07/18/20 01:10	109-99-9	
Toluene	**16.7**	ug/m3	1.5	2.02		07/18/20 01:10	108-88-3	
1,2,4-Trichlorobenzene	**<15.2**	ug/m3	15.2	2.02		07/18/20 01:10	120-82-1	
1,1,1-Trichloroethane	**<2.2**	ug/m3	2.2	2.02		07/18/20 01:10	71-55-6	
1,1,2-Trichloroethane	**<1.1**	ug/m3	1.1	2.02		07/18/20 01:10	79-00-5	
Trichloroethene	**3.2**	ug/m3	1.1	2.02		07/18/20 01:10	79-01-6	
Trichlorofluoromethane	**2.3**	ug/m3	2.3	2.02		07/18/20 01:10	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.2**	ug/m3	3.2	2.02		07/18/20 01:10	76-13-1	
1,2,4-Trimethylbenzene	**8.9**	ug/m3	2.0	2.02		07/18/20 01:10	95-63-6	
1,3,5-Trimethylbenzene	**3.1**	ug/m3	2.0	2.02		07/18/20 01:10	108-67-8	
Vinyl acetate	**<1.4**	ug/m3	1.4	2.02		07/18/20 01:10	108-05-4	
Vinyl chloride	**<0.53**	ug/m3	0.53	2.02		07/18/20 01:10	75-01-4	
m&p-Xylene	**7.2**	ug/m3	3.6	2.02		07/18/20 01:10	179601-23-1	
o-Xylene	**2.2**	ug/m3	1.8	2.02		07/18/20 01:10	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

QC Batch: 687469
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 70137938003, 70137938004, 70137938005

METHOD BLANK: 3676503 Matrix: Air
Associated Lab Samples: 70137938003, 70137938004, 70137938005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.1	1.1	07/17/20 10:44	
1,1,2,2-Tetrachloroethane	ug/m3	<0.70	0.70	07/17/20 10:44	
1,1,2-Trichloroethane	ug/m3	<0.56	0.56	07/17/20 10:44	
1,1,2-Trichlorotrifluoroethane	ug/m3	<1.6	1.6	07/17/20 10:44	
1,1-Dichloroethane	ug/m3	<0.82	0.82	07/17/20 10:44	
1,1-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:44	
1,2,4-Trichlorobenzene	ug/m3	<7.5	7.5	07/17/20 10:44	
1,2,4-Trimethylbenzene	ug/m3	<1.0	1.0	07/17/20 10:44	
1,2-Dibromoethane (EDB)	ug/m3	<0.78	0.78	07/17/20 10:44	
1,2-Dichlorobenzene	ug/m3	<1.2	1.2	07/17/20 10:44	
1,2-Dichloroethane	ug/m3	<0.41	0.41	07/17/20 10:44	
1,2-Dichloropropane	ug/m3	<0.94	0.94	07/17/20 10:44	
1,3,5-Trimethylbenzene	ug/m3	<1.0	1.0	07/17/20 10:44	
1,3-Butadiene	ug/m3	<0.45	0.45	07/17/20 10:44	
1,3-Dichlorobenzene	ug/m3	<1.2	1.2	07/17/20 10:44	
1,4-Dichlorobenzene	ug/m3	<3.1	3.1	07/17/20 10:44	
2-Butanone (MEK)	ug/m3	<3.0	3.0	07/17/20 10:44	
2-Hexanone	ug/m3	<4.2	4.2	07/17/20 10:44	
2-Propanol	ug/m3	<2.5	2.5	07/17/20 10:44	
4-Ethyltoluene	ug/m3	<2.5	2.5	07/17/20 10:44	
4-Methyl-2-pentanone (MIBK)	ug/m3	<4.2	4.2	07/17/20 10:44	
Acetone	ug/m3	<6.0	6.0	07/17/20 10:44	
Benzene	ug/m3	<0.32	0.32	07/17/20 10:44	
Benzyl chloride	ug/m3	<2.6	2.6	07/17/20 10:44	
Bromodichloromethane	ug/m3	<1.4	1.4	07/17/20 10:44	
Bromoform	ug/m3	<5.2	5.2	07/17/20 10:44	
Bromomethane	ug/m3	<0.79	0.79	07/17/20 10:44	
Carbon disulfide	ug/m3	<0.63	0.63	07/17/20 10:44	
Carbon tetrachloride	ug/m3	<1.3	1.3	07/17/20 10:44	
Chlorobenzene	ug/m3	<0.94	0.94	07/17/20 10:44	
Chloroethane	ug/m3	<0.54	0.54	07/17/20 10:44	
Chloroform	ug/m3	<0.50	0.50	07/17/20 10:44	
Chloromethane	ug/m3	<0.42	0.42	07/17/20 10:44	
cis-1,2-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:44	
cis-1,3-Dichloropropene	ug/m3	<0.92	0.92	07/17/20 10:44	
Cyclohexane	ug/m3	<1.8	1.8	07/17/20 10:44	
Dibromochloromethane	ug/m3	<1.7	1.7	07/17/20 10:44	
Dichlorodifluoromethane	ug/m3	<1.0	1.0	07/17/20 10:44	
Dichlorotetrafluoroethane	ug/m3	<1.4	1.4	07/17/20 10:44	
Ethanol	ug/m3	<1.9	1.9	07/17/20 10:44	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

METHOD BLANK: 3676503 Matrix: Air
Associated Lab Samples: 70137938003, 70137938004, 70137938005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.73	0.73	07/17/20 10:44	
Ethylbenzene	ug/m3	<0.88	0.88	07/17/20 10:44	
Hexachloro-1,3-butadiene	ug/m3	<5.4	5.4	07/17/20 10:44	
m&p-Xylene	ug/m3	<1.8	1.8	07/17/20 10:44	
Methyl-tert-butyl ether	ug/m3	<3.7	3.7	07/17/20 10:44	
Methylene Chloride	ug/m3	<3.5	3.5	07/17/20 10:44	
n-Heptane	ug/m3	<0.83	0.83	07/17/20 10:44	
n-Hexane	ug/m3	<0.72	0.72	07/17/20 10:44	
Naphthalene	ug/m3	<2.7	2.7	07/17/20 10:44	
o-Xylene	ug/m3	<0.88	0.88	07/17/20 10:44	
Propylene	ug/m3	<0.35	0.35	07/17/20 10:44	
Styrene	ug/m3	<0.87	0.87	07/17/20 10:44	
Tetrachloroethene	ug/m3	<0.69	0.69	07/17/20 10:44	
Tetrahydrofuran	ug/m3	<0.60	0.60	07/17/20 10:44	
Toluene	ug/m3	<0.77	0.77	07/17/20 10:44	
trans-1,2-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:44	
trans-1,3-Dichloropropene	ug/m3	<0.92	0.92	07/17/20 10:44	
Trichloroethene	ug/m3	<0.55	0.55	07/17/20 10:44	
Trichlorofluoromethane	ug/m3	<1.1	1.1	07/17/20 10:44	
Vinyl acetate	ug/m3	<0.72	0.72	07/17/20 10:44	
Vinyl chloride	ug/m3	<0.26	0.26	07/17/20 10:44	

LABORATORY CONTROL SAMPLE: 3676504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	56.7	99	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	66.4	92	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	54.9	96	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	75.3	94	70-130	
1,1-Dichloroethane	ug/m3	42.7	41.3	97	70-130	
1,1-Dichloroethene	ug/m3	41.4	40.4	97	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	152	98	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	50.4	98	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	77.9	97	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	57.8	92	70-136	
1,2-Dichloroethane	ug/m3	42.4	41.0	97	70-130	
1,2-Dichloropropane	ug/m3	48.6	46.3	95	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	49.6	96	70-136	
1,3-Butadiene	ug/m3	23.3	22.0	94	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	60.7	96	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	62.5	99	70-145	
2-Butanone (MEK)	ug/m3	31.4	33.8	108	61-130	
2-Hexanone	ug/m3	42.8	46.3	108	70-138	
2-Propanol	ug/m3	119	109	91	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

LABORATORY CONTROL SAMPLE: 3676504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	52.6	100	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	45.6	105	70-134	
Acetone	ug/m3	126	125	99	59-137	
Benzene	ug/m3	33.5	31.9	95	70-133	
Benzyl chloride	ug/m3	55.1	53.9	98	70-139	
Bromodichloromethane	ug/m3	71.5	72.1	101	70-130	
Bromoform	ug/m3	110	116	106	60-140	
Bromomethane	ug/m3	41.3	38.9	94	70-131	
Carbon disulfide	ug/m3	33.3	33.8	101	70-130	
Carbon tetrachloride	ug/m3	66.2	67.6	102	70-133	
Chlorobenzene	ug/m3	48.3	43.6	90	70-131	
Chloroethane	ug/m3	28.1	26.5	94	70-141	
Chloroform	ug/m3	51.1	48.9	96	70-130	
Chloromethane	ug/m3	21.9	19.8	90	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	40.2	97	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	49.3	104	70-138	
Cyclohexane	ug/m3	36.7	38.3	104	70-133	
Dibromochloromethane	ug/m3	90.7	93.0	102	70-139	
Dichlorodifluoromethane	ug/m3	51.6	49.7	96	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	70.0	96	65-133	
Ethanol	ug/m3	103	91.6	89	65-135	
Ethyl acetate	ug/m3	38.6	37.4	97	70-135	
Ethylbenzene	ug/m3	45.6	43.8	96	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	93.3	84	70-134	
m&p-Xylene	ug/m3	91.2	88.1	97	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	38.3	100	70-131	
Methylene Chloride	ug/m3	182	193	106	69-130	
n-Heptane	ug/m3	43.6	41.8	96	70-130	
n-Hexane	ug/m3	37.6	39.9	106	70-131	
Naphthalene	ug/m3	57.7	59.8	104	63-130	
o-Xylene	ug/m3	45.5	43.2	95	70-135	
Propylene	ug/m3	18.2	17.4	96	63-139	
Styrene	ug/m3	44.9	47.1	105	70-143	
Tetrachloroethene	ug/m3	71	65.7	93	70-136	
Tetrahydrofuran	ug/m3	31.5	30.8	98	70-137	
Toluene	ug/m3	39.5	37.3	95	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	42.1	100	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	51.8	109	70-139	
Trichloroethene	ug/m3	56.3	54.5	97	70-132	
Trichlorofluoromethane	ug/m3	59.7	56.7	95	65-136	
Vinyl acetate	ug/m3	34.5	36.2	105	66-140	
Vinyl chloride	ug/m3	26.7	25.2	95	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

SAMPLE DUPLICATE: 3678209

Parameter	Units	70137938005 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<2.2	<2.2		
1,1,2,2-Tetrachloroethane	ug/m3	<1.4	<1.4		
1,1,2-Trichloroethane	ug/m3	<1.1	<1.1		
1,1,2-Trichlorotrifluoroethane	ug/m3	<3.2	<3.2		
1,1-Dichloroethane	ug/m3	<1.7	<1.7		
1,1-Dichloroethene	ug/m3	<1.6	<1.6		
1,2,4-Trichlorobenzene	ug/m3	<15.2	<15.2		
1,2,4-Trimethylbenzene	ug/m3	8.9	8.9	0	
1,2-Dibromoethane (EDB)	ug/m3	<1.6	<1.6		
1,2-Dichlorobenzene	ug/m3	<2.5	<2.5		
1,2-Dichloroethane	ug/m3	<0.83	<0.83		
1,2-Dichloropropane	ug/m3	<1.9	<1.9		
1,3,5-Trimethylbenzene	ug/m3	3.1	3.0	4	
1,3-Butadiene	ug/m3	<0.91	<0.91		
1,3-Dichlorobenzene	ug/m3	<2.5	<2.5		
1,4-Dichlorobenzene	ug/m3	<6.2	<6.2		
2-Butanone (MEK)	ug/m3	14.6	14.3	2	
2-Hexanone	ug/m3	<8.4	<8.4		
2-Propanol	ug/m3	72.0	75.2	4	
4-Ethyltoluene	ug/m3	<5.0	<5.0		
4-Methyl-2-pentanone (MIBK)	ug/m3	<8.4	<8.4		
Acetone	ug/m3	45.7	49.4	8	
Benzene	ug/m3	1.5	1.6	5	
Benzyl chloride	ug/m3	<5.3	<5.3		
Bromodichloromethane	ug/m3	<2.7	<2.7		
Bromoform	ug/m3	<10.6	<10.6		
Bromomethane	ug/m3	<1.6	<1.6		
Carbon disulfide	ug/m3	23.7	23.7	0	
Carbon tetrachloride	ug/m3	<2.6	<2.6		
Chlorobenzene	ug/m3	<1.9	<1.9		
Chloroethane	ug/m3	<1.1	<1.1		
Chloroform	ug/m3	6.4	6.4	0	
Chloromethane	ug/m3	1.8	1.8	4	
cis-1,2-Dichloroethene	ug/m3	<1.6	<1.6		
cis-1,3-Dichloropropene	ug/m3	<1.9	<1.9		
Cyclohexane	ug/m3	<3.5	<3.5		
Dibromochloromethane	ug/m3	<3.5	<3.5		
Dichlorodifluoromethane	ug/m3	3.4	3.3	4	
Dichlorotetrafluoroethane	ug/m3	<2.9	<2.9		
Ethanol	ug/m3	122	120	1	
Ethyl acetate	ug/m3	<1.5	<1.5		
Ethylbenzene	ug/m3	<1.8	<1.8		
Hexachloro-1,3-butadiene	ug/m3	<10.9	<10.9		
m&p-Xylene	ug/m3	7.2	7.3	2	
Methyl-tert-butyl ether	ug/m3	<7.4	<7.4		
Methylene Chloride	ug/m3	49.6	50.0	1	
n-Heptane	ug/m3	<1.7	<1.7		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

SAMPLE DUPLICATE: 3678209

Parameter	Units	70137938005 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	<1.4	<1.4		
Naphthalene	ug/m3	<5.4	<5.4		
o-Xylene	ug/m3	2.2	2.2	2	
Propylene	ug/m3	0.89	0.86	4	
Styrene	ug/m3	<1.7	<1.7		
Tetrachloroethene	ug/m3	1.5	1.6	7	
Tetrahydrofuran	ug/m3	3.2	3.1	4	
Toluene	ug/m3	16.7	17.0	2	
trans-1,2-Dichloroethene	ug/m3	<1.6	<1.6		
trans-1,3-Dichloropropene	ug/m3	<1.9	<1.9		
Trichloroethene	ug/m3	3.2	3.0	8	
Trichlorofluoromethane	ug/m3	2.3	<2.3		
Vinyl acetate	ug/m3	<1.4	<1.4		
Vinyl chloride	ug/m3	<0.53	<0.53		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

QC Batch: 687486
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 70137938001, 70137938002

METHOD BLANK: 3676573 Matrix: Air
Associated Lab Samples: 70137938001, 70137938002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.1	1.1	07/17/20 10:08	
1,1,2,2-Tetrachloroethane	ug/m3	<0.70	0.70	07/17/20 10:08	
1,1,2-Trichloroethane	ug/m3	<0.56	0.56	07/17/20 10:08	
1,1,2-Trichlorotrifluoroethane	ug/m3	<1.6	1.6	07/17/20 10:08	
1,1-Dichloroethane	ug/m3	<0.82	0.82	07/17/20 10:08	
1,1-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:08	
1,2,4-Trichlorobenzene	ug/m3	<7.5	7.5	07/17/20 10:08	
1,2,4-Trimethylbenzene	ug/m3	<1.0	1.0	07/17/20 10:08	
1,2-Dibromoethane (EDB)	ug/m3	<0.78	0.78	07/17/20 10:08	
1,2-Dichlorobenzene	ug/m3	<1.2	1.2	07/17/20 10:08	
1,2-Dichloroethane	ug/m3	<0.41	0.41	07/17/20 10:08	
1,2-Dichloropropane	ug/m3	<0.94	0.94	07/17/20 10:08	
1,3,5-Trimethylbenzene	ug/m3	<1.0	1.0	07/17/20 10:08	
1,3-Butadiene	ug/m3	<0.45	0.45	07/17/20 10:08	
1,3-Dichlorobenzene	ug/m3	<1.2	1.2	07/17/20 10:08	
1,4-Dichlorobenzene	ug/m3	<3.1	3.1	07/17/20 10:08	
2-Butanone (MEK)	ug/m3	<3.0	3.0	07/17/20 10:08	
2-Hexanone	ug/m3	<4.2	4.2	07/17/20 10:08	
2-Propanol	ug/m3	<2.5	2.5	07/17/20 10:08	
4-Ethyltoluene	ug/m3	<2.5	2.5	07/17/20 10:08	
4-Methyl-2-pentanone (MIBK)	ug/m3	<4.2	4.2	07/17/20 10:08	
Acetone	ug/m3	<6.0	6.0	07/17/20 10:08	
Benzene	ug/m3	<0.32	0.32	07/17/20 10:08	
Benzyl chloride	ug/m3	<2.6	2.6	07/17/20 10:08	
Bromodichloromethane	ug/m3	<1.4	1.4	07/17/20 10:08	
Bromoform	ug/m3	<5.2	5.2	07/17/20 10:08	
Bromomethane	ug/m3	<0.79	0.79	07/17/20 10:08	
Carbon disulfide	ug/m3	<0.63	0.63	07/17/20 10:08	
Carbon tetrachloride	ug/m3	<1.3	1.3	07/17/20 10:08	
Chlorobenzene	ug/m3	<0.94	0.94	07/17/20 10:08	
Chloroethane	ug/m3	<0.54	0.54	07/17/20 10:08	
Chloroform	ug/m3	<0.50	0.50	07/17/20 10:08	
Chloromethane	ug/m3	<0.42	0.42	07/17/20 10:08	
cis-1,2-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:08	
cis-1,3-Dichloropropene	ug/m3	<0.92	0.92	07/17/20 10:08	
Cyclohexane	ug/m3	<1.8	1.8	07/17/20 10:08	
Dibromochloromethane	ug/m3	<1.7	1.7	07/17/20 10:08	
Dichlorodifluoromethane	ug/m3	<1.0	1.0	07/17/20 10:08	
Dichlorotetrafluoroethane	ug/m3	<1.4	1.4	07/17/20 10:08	
Ethanol	ug/m3	<1.9	1.9	07/17/20 10:08	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

METHOD BLANK: 3676573 Matrix: Air
Associated Lab Samples: 70137938001, 70137938002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.73	0.73	07/17/20 10:08	
Ethylbenzene	ug/m3	<0.88	0.88	07/17/20 10:08	
Hexachloro-1,3-butadiene	ug/m3	<5.4	5.4	07/17/20 10:08	
m&p-Xylene	ug/m3	<1.8	1.8	07/17/20 10:08	
Methyl-tert-butyl ether	ug/m3	<3.7	3.7	07/17/20 10:08	
Methylene Chloride	ug/m3	<3.5	3.5	07/17/20 10:08	
n-Heptane	ug/m3	<0.83	0.83	07/17/20 10:08	
n-Hexane	ug/m3	<0.72	0.72	07/17/20 10:08	
Naphthalene	ug/m3	<2.7	2.7	07/17/20 10:08	
o-Xylene	ug/m3	<0.88	0.88	07/17/20 10:08	
Propylene	ug/m3	<0.35	0.35	07/17/20 10:08	
Styrene	ug/m3	<0.87	0.87	07/17/20 10:08	
Tetrachloroethene	ug/m3	<0.69	0.69	07/17/20 10:08	
Tetrahydrofuran	ug/m3	<0.60	0.60	07/17/20 10:08	
Toluene	ug/m3	<0.77	0.77	07/17/20 10:08	
trans-1,2-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:08	
trans-1,3-Dichloropropene	ug/m3	<0.92	0.92	07/17/20 10:08	
Trichloroethene	ug/m3	<0.55	0.55	07/17/20 10:08	
Trichlorofluoromethane	ug/m3	<1.1	1.1	07/17/20 10:08	
Vinyl acetate	ug/m3	<0.72	0.72	07/17/20 10:08	
Vinyl chloride	ug/m3	<0.26	0.26	07/17/20 10:08	

LABORATORY CONTROL SAMPLE: 3676574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	57.7	101	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	61.1	85	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	53.7	94	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	80.1	100	70-130	
1,1-Dichloroethane	ug/m3	42.7	41.1	96	70-130	
1,1-Dichloroethene	ug/m3	41.4	41.2	99	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	142	91	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	44.3	86	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	74.6	93	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	52.0	82	70-136	
1,2-Dichloroethane	ug/m3	42.4	42.7	101	70-130	
1,2-Dichloropropane	ug/m3	48.6	46.8	96	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	45.3	88	70-136	
1,3-Butadiene	ug/m3	23.3	23.4	100	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	54.1	85	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	55.4	87	70-145	
2-Butanone (MEK)	ug/m3	31.4	26.9	86	61-130	
2-Hexanone	ug/m3	42.8	43.8	102	70-138	
2-Propanol	ug/m3	119	107	90	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

LABORATORY CONTROL SAMPLE: 3676574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	48.5	93	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	42.9	98	70-134	
Acetone	ug/m3	126	106	83	59-137	
Benzene	ug/m3	33.5	31.9	95	70-133	
Benzyl chloride	ug/m3	55.1	56.5	102	70-139	
Bromodichloromethane	ug/m3	71.5	69.8	98	70-130	
Bromoform	ug/m3	110	101	92	60-140	
Bromomethane	ug/m3	41.3	38.2	93	70-131	
Carbon disulfide	ug/m3	33.3	33.1	99	70-130	
Carbon tetrachloride	ug/m3	66.2	66.0	100	70-133	
Chlorobenzene	ug/m3	48.3	42.0	87	70-131	
Chloroethane	ug/m3	28.1	26.9	96	70-141	
Chloroform	ug/m3	51.1	49.6	97	70-130	
Chloromethane	ug/m3	21.9	20.6	94	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	43.0	103	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	49.3	103	70-138	
Cyclohexane	ug/m3	36.7	37.9	103	70-133	
Dibromochloromethane	ug/m3	90.7	85.9	95	70-139	
Dichlorodifluoromethane	ug/m3	51.6	50.6	98	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	67.5	93	65-133	
Ethanol	ug/m3	103	91.4	89	65-135	
Ethyl acetate	ug/m3	38.6	38.0	98	70-135	
Ethylbenzene	ug/m3	45.6	43.8	96	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	90.2	81	70-134	
m&p-Xylene	ug/m3	91.2	88.0	96	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	39.2	102	70-131	
Methylene Chloride	ug/m3	182	162	89	69-130	
n-Heptane	ug/m3	43.6	45.1	103	70-130	
n-Hexane	ug/m3	37.6	37.8	100	70-131	
Naphthalene	ug/m3	57.7	53.1	92	63-130	
o-Xylene	ug/m3	45.5	40.2	88	70-135	
Propylene	ug/m3	18.2	18.0	99	63-139	
Styrene	ug/m3	44.9	44.8	100	70-143	
Tetrachloroethene	ug/m3	71	63.6	90	70-136	
Tetrahydrofuran	ug/m3	31.5	31.0	98	70-137	
Toluene	ug/m3	39.5	40.3	102	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	42.2	100	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	51.0	107	70-139	
Trichloroethene	ug/m3	56.3	55.1	98	70-132	
Trichlorofluoromethane	ug/m3	59.7	55.5	93	65-136	
Vinyl acetate	ug/m3	34.5	37.4	108	66-140	
Vinyl chloride	ug/m3	26.7	25.9	97	68-141	

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REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

SAMPLE DUPLICATE: 3678443

Parameter	Units	10524983001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.6	<1.6		
1,1,2,2-Tetrachloroethane	ug/m3	<1.0	<1.0		
1,1,2-Trichloroethane	ug/m3	<0.80	<0.80		
1,1,2-Trichlorotrifluoroethane	ug/m3	<2.2	<2.2		
1,1-Dichloroethane	ug/m3	<1.2	<1.2		
1,1-Dichloroethene	ug/m3	<1.2	<1.2		
1,2,4-Trichlorobenzene	ug/m3	<10.9	<10.9		
1,2,4-Trimethylbenzene	ug/m3	<1.4	<1.4		
1,2-Dibromoethane (EDB)	ug/m3	<1.1	<1.1		
1,2-Dichlorobenzene	ug/m3	<1.8	<1.8		
1,2-Dichloroethane	ug/m3	<0.59	<0.59		
1,2-Dichloropropane	ug/m3	<1.4	<1.4		
1,3,5-Trimethylbenzene	ug/m3	<1.4	<1.4		
1,3-Butadiene	ug/m3	<0.65	<0.65		
1,3-Dichlorobenzene	ug/m3	<1.8	<1.8		
1,4-Dichlorobenzene	ug/m3	<4.4	<4.4		
2-Butanone (MEK)	ug/m3	<4.3	<4.3		
2-Hexanone	ug/m3	<6.0	<6.0		
2-Propanol	ug/m3	<3.6	<3.6		
4-Ethyltoluene	ug/m3	<3.6	<3.6		
4-Methyl-2-pentanone (MIBK)	ug/m3	<6.0	<6.0		
Acetone	ug/m3	17.8	19.1	7	
Benzene	ug/m3	<0.47	<0.47		
Benzyl chloride	ug/m3	<3.8	<3.8		
Bromodichloromethane	ug/m3	<2.0	<2.0		
Bromoform	ug/m3	<7.6	<7.6		
Bromomethane	ug/m3	<1.1	<1.1		
Carbon disulfide	ug/m3	2.7	2.8	5	
Carbon tetrachloride	ug/m3	<1.8	<1.8		
Chlorobenzene	ug/m3	<1.3	<1.3		
Chloroethane	ug/m3	<0.77	<0.77		
Chloroform	ug/m3	<0.71	<0.71		
Chloromethane	ug/m3	<0.60	<0.60		
cis-1,2-Dichloroethene	ug/m3	<1.2	<1.2		
cis-1,3-Dichloropropene	ug/m3	<1.3	<1.3		
Cyclohexane	ug/m3	<2.5	<2.5		
Dibromochloromethane	ug/m3	<2.5	<2.5		
Dichlorodifluoromethane	ug/m3	2.4	2.3	0	
Dichlorotetrafluoroethane	ug/m3	<2.0	<2.0		
Ethanol	ug/m3	10.8	11.7	8	
Ethyl acetate	ug/m3	<1.1	<1.1		
Ethylbenzene	ug/m3	<1.3	<1.3		
Hexachloro-1,3-butadiene	ug/m3	<7.8	<7.8		
m&p-Xylene	ug/m3	<2.5	<2.5		
Methyl-tert-butyl ether	ug/m3	<5.3	<5.3		
Methylene Chloride	ug/m3	13.2	14.1	6	
n-Heptane	ug/m3	1.4	1.4	1	

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Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

SAMPLE DUPLICATE: 3678443

Parameter	Units	10524983001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	1.0	1.0	0	
Naphthalene	ug/m3	<3.8	<3.8		
o-Xylene	ug/m3	<1.3	<1.3		
Propylene	ug/m3	<0.50	<0.50		
Styrene	ug/m3	<1.2	<1.2		
Tetrachloroethene	ug/m3	1.0	1.0	2	
Tetrahydrofuran	ug/m3	<0.86	<0.86		
Toluene	ug/m3	1.6	1.7	3	
trans-1,2-Dichloroethene	ug/m3	<1.2	<1.2		
trans-1,3-Dichloropropene	ug/m3	<1.3	<1.3		
Trichloroethene	ug/m3	<0.79	<0.79		
Trichlorofluoromethane	ug/m3	<1.6	<1.6		
Vinyl acetate	ug/m3	<1.0	<1.0		
Vinyl chloride	ug/m3	<0.37	<0.37		

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70137938001	**SP-401 PRE CARBON**	TO-15	687486		
70137938002	**SP-402 MID CARBON**	TO-15	687486		
70137938003	**SP-403 POST CARBON**	TO-15	687469		
70137938004	**MID CARBON SP-302**	TO-15	687469		
70137938005	**EFFLEUNT POST CARBON (SP-303)**	TO-15	687469		

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WO#: 70137938

70137938

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

47498

Page: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: TeTraTech	Report To: Glen Nutuschil	Attention: Glen Nutuschil
Address: 175 N Corporate Ave Brookfield WI	Copy To:	Company Name: TeTratech
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Lockheed Martin	Pace Project Manager/Sales Rep.
Requested Due Date/TAT:	Project Number:	Pace Profile #: 38541

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other____

Location of Sampling by State _____

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level II.___ III.___ IV.___ Other___

Section D Required Client Information

AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

Method: PM10, 3C - Fixed Gas (%), TO-3 BTEX, TO-3M (Methane), TO-14, TO-15 Full List VOCs, TO-15 Short List BTEX, TO-15 Short List Chlorinated, TO-15 Short List (other)

ITEM #	Section D Required Client Information: AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	SP-401 Pre carbon	1LC		7/6/20	11:40			17	10	1421						X					
2	SP-402 mid Carbon	1LC		7/6/20	11:44			20	10	1426						X					
3	SP-403 Post Carbon	1LC		7/6/20	11:47			20	10	1440						X					
4																					
5																					
6	mid Carbon SP-302	1LC		7/7/20	1:38			18	10	1416						X					
7	Effluent Post Carbon (SP-303)	1LC		7/7/20	1:41			20	10	1431						X					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	7/8/20	17:10	[signature]	7-8-20	17:10
[signature]	7-8	1700			
			[signature] Pace	71020	935

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
/	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY) 7/8/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services

WO#: 70137938

PM: KMM **Due Date: 07/24/2**

CLIENT: TETRA

Air Sample Condition Upon Receipt **Client Name:** Pace Long Island **Project #:**

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial See Exception ☐

Tracking Number: 1723 25437686

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No ① ML71020

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other:_____ **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): ✓ **Corrected Temp (°C):** ✓ **Thermometer Used:** ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** ✓ **Date & Initials of Person Examining Contents:** 71020 M

Type of ice Received ☐ Blue ☐ Wet ☒ None

		Comments:
Chain of Custody Present?	☒ Yes ☐ No	1.
Chain of Custody Filled Out?	☒ Yes ☐ No	2.
Chain of Custody Relinquished?	☒ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	7.
Sufficient Volume?	☒ Yes ☐ No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☒ Yes ☐ No ☒ Yes ☐ No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☒ Yes ☐ No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans, Y (N) (list which samples) No and time listed
Is sufficient information available to reconcile samples to the COC?	☒ Yes ☐ No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒ Yes ☐ No	13.

Gauge # ☒ 10AIR26 ☐ 10AIR34 ☐ 10AIR35 ☐ 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
401	1421	—	-8.5	10	Unused	1414	—	~~-28~~ -29	
402	1426	—	-7.5	10		1450	—	-28	
403	1440	—	-8	10		1390	—	-28	
302	1416	—	-10.5	10		3809	—	-28	
303	1431	—	-5	10		1356	—	-27.5	
Unused	1446	—	-28			3812	—	-28	
↓	1362	—	-28						
↓	1398	—	-28						

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

October 20, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on October 13, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
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CERTIFICATIONS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Pace Analytical Services - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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Melville, NY 11747
(631)694-3040

SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70149325001	**PRE-CARBON-SP-301**	TO-15	CH1	61	PASI-M
70149325002	**MID-CARBON-SP-302**	TO-15	CH1	61	PASI-M
70149325003	**EFFLUENT-SP-303**	TO-15	CH1	61	PASI-M
70149325004	**PRE-CARBON-PI-401**	TO-15	CH1	61	PASI-M
70149325005	**MID-CARBON-PI-402**	TO-15	CH1	61	PASI-M
70149325006	**POST-CARBON-PI-403**	TO-15	MJL	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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PROJECT NARRATIVE

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: October 20, 2020

General Information:
6 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 705287

R1: RPD value was outside control limits.
- DUP (Lab ID: 3768988)
  - Dichlorodifluoromethane

Additional Comments:

Analyte Comments:

QC Batch: 705287

C8: Result may be biased high due to carryover from previously analyzed sample.
- POST-CARBON-PI-403 (Lab ID: 70149325006)
  - Tetrachloroethene

This data package has been reviewed for quality and completeness and is approved for release.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: PRE-CARBON-SP-301 **Lab ID: 70149325001** Collected: 10/06/20 14:05 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**33.6**	ug/m3	13.0	2.15		10/18/20 19:14	67-64-1	
Benzene	**1.1**	ug/m3	0.70	2.15		10/18/20 19:14	71-43-2	
Benzyl chloride	**<5.7**	ug/m3	5.7	2.15		10/18/20 19:14	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.15		10/18/20 19:14	75-27-4	
Bromoform	**<11.3**	ug/m3	11.3	2.15		10/18/20 19:14	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	74-83-9	
1,3-Butadiene	**<0.97**	ug/m3	0.97	2.15		10/18/20 19:14	106-99-0	
2-Butanone (MEK)	**<6.4**	ug/m3	6.4	2.15		10/18/20 19:14	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.15		10/18/20 19:14	75-15-0	
Carbon tetrachloride	**<2.8**	ug/m3	2.8	2.15		10/18/20 19:14	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.15		10/18/20 19:14	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.15		10/18/20 19:14	75-00-3	
Chloroform	**13.6**	ug/m3	1.1	2.15		10/18/20 19:14	67-66-3	
Chloromethane	**<0.90**	ug/m3	0.90	2.15		10/18/20 19:14	74-87-3	
Cyclohexane	**7.8**	ug/m3	3.8	2.15		10/18/20 19:14	110-82-7	
Dibromochloromethane	**<3.7**	ug/m3	3.7	2.15		10/18/20 19:14	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.15		10/18/20 19:14	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.15		10/18/20 19:14	541-73-1	
1,4-Dichlorobenzene	**<6.6**	ug/m3	6.6	2.15		10/18/20 19:14	106-46-7	
Dichlorodifluoromethane	**6.4**	ug/m3	2.2	2.15		10/18/20 19:14	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.15		10/18/20 19:14	75-34-3	
1,2-Dichloroethane	**<0.88**	ug/m3	0.88	2.15		10/18/20 19:14	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.15		10/18/20 19:14	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.15		10/18/20 19:14	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.15		10/18/20 19:14	10061-02-6	
Dichlorotetrafluoroethane	**<3.1**	ug/m3	3.1	2.15		10/18/20 19:14	76-14-2	
Ethanol	**30.7**	ug/m3	4.1	2.15		10/18/20 19:14	64-17-5	
Ethyl acetate	**<1.6**	ug/m3	1.6	2.15		10/18/20 19:14	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.15		10/18/20 19:14	100-41-4	
4-Ethyltoluene	**<5.4**	ug/m3	5.4	2.15		10/18/20 19:14	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.15		10/18/20 19:14	142-82-5	
Hexachloro-1,3-butadiene	**<11.7**	ug/m3	11.7	2.15		10/18/20 19:14	87-68-3	
n-Hexane	**<1.5**	ug/m3	1.5	2.15		10/18/20 19:14	110-54-3	
2-Hexanone	**<8.9**	ug/m3	8.9	2.15		10/18/20 19:14	591-78-6	
Methylene Chloride	**84.9**	ug/m3	7.6	2.15		10/18/20 19:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.9**	ug/m3	8.9	2.15		10/18/20 19:14	108-10-1	
Methyl-tert-butyl ether	**<7.9**	ug/m3	7.9	2.15		10/18/20 19:14	1634-04-4	
Naphthalene	**<5.7**	ug/m3	5.7	2.15		10/18/20 19:14	91-20-3	
2-Propanol	**275**	ug/m3	5.4	2.15		10/18/20 19:14	67-63-0	
Propylene	**1.5**	ug/m3	0.75	2.15		10/18/20 19:14	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.15		10/18/20 19:14	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.15		10/18/20 19:14	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: PRE-CARBON-SP-301 **Lab ID: 70149325001** Collected: 10/06/20 14:05 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**115**	ug/m3	1.5	2.15		10/18/20 19:14	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.15		10/18/20 19:14	109-99-9	
Toluene	**2.0**	ug/m3	1.6	2.15		10/18/20 19:14	108-88-3	
1,2,4-Trichlorobenzene	**<16.2**	ug/m3	16.2	2.15		10/18/20 19:14	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.15		10/18/20 19:14	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.15		10/18/20 19:14	79-00-5	
Trichloroethene	**15.0**	ug/m3	1.2	2.15		10/18/20 19:14	79-01-6	
Trichlorofluoromethane	**<2.5**	ug/m3	2.5	2.15		10/18/20 19:14	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.4**	ug/m3	3.4	2.15		10/18/20 19:14	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.15		10/18/20 19:14	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.15		10/18/20 19:14	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.15		10/18/20 19:14	108-05-4	
Vinyl chloride	**<0.56**	ug/m3	0.56	2.15		10/18/20 19:14	75-01-4	
m&p-Xylene	**<3.8**	ug/m3	3.8	2.15		10/18/20 19:14	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.15		10/18/20 19:14	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: MID-CARBON-SP-302 **Lab ID: 70149325002** Collected: 10/06/20 14:09 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<13.0**	ug/m3	13.0	2.15		10/18/20 20:10	67-64-1	
Benzene	**1.1**	ug/m3	0.70	2.15		10/18/20 20:10	71-43-2	
Benzyl chloride	**<5.7**	ug/m3	5.7	2.15		10/18/20 20:10	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.15		10/18/20 20:10	75-27-4	
Bromoform	**<11.3**	ug/m3	11.3	2.15		10/18/20 20:10	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	74-83-9	
1,3-Butadiene	**<0.97**	ug/m3	0.97	2.15		10/18/20 20:10	106-99-0	
2-Butanone (MEK)	**<6.4**	ug/m3	6.4	2.15		10/18/20 20:10	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.15		10/18/20 20:10	75-15-0	
Carbon tetrachloride	**<2.8**	ug/m3	2.8	2.15		10/18/20 20:10	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.15		10/18/20 20:10	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.15		10/18/20 20:10	75-00-3	
Chloroform	**20.5**	ug/m3	1.1	2.15		10/18/20 20:10	67-66-3	
Chloromethane	**<0.90**	ug/m3	0.90	2.15		10/18/20 20:10	74-87-3	
Cyclohexane	**<3.8**	ug/m3	3.8	2.15		10/18/20 20:10	110-82-7	
Dibromochloromethane	**<3.7**	ug/m3	3.7	2.15		10/18/20 20:10	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.15		10/18/20 20:10	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.15		10/18/20 20:10	541-73-1	
1,4-Dichlorobenzene	**<6.6**	ug/m3	6.6	2.15		10/18/20 20:10	106-46-7	
Dichlorodifluoromethane	**6.1**	ug/m3	2.2	2.15		10/18/20 20:10	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.15		10/18/20 20:10	75-34-3	
1,2-Dichloroethane	**<0.88**	ug/m3	0.88	2.15		10/18/20 20:10	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.15		10/18/20 20:10	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.15		10/18/20 20:10	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.15		10/18/20 20:10	10061-02-6	
Dichlorotetrafluoroethane	**<3.1**	ug/m3	3.1	2.15		10/18/20 20:10	76-14-2	
Ethanol	**35.7**	ug/m3	4.1	2.15		10/18/20 20:10	64-17-5	
Ethyl acetate	**<1.6**	ug/m3	1.6	2.15		10/18/20 20:10	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.15		10/18/20 20:10	100-41-4	
4-Ethyltoluene	**<5.4**	ug/m3	5.4	2.15		10/18/20 20:10	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.15		10/18/20 20:10	142-82-5	
Hexachloro-1,3-butadiene	**<11.7**	ug/m3	11.7	2.15		10/18/20 20:10	87-68-3	
n-Hexane	**<1.5**	ug/m3	1.5	2.15		10/18/20 20:10	110-54-3	
2-Hexanone	**<8.9**	ug/m3	8.9	2.15		10/18/20 20:10	591-78-6	
Methylene Chloride	**66.8**	ug/m3	7.6	2.15		10/18/20 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.9**	ug/m3	8.9	2.15		10/18/20 20:10	108-10-1	
Methyl-tert-butyl ether	**<7.9**	ug/m3	7.9	2.15		10/18/20 20:10	1634-04-4	
Naphthalene	**<5.7**	ug/m3	5.7	2.15		10/18/20 20:10	91-20-3	
2-Propanol	**360**	ug/m3	5.4	2.15		10/18/20 20:10	67-63-0	
Propylene	**<0.75**	ug/m3	0.75	2.15		10/18/20 20:10	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.15		10/18/20 20:10	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.15		10/18/20 20:10	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: MID-CARBON-SP-302 **Lab ID: 70149325002** Collected: 10/06/20 14:09 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**1.6**	ug/m3	1.5	2.15		10/18/20 20:10	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.15		10/18/20 20:10	109-99-9	
Toluene	**<1.6**	ug/m3	1.6	2.15		10/18/20 20:10	108-88-3	
1,2,4-Trichlorobenzene	**<16.2**	ug/m3	16.2	2.15		10/18/20 20:10	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.15		10/18/20 20:10	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.15		10/18/20 20:10	79-00-5	
Trichloroethene	**<1.2**	ug/m3	1.2	2.15		10/18/20 20:10	79-01-6	
Trichlorofluoromethane	**3.3**	ug/m3	2.5	2.15		10/18/20 20:10	75-69-4	
1,1,2-Trichlorotrifluoroethane	**3.4**	ug/m3	3.4	2.15		10/18/20 20:10	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.15		10/18/20 20:10	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.15		10/18/20 20:10	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.15		10/18/20 20:10	108-05-4	
Vinyl chloride	**<0.56**	ug/m3	0.56	2.15		10/18/20 20:10	75-01-4	
m&p-Xylene	**<3.8**	ug/m3	3.8	2.15		10/18/20 20:10	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.15		10/18/20 20:10	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: EFFLUENT-SP-303 **Lab ID: 70149325003** Collected: 10/06/20 14:10 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**<12.2**	ug/m3	12.2	2.02		10/18/20 21:05	67-64-1	
Benzene	**<0.66**	ug/m3	0.66	2.02		10/18/20 21:05	71-43-2	
Benzyl chloride	**<5.3**	ug/m3	5.3	2.02		10/18/20 21:05	100-44-7	
Bromodichloromethane	**<2.7**	ug/m3	2.7	2.02		10/18/20 21:05	75-27-4	
Bromoform	**<10.6**	ug/m3	10.6	2.02		10/18/20 21:05	75-25-2	
Bromomethane	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	74-83-9	
1,3-Butadiene	**<0.91**	ug/m3	0.91	2.02		10/18/20 21:05	106-99-0	
2-Butanone (MEK)	**<6.1**	ug/m3	6.1	2.02		10/18/20 21:05	78-93-3	
Carbon disulfide	**<1.3**	ug/m3	1.3	2.02		10/18/20 21:05	75-15-0	
Carbon tetrachloride	**<2.6**	ug/m3	2.6	2.02		10/18/20 21:05	56-23-5	
Chlorobenzene	**<1.9**	ug/m3	1.9	2.02		10/18/20 21:05	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.02		10/18/20 21:05	75-00-3	
Chloroform	**12.5**	ug/m3	1.0	2.02		10/18/20 21:05	67-66-3	
Chloromethane	**<0.85**	ug/m3	0.85	2.02		10/18/20 21:05	74-87-3	
Cyclohexane	**<3.5**	ug/m3	3.5	2.02		10/18/20 21:05	110-82-7	
Dibromochloromethane	**<3.5**	ug/m3	3.5	2.02		10/18/20 21:05	124-48-1	
1,2-Dibromoethane (EDB)	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	106-93-4	
1,2-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.02		10/18/20 21:05	95-50-1	
1,3-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.02		10/18/20 21:05	541-73-1	
1,4-Dichlorobenzene	**<6.2**	ug/m3	6.2	2.02		10/18/20 21:05	106-46-7	
Dichlorodifluoromethane	**6.2**	ug/m3	2.0	2.02		10/18/20 21:05	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.02		10/18/20 21:05	75-34-3	
1,2-Dichloroethane	**<0.83**	ug/m3	0.83	2.02		10/18/20 21:05	107-06-2	
1,1-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	75-35-4	
cis-1,2-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	156-59-2	
trans-1,2-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	156-60-5	
1,2-Dichloropropane	**<1.9**	ug/m3	1.9	2.02		10/18/20 21:05	78-87-5	
cis-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.02		10/18/20 21:05	10061-01-5	
trans-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.02		10/18/20 21:05	10061-02-6	
Dichlorotetrafluoroethane	**<2.9**	ug/m3	2.9	2.02		10/18/20 21:05	76-14-2	
Ethanol	**42.7**	ug/m3	3.9	2.02		10/18/20 21:05	64-17-5	
Ethyl acetate	**<1.5**	ug/m3	1.5	2.02		10/18/20 21:05	141-78-6	
Ethylbenzene	**<1.8**	ug/m3	1.8	2.02		10/18/20 21:05	100-41-4	
4-Ethyltoluene	**<5.0**	ug/m3	5.0	2.02		10/18/20 21:05	622-96-8	
n-Heptane	**<1.7**	ug/m3	1.7	2.02		10/18/20 21:05	142-82-5	
Hexachloro-1,3-butadiene	**<10.9**	ug/m3	10.9	2.02		10/18/20 21:05	87-68-3	
n-Hexane	**<1.4**	ug/m3	1.4	2.02		10/18/20 21:05	110-54-3	
2-Hexanone	**<8.4**	ug/m3	8.4	2.02		10/18/20 21:05	591-78-6	
Methylene Chloride	**75.9**	ug/m3	7.1	2.02		10/18/20 21:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.4**	ug/m3	8.4	2.02		10/18/20 21:05	108-10-1	
Methyl-tert-butyl ether	**<7.4**	ug/m3	7.4	2.02		10/18/20 21:05	1634-04-4	
Naphthalene	**<5.4**	ug/m3	5.4	2.02		10/18/20 21:05	91-20-3	
2-Propanol	**154**	ug/m3	5.0	2.02		10/18/20 21:05	67-63-0	
Propylene	**<0.71**	ug/m3	0.71	2.02		10/18/20 21:05	115-07-1	
Styrene	**<1.7**	ug/m3	1.7	2.02		10/18/20 21:05	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.4**	ug/m3	1.4	2.02		10/18/20 21:05	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: EFFLUENT-SP-303 **Lab ID: 70149325003** Collected: 10/06/20 14:10 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**<1.4**	ug/m3	1.4	2.02		10/18/20 21:05	127-18-4	
Tetrahydrofuran	**<1.2**	ug/m3	1.2	2.02		10/18/20 21:05	109-99-9	
Toluene	**<1.5**	ug/m3	1.5	2.02		10/18/20 21:05	108-88-3	
1,2,4-Trichlorobenzene	**<15.2**	ug/m3	15.2	2.02		10/18/20 21:05	120-82-1	
1,1,1-Trichloroethane	**<2.2**	ug/m3	2.2	2.02		10/18/20 21:05	71-55-6	
1,1,2-Trichloroethane	**<1.1**	ug/m3	1.1	2.02		10/18/20 21:05	79-00-5	
Trichloroethene	**<1.1**	ug/m3	1.1	2.02		10/18/20 21:05	79-01-6	
Trichlorofluoromethane	**3.9**	ug/m3	2.3	2.02		10/18/20 21:05	75-69-4	
1,1,2-Trichlorotrifluoroethane	**3.8**	ug/m3	3.2	2.02		10/18/20 21:05	76-13-1	
1,2,4-Trimethylbenzene	**<2.0**	ug/m3	2.0	2.02		10/18/20 21:05	95-63-6	
1,3,5-Trimethylbenzene	**<2.0**	ug/m3	2.0	2.02		10/18/20 21:05	108-67-8	
Vinyl acetate	**<1.4**	ug/m3	1.4	2.02		10/18/20 21:05	108-05-4	
Vinyl chloride	**<0.53**	ug/m3	0.53	2.02		10/18/20 21:05	75-01-4	
m&p-Xylene	**<3.6**	ug/m3	3.6	2.02		10/18/20 21:05	179601-23-1	
o-Xylene	**<1.8**	ug/m3	1.8	2.02		10/18/20 21:05	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: PRE-CARBON-PI-401 **Lab ID: 70149325004** Collected: 10/05/20 10:08 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**38.3**	ug/m3	12.7	2.1		10/18/20 21:33	67-64-1	
Benzene	**<0.68**	ug/m3	0.68	2.1		10/18/20 21:33	71-43-2	
Benzyl chloride	**<5.5**	ug/m3	5.5	2.1		10/18/20 21:33	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.1		10/18/20 21:33	75-27-4	
Bromoform	**<11.0**	ug/m3	11.0	2.1		10/18/20 21:33	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	74-83-9	
1,3-Butadiene	**<0.94**	ug/m3	0.94	2.1		10/18/20 21:33	106-99-0	
2-Butanone (MEK)	**<6.3**	ug/m3	6.3	2.1		10/18/20 21:33	78-93-3	
Carbon disulfide	**2.1**	ug/m3	1.3	2.1		10/18/20 21:33	75-15-0	
Carbon tetrachloride	**<2.7**	ug/m3	2.7	2.1		10/18/20 21:33	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.1		10/18/20 21:33	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.1		10/18/20 21:33	75-00-3	
Chloroform	**<1.0**	ug/m3	1.0	2.1		10/18/20 21:33	67-66-3	
Chloromethane	**2.8**	ug/m3	0.88	2.1		10/18/20 21:33	74-87-3	
Cyclohexane	**<3.7**	ug/m3	3.7	2.1		10/18/20 21:33	110-82-7	
Dibromochloromethane	**<3.6**	ug/m3	3.6	2.1		10/18/20 21:33	124-48-1	
1,2-Dibromoethane (EDB)	**<1.6**	ug/m3	1.6	2.1		10/18/20 21:33	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.1		10/18/20 21:33	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.1		10/18/20 21:33	541-73-1	
1,4-Dichlorobenzene	**<6.4**	ug/m3	6.4	2.1		10/18/20 21:33	106-46-7	
Dichlorodifluoromethane	**2.3**	ug/m3	2.1	2.1		10/18/20 21:33	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	75-34-3	
1,2-Dichloroethane	**<0.86**	ug/m3	0.86	2.1		10/18/20 21:33	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.1		10/18/20 21:33	78-87-5	
cis-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.1		10/18/20 21:33	10061-01-5	
trans-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.1		10/18/20 21:33	10061-02-6	
Dichlorotetrafluoroethane	**<3.0**	ug/m3	3.0	2.1		10/18/20 21:33	76-14-2	
Ethanol	**5.4**	ug/m3	4.0	2.1		10/18/20 21:33	64-17-5	
Ethyl acetate	**<1.5**	ug/m3	1.5	2.1		10/18/20 21:33	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.1		10/18/20 21:33	100-41-4	
4-Ethyltoluene	**<5.2**	ug/m3	5.2	2.1		10/18/20 21:33	622-96-8	
n-Heptane	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	142-82-5	
Hexachloro-1,3-butadiene	**<11.4**	ug/m3	11.4	2.1		10/18/20 21:33	87-68-3	
n-Hexane	**<1.5**	ug/m3	1.5	2.1		10/18/20 21:33	110-54-3	
2-Hexanone	**<8.7**	ug/m3	8.7	2.1		10/18/20 21:33	591-78-6	
Methylene Chloride	**<7.4**	ug/m3	7.4	2.1		10/18/20 21:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.7**	ug/m3	8.7	2.1		10/18/20 21:33	108-10-1	
Methyl-tert-butyl ether	**<7.7**	ug/m3	7.7	2.1		10/18/20 21:33	1634-04-4	
Naphthalene	**<5.6**	ug/m3	5.6	2.1		10/18/20 21:33	91-20-3	
2-Propanol	**<5.2**	ug/m3	5.2	2.1		10/18/20 21:33	67-63-0	
Propylene	**<0.74**	ug/m3	0.74	2.1		10/18/20 21:33	115-07-1	
Styrene	**<1.8**	ug/m3	1.8	2.1		10/18/20 21:33	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.1		10/18/20 21:33	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: PRE-CARBON-PI-401 **Lab ID: 70149325004** Collected: 10/05/20 10:08 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**<1.4**	ug/m3	1.4	2.1		10/18/20 21:33	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.1		10/18/20 21:33	109-99-9	
Toluene	**<1.6**	ug/m3	1.6	2.1		10/18/20 21:33	108-88-3	
1,2,4-Trichlorobenzene	**<15.8**	ug/m3	15.8	2.1		10/18/20 21:33	120-82-1	
1,1,1-Trichloroethane	**<2.3**	ug/m3	2.3	2.1		10/18/20 21:33	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.1		10/18/20 21:33	79-00-5	
Trichloroethene	**<1.1**	ug/m3	1.1	2.1		10/18/20 21:33	79-01-6	
Trichlorofluoromethane	**<2.4**	ug/m3	2.4	2.1		10/18/20 21:33	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.3**	ug/m3	3.3	2.1		10/18/20 21:33	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.1		10/18/20 21:33	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.1		10/18/20 21:33	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.1		10/18/20 21:33	108-05-4	
Vinyl chloride	**<0.55**	ug/m3	0.55	2.1		10/18/20 21:33	75-01-4	
m&p-Xylene	**<3.7**	ug/m3	3.7	2.1		10/18/20 21:33	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.1		10/18/20 21:33	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: MID-CARBON-PI-402 **Lab ID: 70149325005** Collected: 10/05/20 00:00 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**87.7**	ug/m3	14.5	2.4		10/18/20 22:00	67-64-1	
Benzene	**<0.78**	ug/m3	0.78	2.4		10/18/20 22:00	71-43-2	
Benzyl chloride	**<6.3**	ug/m3	6.3	2.4		10/18/20 22:00	100-44-7	
Bromodichloromethane	**<3.3**	ug/m3	3.3	2.4		10/18/20 22:00	75-27-4	
Bromoform	**<12.6**	ug/m3	12.6	2.4		10/18/20 22:00	75-25-2	
Bromomethane	**<1.9**	ug/m3	1.9	2.4		10/18/20 22:00	74-83-9	
1,3-Butadiene	**<1.1**	ug/m3	1.1	2.4		10/18/20 22:00	106-99-0	
2-Butanone (MEK)	**16.2**	ug/m3	7.2	2.4		10/18/20 22:00	78-93-3	
Carbon disulfide	**<1.5**	ug/m3	1.5	2.4		10/18/20 22:00	75-15-0	
Carbon tetrachloride	**<3.1**	ug/m3	3.1	2.4		10/18/20 22:00	56-23-5	
Chlorobenzene	**<2.2**	ug/m3	2.2	2.4		10/18/20 22:00	108-90-7	
Chloroethane	**<1.3**	ug/m3	1.3	2.4		10/18/20 22:00	75-00-3	
Chloroform	**<1.2**	ug/m3	1.2	2.4		10/18/20 22:00	67-66-3	
Chloromethane	**<1.0**	ug/m3	1.0	2.4		10/18/20 22:00	74-87-3	
Cyclohexane	**<4.2**	ug/m3	4.2	2.4		10/18/20 22:00	110-82-7	
Dibromochloromethane	**<4.2**	ug/m3	4.2	2.4		10/18/20 22:00	124-48-1	
1,2-Dibromoethane (EDB)	**<1.9**	ug/m3	1.9	2.4		10/18/20 22:00	106-93-4	
1,2-Dichlorobenzene	**<2.9**	ug/m3	2.9	2.4		10/18/20 22:00	95-50-1	
1,3-Dichlorobenzene	**<2.9**	ug/m3	2.9	2.4		10/18/20 22:00	541-73-1	
1,4-Dichlorobenzene	**<7.3**	ug/m3	7.3	2.4		10/18/20 22:00	106-46-7	
Dichlorodifluoromethane	**2.6**	ug/m3	2.4	2.4		10/18/20 22:00	75-71-8	
1,1-Dichloroethane	**15.0**	ug/m3	2.0	2.4		10/18/20 22:00	75-34-3	
1,2-Dichloroethane	**<0.99**	ug/m3	0.99	2.4		10/18/20 22:00	107-06-2	
1,1-Dichloroethene	**<1.9**	ug/m3	1.9	2.4		10/18/20 22:00	75-35-4	
cis-1,2-Dichloroethene	**20.1**	ug/m3	1.9	2.4		10/18/20 22:00	156-59-2	
trans-1,2-Dichloroethene	**<1.9**	ug/m3	1.9	2.4		10/18/20 22:00	156-60-5	
1,2-Dichloropropane	**<2.3**	ug/m3	2.3	2.4		10/18/20 22:00	78-87-5	
cis-1,3-Dichloropropene	**<2.2**	ug/m3	2.2	2.4		10/18/20 22:00	10061-01-5	
trans-1,3-Dichloropropene	**<2.2**	ug/m3	2.2	2.4		10/18/20 22:00	10061-02-6	
Dichlorotetrafluoroethane	**<3.4**	ug/m3	3.4	2.4		10/18/20 22:00	76-14-2	
Ethanol	**14.3**	ug/m3	4.6	2.4		10/18/20 22:00	64-17-5	
Ethyl acetate	**<1.8**	ug/m3	1.8	2.4		10/18/20 22:00	141-78-6	
Ethylbenzene	**<2.1**	ug/m3	2.1	2.4		10/18/20 22:00	100-41-4	
4-Ethyltoluene	**<6.0**	ug/m3	6.0	2.4		10/18/20 22:00	622-96-8	
n-Heptane	**<2.0**	ug/m3	2.0	2.4		10/18/20 22:00	142-82-5	
Hexachloro-1,3-butadiene	**<13.0**	ug/m3	13.0	2.4		10/18/20 22:00	87-68-3	
n-Hexane	**<1.7**	ug/m3	1.7	2.4		10/18/20 22:00	110-54-3	
2-Hexanone	**<10**	ug/m3	10	2.4		10/18/20 22:00	591-78-6	
Methylene Chloride	**<8.5**	ug/m3	8.5	2.4		10/18/20 22:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<10**	ug/m3	10	2.4		10/18/20 22:00	108-10-1	
Methyl-tert-butyl ether	**<8.8**	ug/m3	8.8	2.4		10/18/20 22:00	1634-04-4	
Naphthalene	**<6.4**	ug/m3	6.4	2.4		10/18/20 22:00	91-20-3	
2-Propanol	**<6.0**	ug/m3	6.0	2.4		10/18/20 22:00	67-63-0	
Propylene	**<0.84**	ug/m3	0.84	2.4		10/18/20 22:00	115-07-1	
Styrene	**<2.1**	ug/m3	2.1	2.4		10/18/20 22:00	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.7**	ug/m3	1.7	2.4		10/18/20 22:00	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: MID-CARBON-PI-402 **Lab ID: 70149325005** Collected: 10/05/20 00:00 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**2.5**	ug/m3	1.7	2.4		10/18/20 22:00	127-18-4	
Tetrahydrofuran	**<1.4**	ug/m3	1.4	2.4		10/18/20 22:00	109-99-9	
Toluene	**<1.8**	ug/m3	1.8	2.4		10/18/20 22:00	108-88-3	
1,2,4-Trichlorobenzene	**<18.1**	ug/m3	18.1	2.4		10/18/20 22:00	120-82-1	
1,1,1-Trichloroethane	**<2.7**	ug/m3	2.7	2.4		10/18/20 22:00	71-55-6	
1,1,2-Trichloroethane	**<1.3**	ug/m3	1.3	2.4		10/18/20 22:00	79-00-5	
Trichloroethene	**<1.3**	ug/m3	1.3	2.4		10/18/20 22:00	79-01-6	
Trichlorofluoromethane	**<2.7**	ug/m3	2.7	2.4		10/18/20 22:00	75-69-4	
1,1,2-Trichlorotrifluoroethane	**35.6**	ug/m3	3.7	2.4		10/18/20 22:00	76-13-1	
1,2,4-Trimethylbenzene	**<2.4**	ug/m3	2.4	2.4		10/18/20 22:00	95-63-6	
1,3,5-Trimethylbenzene	**<2.4**	ug/m3	2.4	2.4		10/18/20 22:00	108-67-8	
Vinyl acetate	**<1.7**	ug/m3	1.7	2.4		10/18/20 22:00	108-05-4	
Vinyl chloride	**<0.62**	ug/m3	0.62	2.4		10/18/20 22:00	75-01-4	
m&p-Xylene	**<4.2**	ug/m3	4.2	2.4		10/18/20 22:00	179601-23-1	
o-Xylene	**<2.1**	ug/m3	2.1	2.4		10/18/20 22:00	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: POST-CARBON-PI-403 **Lab ID: 70149325006** Collected: 10/05/20 00:00 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**<20.3**	ug/m3	20.3	3.36		10/19/20 21:51	67-64-1	
Benzene	**<1.1**	ug/m3	1.1	3.36		10/19/20 21:51	71-43-2	
Benzyl chloride	**<8.8**	ug/m3	8.8	3.36		10/19/20 21:51	100-44-7	
Bromodichloromethane	**<4.6**	ug/m3	4.6	3.36		10/19/20 21:51	75-27-4	
Bromoform	**<17.6**	ug/m3	17.6	3.36		10/19/20 21:51	75-25-2	
Bromomethane	**<2.7**	ug/m3	2.7	3.36		10/19/20 21:51	74-83-9	
1,3-Butadiene	**<1.5**	ug/m3	1.5	3.36		10/19/20 21:51	106-99-0	
2-Butanone (MEK)	**<10.1**	ug/m3	10.1	3.36		10/19/20 21:51	78-93-3	
Carbon disulfide	**<2.1**	ug/m3	2.1	3.36		10/19/20 21:51	75-15-0	
Carbon tetrachloride	**<4.3**	ug/m3	4.3	3.36		10/19/20 21:51	56-23-5	
Chlorobenzene	**<3.1**	ug/m3	3.1	3.36		10/19/20 21:51	108-90-7	
Chloroethane	**<1.8**	ug/m3	1.8	3.36		10/19/20 21:51	75-00-3	
Chloroform	**<1.7**	ug/m3	1.7	3.36		10/19/20 21:51	67-66-3	
Chloromethane	**<1.4**	ug/m3	1.4	3.36		10/19/20 21:51	74-87-3	
Cyclohexane	**<5.9**	ug/m3	5.9	3.36		10/19/20 21:51	110-82-7	
Dibromochloromethane	**<5.8**	ug/m3	5.8	3.36		10/19/20 21:51	124-48-1	
1,2-Dibromoethane (EDB)	**<2.6**	ug/m3	2.6	3.36		10/19/20 21:51	106-93-4	
1,2-Dichlorobenzene	**<4.1**	ug/m3	4.1	3.36		10/19/20 21:51	95-50-1	
1,3-Dichlorobenzene	**<4.1**	ug/m3	4.1	3.36		10/19/20 21:51	541-73-1	
1,4-Dichlorobenzene	**<10.3**	ug/m3	10.3	3.36		10/19/20 21:51	106-46-7	
Dichlorodifluoromethane	**<3.4**	ug/m3	3.4	3.36		10/19/20 21:51	75-71-8	
1,1-Dichloroethane	**<2.8**	ug/m3	2.8	3.36		10/19/20 21:51	75-34-3	
1,2-Dichloroethane	**<1.4**	ug/m3	1.4	3.36		10/19/20 21:51	107-06-2	
1,1-Dichloroethene	**<2.7**	ug/m3	2.7	3.36		10/19/20 21:51	75-35-4	
cis-1,2-Dichloroethene	**<2.7**	ug/m3	2.7	3.36		10/19/20 21:51	156-59-2	
trans-1,2-Dichloroethene	**<2.7**	ug/m3	2.7	3.36		10/19/20 21:51	156-60-5	
1,2-Dichloropropane	**<3.2**	ug/m3	3.2	3.36		10/19/20 21:51	78-87-5	
cis-1,3-Dichloropropene	**<3.1**	ug/m3	3.1	3.36		10/19/20 21:51	10061-01-5	
trans-1,3-Dichloropropene	**<3.1**	ug/m3	3.1	3.36		10/19/20 21:51	10061-02-6	
Dichlorotetrafluoroethane	**<4.8**	ug/m3	4.8	3.36		10/19/20 21:51	76-14-2	
Ethanol	**<6.5**	ug/m3	6.5	3.36		10/19/20 21:51	64-17-5	
Ethyl acetate	**<2.5**	ug/m3	2.5	3.36		10/19/20 21:51	141-78-6	
Ethylbenzene	**<3.0**	ug/m3	3.0	3.36		10/19/20 21:51	100-41-4	
4-Ethyltoluene	**<8.4**	ug/m3	8.4	3.36		10/19/20 21:51	622-96-8	
n-Heptane	**<2.8**	ug/m3	2.8	3.36		10/19/20 21:51	142-82-5	
Hexachloro-1,3-butadiene	**<18.2**	ug/m3	18.2	3.36		10/19/20 21:51	87-68-3	
n-Hexane	**<2.4**	ug/m3	2.4	3.36		10/19/20 21:51	110-54-3	
2-Hexanone	**<14.0**	ug/m3	14.0	3.36		10/19/20 21:51	591-78-6	
Methylene Chloride	**<11.9**	ug/m3	11.9	3.36		10/19/20 21:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<14.0**	ug/m3	14.0	3.36		10/19/20 21:51	108-10-1	
Methyl-tert-butyl ether	**<12.3**	ug/m3	12.3	3.36		10/19/20 21:51	1634-04-4	
Naphthalene	**<8.9**	ug/m3	8.9	3.36		10/19/20 21:51	91-20-3	
2-Propanol	**<8.4**	ug/m3	8.4	3.36		10/19/20 21:51	67-63-0	
Propylene	**<1.2**	ug/m3	1.2	3.36		10/19/20 21:51	115-07-1	
Styrene	**<2.9**	ug/m3	2.9	3.36		10/19/20 21:51	100-42-5	
1,1,2,2-Tetrachloroethane	**<2.3**	ug/m3	2.3	3.36		10/19/20 21:51	79-34-5	

REPORT OF LABORATORY ANALYSIS

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: POST-CARBON-PI-403 **Lab ID: 70149325006** Collected: 10/05/20 00:00 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**4.6**	ug/m3	2.3	3.36		10/19/20 21:51	127-18-4	C8
Tetrahydrofuran	**<2.0**	ug/m3	2.0	3.36		10/19/20 21:51	109-99-9	
Toluene	**<2.6**	ug/m3	2.6	3.36		10/19/20 21:51	108-88-3	
1,2,4-Trichlorobenzene	**<25.3**	ug/m3	25.3	3.36		10/19/20 21:51	120-82-1	
1,1,1-Trichloroethane	**<3.7**	ug/m3	3.7	3.36		10/19/20 21:51	71-55-6	
1,1,2-Trichloroethane	**<1.9**	ug/m3	1.9	3.36		10/19/20 21:51	79-00-5	
Trichloroethene	**<1.8**	ug/m3	1.8	3.36		10/19/20 21:51	79-01-6	
Trichlorofluoromethane	**4.1**	ug/m3	3.8	3.36		10/19/20 21:51	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<5.2**	ug/m3	5.2	3.36		10/19/20 21:51	76-13-1	
1,2,4-Trimethylbenzene	**<3.4**	ug/m3	3.4	3.36		10/19/20 21:51	95-63-6	
1,3,5-Trimethylbenzene	**<3.4**	ug/m3	3.4	3.36		10/19/20 21:51	108-67-8	
Vinyl acetate	**<2.4**	ug/m3	2.4	3.36		10/19/20 21:51	108-05-4	
Vinyl chloride	**<0.87**	ug/m3	0.87	3.36		10/19/20 21:51	75-01-4	
m&p-Xylene	**<5.9**	ug/m3	5.9	3.36		10/19/20 21:51	179601-23-1	
o-Xylene	**<3.0**	ug/m3	3.0	3.36		10/19/20 21:51	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

QC Batch: 705120
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 70149325001, 70149325002, 70149325003, 70149325004, 70149325005

METHOD BLANK: 3767744 Matrix: Air
Associated Lab Samples: 70149325001, 70149325002, 70149325003, 70149325004, 70149325005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.56	0.56	10/18/20 10:36	
1,1,2,2-Tetrachloroethane	ug/m3	<0.35	0.35	10/18/20 10:36	
1,1,2-Trichloroethane	ug/m3	<0.28	0.28	10/18/20 10:36	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.78	0.78	10/18/20 10:36	
1,1-Dichloroethane	ug/m3	<0.41	0.41	10/18/20 10:36	
1,1-Dichloroethene	ug/m3	<0.40	0.40	10/18/20 10:36	
1,2,4-Trichlorobenzene	ug/m3	<3.8	3.8	10/18/20 10:36	
1,2,4-Trimethylbenzene	ug/m3	<0.50	0.50	10/18/20 10:36	
1,2-Dibromoethane (EDB)	ug/m3	<0.39	0.39	10/18/20 10:36	
1,2-Dichlorobenzene	ug/m3	<0.61	0.61	10/18/20 10:36	
1,2-Dichloroethane	ug/m3	<0.21	0.21	10/18/20 10:36	
1,2-Dichloropropane	ug/m3	<0.47	0.47	10/18/20 10:36	
1,3,5-Trimethylbenzene	ug/m3	<0.50	0.50	10/18/20 10:36	
1,3-Butadiene	ug/m3	<0.22	0.22	10/18/20 10:36	
1,3-Dichlorobenzene	ug/m3	<0.61	0.61	10/18/20 10:36	
1,4-Dichlorobenzene	ug/m3	<1.5	1.5	10/18/20 10:36	
2-Butanone (MEK)	ug/m3	<1.5	1.5	10/18/20 10:36	
2-Hexanone	ug/m3	<2.1	2.1	10/18/20 10:36	
2-Propanol	ug/m3	<1.2	1.2	10/18/20 10:36	
4-Ethyltoluene	ug/m3	<1.2	1.2	10/18/20 10:36	
4-Methyl-2-pentanone (MIBK)	ug/m3	<2.1	2.1	10/18/20 10:36	
Acetone	ug/m3	<3.0	3.0	10/18/20 10:36	
Benzene	ug/m3	<0.16	0.16	10/18/20 10:36	
Benzyl chloride	ug/m3	<1.3	1.3	10/18/20 10:36	
Bromodichloromethane	ug/m3	<0.68	0.68	10/18/20 10:36	
Bromoform	ug/m3	<2.6	2.6	10/18/20 10:36	
Bromomethane	ug/m3	<0.39	0.39	10/18/20 10:36	
Carbon disulfide	ug/m3	<0.32	0.32	10/18/20 10:36	
Carbon tetrachloride	ug/m3	<0.64	0.64	10/18/20 10:36	
Chlorobenzene	ug/m3	<0.47	0.47	10/18/20 10:36	
Chloroethane	ug/m3	<0.27	0.27	10/18/20 10:36	
Chloroform	ug/m3	<0.25	0.25	10/18/20 10:36	
Chloromethane	ug/m3	<0.21	0.21	10/18/20 10:36	
cis-1,2-Dichloroethene	ug/m3	<0.40	0.40	10/18/20 10:36	
cis-1,3-Dichloropropene	ug/m3	<0.46	0.46	10/18/20 10:36	
Cyclohexane	ug/m3	<0.88	0.88	10/18/20 10:36	
Dibromochloromethane	ug/m3	<0.86	0.86	10/18/20 10:36	
Dichlorodifluoromethane	ug/m3	<0.50	0.50	10/18/20 10:36	
Dichlorotetrafluoroethane	ug/m3	<0.71	0.71	10/18/20 10:36	
Ethanol	ug/m3	<0.96	0.96	10/18/20 10:36	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

METHOD BLANK: 3767744 Matrix: Air
Associated Lab Samples: 70149325001, 70149325002, 70149325003, 70149325004, 70149325005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.37	0.37	10/18/20 10:36	
Ethylbenzene	ug/m3	<0.44	0.44	10/18/20 10:36	
Hexachloro-1,3-butadiene	ug/m3	<2.7	2.7	10/18/20 10:36	
m&p-Xylene	ug/m3	<0.88	0.88	10/18/20 10:36	
Methyl-tert-butyl ether	ug/m3	<1.8	1.8	10/18/20 10:36	
Methylene Chloride	ug/m3	<1.8	1.8	10/18/20 10:36	
n-Heptane	ug/m3	<0.42	0.42	10/18/20 10:36	
n-Hexane	ug/m3	<0.36	0.36	10/18/20 10:36	
Naphthalene	ug/m3	<1.3	1.3	10/18/20 10:36	
o-Xylene	ug/m3	<0.44	0.44	10/18/20 10:36	
Propylene	ug/m3	<0.18	0.18	10/18/20 10:36	
Styrene	ug/m3	<0.43	0.43	10/18/20 10:36	
Tetrachloroethene	ug/m3	<0.34	0.34	10/18/20 10:36	
Tetrahydrofuran	ug/m3	<0.30	0.30	10/18/20 10:36	
Toluene	ug/m3	<0.38	0.38	10/18/20 10:36	
trans-1,2-Dichloroethene	ug/m3	<0.40	0.40	10/18/20 10:36	
trans-1,3-Dichloropropene	ug/m3	<0.46	0.46	10/18/20 10:36	
Trichloroethene	ug/m3	<0.27	0.27	10/18/20 10:36	
Trichlorofluoromethane	ug/m3	<0.57	0.57	10/18/20 10:36	
Vinyl acetate	ug/m3	<0.36	0.36	10/18/20 10:36	
Vinyl chloride	ug/m3	<0.13	0.13	10/18/20 10:36	

LABORATORY CONTROL SAMPLE: 3767745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	53.1	93	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	61.2	85	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	51.8	90	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	72.8	91	70-130	
1,1-Dichloroethane	ug/m3	42.7	39.8	93	70-130	
1,1-Dichloroethene	ug/m3	41.4	38.2	92	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	176	113	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	48.2	94	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	72.4	90	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	55.0	87	70-136	
1,2-Dichloroethane	ug/m3	42.4	39.0	92	70-130	
1,2-Dichloropropane	ug/m3	48.6	45.2	93	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	48.5	94	70-136	
1,3-Butadiene	ug/m3	23.3	23.6	101	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	55.9	88	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	59.5	94	70-145	
2-Butanone (MEK)	ug/m3	31.4	33.2	106	61-130	
2-Hexanone	ug/m3	42.8	44.0	103	70-138	
2-Propanol	ug/m3	119	117	99	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

LABORATORY CONTROL SAMPLE: 3767745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	51.5	98	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	43.0	99	70-134	
Acetone	ug/m3	126	129	102	59-137	
Benzene	ug/m3	33.5	31.0	92	70-133	
Benzyl chloride	ug/m3	55.1	55.7	101	70-139	
Bromodichloromethane	ug/m3	71.5	66.9	94	70-130	
Bromoform	ug/m3	110	113	103	60-140	
Bromomethane	ug/m3	41.3	39.2	95	70-131	
Carbon disulfide	ug/m3	33.3	31.8	95	70-130	
Carbon tetrachloride	ug/m3	66.2	66.0	100	70-133	
Chlorobenzene	ug/m3	48.3	40.1	83	70-131	
Chloroethane	ug/m3	28.1	26.4	94	70-141	
Chloroform	ug/m3	51.1	47.4	93	70-130	
Chloromethane	ug/m3	21.9	19.6	90	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	39.4	95	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	47.2	99	70-138	
Cyclohexane	ug/m3	36.7	39.2	107	70-133	
Dibromochloromethane	ug/m3	90.7	82.9	91	70-139	
Dichlorodifluoromethane	ug/m3	51.6	48.9	95	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	68.0	93	65-133	
Ethanol	ug/m3	103	109	106	65-135	
Ethyl acetate	ug/m3	38.6	37.0	96	70-135	
Ethylbenzene	ug/m3	45.6	44.0	97	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	117	105	70-134	
m&p-Xylene	ug/m3	91.2	87.3	96	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	37.9	99	70-131	
Methylene Chloride	ug/m3	182	157	86	69-130	
n-Heptane	ug/m3	43.6	41.5	95	70-130	
n-Hexane	ug/m3	37.6	34.9	93	70-131	
Naphthalene	ug/m3	57.7	59.8	104	63-130	
o-Xylene	ug/m3	45.5	41.9	92	70-135	
Propylene	ug/m3	18.2	17.6	97	63-139	
Styrene	ug/m3	44.9	46.0	102	70-143	
Tetrachloroethene	ug/m3	71	59.5	84	70-136	
Tetrahydrofuran	ug/m3	31.5	31.6	100	70-137	
Toluene	ug/m3	39.5	37.5	95	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	38.3	91	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	49.5	104	70-139	
Trichloroethene	ug/m3	56.3	50.0	89	70-132	
Trichlorofluoromethane	ug/m3	59.7	54.5	91	65-136	
Vinyl acetate	ug/m3	34.5	35.4	102	66-140	
Vinyl chloride	ug/m3	26.7	25.4	95	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768080

Parameter	Units	70149325001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<2.4	<2.4		
1,1,2,2-Tetrachloroethane	ug/m3	<1.5	<1.5		
1,1,2-Trichloroethane	ug/m3	<1.2	<1.2		
1,1,2-Trichlorotrifluoroethane	ug/m3	<3.4	<3.4		
1,1-Dichloroethane	ug/m3	<1.8	<1.8		
1,1-Dichloroethene	ug/m3	<1.7	<1.7		
1,2,4-Trichlorobenzene	ug/m3	<16.2	<16.2		
1,2,4-Trimethylbenzene	ug/m3	<2.1	<2.1		
1,2-Dibromoethane (EDB)	ug/m3	<1.7	<1.7		
1,2-Dichlorobenzene	ug/m3	<2.6	<2.6		
1,2-Dichloroethane	ug/m3	<0.88	<0.88		
1,2-Dichloropropane	ug/m3	<2.0	<2.0		
1,3,5-Trimethylbenzene	ug/m3	<2.1	<2.1		
1,3-Butadiene	ug/m3	<0.97	<0.97		
1,3-Dichlorobenzene	ug/m3	<2.6	<2.6		
1,4-Dichlorobenzene	ug/m3	<6.6	<6.6		
2-Butanone (MEK)	ug/m3	<6.4	<6.4		
2-Hexanone	ug/m3	<8.9	<8.9		
2-Propanol	ug/m3	275	267	3	
4-Ethyltoluene	ug/m3	<5.4	<5.4		
4-Methyl-2-pentanone (MIBK)	ug/m3	<8.9	<8.9		
Acetone	ug/m3	33.6	35.0	4	
Benzene	ug/m3	1.1	1.1	3	
Benzyl chloride	ug/m3	<5.7	<5.7		
Bromodichloromethane	ug/m3	<2.9	<2.9		
Bromoform	ug/m3	<11.3	<11.3		
Bromomethane	ug/m3	<1.7	<1.7		
Carbon disulfide	ug/m3	<1.4	<1.4		
Carbon tetrachloride	ug/m3	<2.8	<2.8		
Chlorobenzene	ug/m3	<2.0	<2.0		
Chloroethane	ug/m3	<1.2	<1.2		
Chloroform	ug/m3	13.6	13.4	1	
Chloromethane	ug/m3	<0.90	<0.90		
cis-1,2-Dichloroethene	ug/m3	<1.7	<1.7		
cis-1,3-Dichloropropene	ug/m3	<2.0	<2.0		
Cyclohexane	ug/m3	7.8	7.8	1	
Dibromochloromethane	ug/m3	<3.7	<3.7		
Dichlorodifluoromethane	ug/m3	6.4	5.8	9	
Dichlorotetrafluoroethane	ug/m3	<3.1	<3.1		
Ethanol	ug/m3	30.7	29.3	5	
Ethyl acetate	ug/m3	<1.6	<1.6		
Ethylbenzene	ug/m3	<1.9	<1.9		
Hexachloro-1,3-butadiene	ug/m3	<11.7	<11.7		
m&p-Xylene	ug/m3	<3.8	<3.8		
Methyl-tert-butyl ether	ug/m3	<7.9	<7.9		
Methylene Chloride	ug/m3	84.9	82.3	3	
n-Heptane	ug/m3	<1.8	<1.8		

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(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768080

Parameter	Units	70149325001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	<1.5	<1.5		
Naphthalene	ug/m3	<5.7	<5.7		
o-Xylene	ug/m3	<1.9	<1.9		
Propylene	ug/m3	1.5	<0.75		
Styrene	ug/m3	<1.9	<1.9		
Tetrachloroethene	ug/m3	115	115	0	
Tetrahydrofuran	ug/m3	<1.3	<1.3		
Toluene	ug/m3	2.0	2.0	0	
trans-1,2-Dichloroethene	ug/m3	<1.7	<1.7		
trans-1,3-Dichloropropene	ug/m3	<2.0	<2.0		
Trichloroethene	ug/m3	15.0	14.9	0	
Trichlorofluoromethane	ug/m3	<2.5	<2.5		
Vinyl acetate	ug/m3	<1.5	<1.5		
Vinyl chloride	ug/m3	<0.56	<0.56		

SAMPLE DUPLICATE: 3768081

Parameter	Units	70149325002 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<2.4	<2.4		
1,1,2,2-Tetrachloroethane	ug/m3	<1.5	<1.5		
1,1,2-Trichloroethane	ug/m3	<1.2	<1.2		
1,1,2-Trichlorotrifluoroethane	ug/m3	3.4	<3.4		
1,1-Dichloroethane	ug/m3	<1.8	<1.8		
1,1-Dichloroethene	ug/m3	<1.7	<1.7		
1,2,4-Trichlorobenzene	ug/m3	<16.2	<16.2		
1,2,4-Trimethylbenzene	ug/m3	<2.1	<2.1		
1,2-Dibromoethane (EDB)	ug/m3	<1.7	<1.7		
1,2-Dichlorobenzene	ug/m3	<2.6	<2.6		
1,2-Dichloroethane	ug/m3	<0.88	<0.88		
1,2-Dichloropropane	ug/m3	<2.0	<2.0		
1,3,5-Trimethylbenzene	ug/m3	<2.1	<2.1		
1,3-Butadiene	ug/m3	<0.97	<0.97		
1,3-Dichlorobenzene	ug/m3	<2.6	<2.6		
1,4-Dichlorobenzene	ug/m3	<6.6	<6.6		
2-Butanone (MEK)	ug/m3	<6.4	<6.4		
2-Hexanone	ug/m3	<8.9	<8.9		
2-Propanol	ug/m3	360	335	7	
4-Ethyltoluene	ug/m3	<5.4	<5.4		
4-Methyl-2-pentanone (MIBK)	ug/m3	<8.9	<8.9		
Acetone	ug/m3	<13.0	<13.0		
Benzene	ug/m3	1.1	1.1	5	
Benzyl chloride	ug/m3	<5.7	<5.7		
Bromodichloromethane	ug/m3	<2.9	<2.9		
Bromoform	ug/m3	<11.3	<11.3		
Bromomethane	ug/m3	<1.7	<1.7		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768081

Parameter	Units	70149325002 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	<1.4	<1.4		
Carbon tetrachloride	ug/m3	<2.8	<2.8		
Chlorobenzene	ug/m3	<2.0	<2.0		
Chloroethane	ug/m3	<1.2	<1.2		
Chloroform	ug/m3	20.5	19.1	7	
Chloromethane	ug/m3	<0.90	<0.90		
cis-1,2-Dichloroethene	ug/m3	<1.7	<1.7		
cis-1,3-Dichloropropene	ug/m3	<2.0	<2.0		
Cyclohexane	ug/m3	<3.8	<3.8		
Dibromochloromethane	ug/m3	<3.7	<3.7		
Dichlorodifluoromethane	ug/m3	6.1	5.9	3	
Dichlorotetrafluoroethane	ug/m3	<3.1	<3.1		
Ethanol	ug/m3	35.7	33.6	6	
Ethyl acetate	ug/m3	<1.6	<1.6		
Ethylbenzene	ug/m3	<1.9	<1.9		
Hexachloro-1,3-butadiene	ug/m3	<11.7	<11.7		
m&p-Xylene	ug/m3	<3.8	<3.8		
Methyl-tert-butyl ether	ug/m3	<7.9	<7.9		
Methylene Chloride	ug/m3	66.8	63.4	5	
n-Heptane	ug/m3	<1.8	<1.8		
n-Hexane	ug/m3	<1.5	<1.5		
Naphthalene	ug/m3	<5.7	<5.7		
o-Xylene	ug/m3	<1.9	<1.9		
Propylene	ug/m3	<0.75	<0.75		
Styrene	ug/m3	<1.9	<1.9		
Tetrachloroethene	ug/m3	1.6	<1.5		
Tetrahydrofuran	ug/m3	<1.3	<1.3		
Toluene	ug/m3	<1.6	<1.6		
trans-1,2-Dichloroethene	ug/m3	<1.7	<1.7		
trans-1,3-Dichloropropene	ug/m3	<2.0	<2.0		
Trichloroethene	ug/m3	<1.2	<1.2		
Trichlorofluoromethane	ug/m3	3.3	2.8	15	
Vinyl acetate	ug/m3	<1.5	<1.5		
Vinyl chloride	ug/m3	<0.56	<0.56		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

QC Batch: 705287
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 70149325006

METHOD BLANK: 3768242 Matrix: Air
Associated Lab Samples: 70149325006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.56	0.56	10/19/20 10:57	
1,1,2,2-Tetrachloroethane	ug/m3	<0.35	0.35	10/19/20 10:57	
1,1,2-Trichloroethane	ug/m3	<0.28	0.28	10/19/20 10:57	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.78	0.78	10/19/20 10:57	
1,1-Dichloroethane	ug/m3	<0.41	0.41	10/19/20 10:57	
1,1-Dichloroethene	ug/m3	<0.40	0.40	10/19/20 10:57	
1,2,4-Trichlorobenzene	ug/m3	<3.8	3.8	10/19/20 10:57	
1,2,4-Trimethylbenzene	ug/m3	<0.50	0.50	10/19/20 10:57	
1,2-Dibromoethane (EDB)	ug/m3	<0.39	0.39	10/19/20 10:57	
1,2-Dichlorobenzene	ug/m3	<0.61	0.61	10/19/20 10:57	
1,2-Dichloroethane	ug/m3	<0.21	0.21	10/19/20 10:57	
1,2-Dichloropropane	ug/m3	<0.47	0.47	10/19/20 10:57	
1,3,5-Trimethylbenzene	ug/m3	<0.50	0.50	10/19/20 10:57	
1,3-Butadiene	ug/m3	<0.22	0.22	10/19/20 10:57	
1,3-Dichlorobenzene	ug/m3	<0.61	0.61	10/19/20 10:57	
1,4-Dichlorobenzene	ug/m3	<1.5	1.5	10/19/20 10:57	
2-Butanone (MEK)	ug/m3	<1.5	1.5	10/19/20 10:57	
2-Hexanone	ug/m3	<2.1	2.1	10/19/20 10:57	
2-Propanol	ug/m3	<1.2	1.2	10/19/20 10:57	
4-Ethyltoluene	ug/m3	<1.2	1.2	10/19/20 10:57	
4-Methyl-2-pentanone (MIBK)	ug/m3	<2.1	2.1	10/19/20 10:57	
Acetone	ug/m3	<3.0	3.0	10/19/20 10:57	
Benzene	ug/m3	<0.16	0.16	10/19/20 10:57	
Benzyl chloride	ug/m3	<1.3	1.3	10/19/20 10:57	
Bromodichloromethane	ug/m3	<0.68	0.68	10/19/20 10:57	
Bromoform	ug/m3	<2.6	2.6	10/19/20 10:57	
Bromomethane	ug/m3	<0.39	0.39	10/19/20 10:57	
Carbon disulfide	ug/m3	<0.32	0.32	10/19/20 10:57	
Carbon tetrachloride	ug/m3	<0.64	0.64	10/19/20 10:57	
Chlorobenzene	ug/m3	<0.47	0.47	10/19/20 10:57	
Chloroethane	ug/m3	<0.27	0.27	10/19/20 10:57	
Chloroform	ug/m3	<0.25	0.25	10/19/20 10:57	
Chloromethane	ug/m3	<0.21	0.21	10/19/20 10:57	
cis-1,2-Dichloroethene	ug/m3	<0.40	0.40	10/19/20 10:57	
cis-1,3-Dichloropropene	ug/m3	<0.46	0.46	10/19/20 10:57	
Cyclohexane	ug/m3	<0.88	0.88	10/19/20 10:57	
Dibromochloromethane	ug/m3	<0.86	0.86	10/19/20 10:57	
Dichlorodifluoromethane	ug/m3	<0.50	0.50	10/19/20 10:57	
Dichlorotetrafluoroethane	ug/m3	<0.71	0.71	10/19/20 10:57	
Ethanol	ug/m3	<0.96	0.96	10/19/20 10:57	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

METHOD BLANK: 3768242 Matrix: Air
Associated Lab Samples: 70149325006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.37	0.37	10/19/20 10:57	
Ethylbenzene	ug/m3	<0.44	0.44	10/19/20 10:57	
Hexachloro-1,3-butadiene	ug/m3	<2.7	2.7	10/19/20 10:57	
m&p-Xylene	ug/m3	<0.88	0.88	10/19/20 10:57	
Methyl-tert-butyl ether	ug/m3	<1.8	1.8	10/19/20 10:57	
Methylene Chloride	ug/m3	<1.8	1.8	10/19/20 10:57	
n-Heptane	ug/m3	<0.42	0.42	10/19/20 10:57	
n-Hexane	ug/m3	<0.36	0.36	10/19/20 10:57	
Naphthalene	ug/m3	<1.3	1.3	10/19/20 10:57	
o-Xylene	ug/m3	<0.44	0.44	10/19/20 10:57	
Propylene	ug/m3	<0.18	0.18	10/19/20 10:57	
Styrene	ug/m3	<0.43	0.43	10/19/20 10:57	
Tetrachloroethene	ug/m3	<0.34	0.34	10/19/20 10:57	
Tetrahydrofuran	ug/m3	<0.30	0.30	10/19/20 10:57	
Toluene	ug/m3	<0.38	0.38	10/19/20 10:57	
trans-1,2-Dichloroethene	ug/m3	<0.40	0.40	10/19/20 10:57	
trans-1,3-Dichloropropene	ug/m3	<0.46	0.46	10/19/20 10:57	
Trichloroethene	ug/m3	<0.27	0.27	10/19/20 10:57	
Trichlorofluoromethane	ug/m3	<0.57	0.57	10/19/20 10:57	
Vinyl acetate	ug/m3	<0.36	0.36	10/19/20 10:57	
Vinyl chloride	ug/m3	<0.13	0.13	10/19/20 10:57	

LABORATORY CONTROL SAMPLE: 3768243

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	53.2	93	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	63.0	88	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	52.7	92	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	71.2	89	70-130	
1,1-Dichloroethane	ug/m3	42.7	40.2	94	70-130	
1,1-Dichloroethene	ug/m3	41.4	37.5	91	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	176	113	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	48.7	94	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	71.6	89	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	53.6	85	70-136	
1,2-Dichloroethane	ug/m3	42.4	39.2	92	70-130	
1,2-Dichloropropane	ug/m3	48.6	47.3	97	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	48.6	94	70-136	
1,3-Butadiene	ug/m3	23.3	24.1	103	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	54.4	86	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	57.9	91	70-145	
2-Butanone (MEK)	ug/m3	31.4	33.8	108	61-130	
2-Hexanone	ug/m3	42.8	44.8	105	70-138	
2-Propanol	ug/m3	119	116	97	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

LABORATORY CONTROL SAMPLE: 3768243

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	51.9	99	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	44.4	102	70-134	
Acetone	ug/m3	126	127	101	59-137	
Benzene	ug/m3	33.5	32.2	96	70-133	
Benzyl chloride	ug/m3	55.1	55.2	100	70-139	
Bromodichloromethane	ug/m3	71.5	68.4	96	70-130	
Bromoform	ug/m3	110	103	94	60-140	
Bromomethane	ug/m3	41.3	38.9	94	70-131	
Carbon disulfide	ug/m3	33.3	32.0	96	70-130	
Carbon tetrachloride	ug/m3	66.2	64.4	97	70-133	
Chlorobenzene	ug/m3	48.3	39.7	82	70-131	
Chloroethane	ug/m3	28.1	27.1	96	70-141	
Chloroform	ug/m3	51.1	48.2	94	70-130	
Chloromethane	ug/m3	21.9	20.0	91	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	39.0	94	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	49.1	103	70-138	
Cyclohexane	ug/m3	36.7	41.6	113	70-133	
Dibromochloromethane	ug/m3	90.7	78.5	86	70-139	
Dichlorodifluoromethane	ug/m3	51.6	50.3	98	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	68.7	95	65-133	
Ethanol	ug/m3	103	107	104	65-135	
Ethyl acetate	ug/m3	38.6	37.0	96	70-135	
Ethylbenzene	ug/m3	45.6	44.8	98	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	119	106	70-134	
m&p-Xylene	ug/m3	91.2	89.3	98	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	39.2	102	70-131	
Methylene Chloride	ug/m3	182	153	84	69-130	
n-Heptane	ug/m3	43.6	42.7	98	70-130	
n-Hexane	ug/m3	37.6	34.9	93	70-131	
Naphthalene	ug/m3	57.7	60.9	106	63-130	
o-Xylene	ug/m3	45.5	42.6	94	70-135	
Propylene	ug/m3	18.2	18.5	102	63-139	
Styrene	ug/m3	44.9	46.2	103	70-143	
Tetrachloroethene	ug/m3	71	58.0	82	70-136	
Tetrahydrofuran	ug/m3	31.5	32.4	103	70-137	
Toluene	ug/m3	39.5	39.1	99	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	37.9	90	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	50.0	105	70-139	
Trichloroethene	ug/m3	56.3	49.1	87	70-132	
Trichlorofluoromethane	ug/m3	59.7	52.8	89	65-136	
Vinyl acetate	ug/m3	34.5	34.2	99	66-140	
Vinyl chloride	ug/m3	26.7	26.1	98	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768987

Parameter	Units	10535198008 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.7		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.0		
1,1,2-Trichloroethane	ug/m3	ND	<0.83		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.3		
1,1-Dichloroethane	ug/m3	ND	<1.2		
1,1-Dichloroethene	ug/m3	ND	<1.2		
1,2,4-Trichlorobenzene	ug/m3	ND	<11.2		
1,2,4-Trimethylbenzene	ug/m3	ND	<1.5		
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.2		
1,2-Dichlorobenzene	ug/m3	ND	<1.8		
1,2-Dichloroethane	ug/m3	ND	<0.61		
1,2-Dichloropropane	ug/m3	ND	<1.4		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.5		
1,3-Butadiene	ug/m3	ND	<0.67		
1,3-Dichlorobenzene	ug/m3	ND	<1.8		
1,4-Dichlorobenzene	ug/m3	ND	<4.6		
2-Butanone (MEK)	ug/m3	ND	<4.5		
2-Hexanone	ug/m3	ND	<6.2		
2-Propanol	ug/m3	54.0	52.8	2	
4-Ethyltoluene	ug/m3	ND	<3.7		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<6.2		
Acetone	ug/m3	50.2	50.1	0	
Benzene	ug/m3	10.1	9.9	3	
Benzyl chloride	ug/m3	ND	<3.9		
Bromodichloromethane	ug/m3	ND	<2.0		
Bromoform	ug/m3	ND	<7.8		
Bromomethane	ug/m3	ND	<1.2		
Carbon disulfide	ug/m3	ND	<0.94		
Carbon tetrachloride	ug/m3	ND	<1.9		
Chlorobenzene	ug/m3	ND	<1.4		
Chloroethane	ug/m3	ND	<0.80		
Chloroform	ug/m3	ND	<0.74		
Chloromethane	ug/m3	0.92	0.91	1	
cis-1,2-Dichloroethene	ug/m3	ND	<1.2		
cis-1,3-Dichloropropene	ug/m3	ND	<1.4		
Cyclohexane	ug/m3	ND	<2.6		
Dibromochloromethane	ug/m3	ND	<2.6		
Dichlorodifluoromethane	ug/m3	2.6	2.5	2	
Dichlorotetrafluoroethane	ug/m3	ND	<2.1		
Ethanol	ug/m3	246	243	1	
Ethyl acetate	ug/m3	1.9	1.9	1	
Ethylbenzene	ug/m3	ND	<1.3		
Hexachloro-1,3-butadiene	ug/m3	ND	<8.1		
m&p-Xylene	ug/m3	3.5	3.4	1	
Methyl-tert-butyl ether	ug/m3	ND	<5.5		
Methylene Chloride	ug/m3	10.1	10.1	0	
n-Heptane	ug/m3	ND	<1.2		

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768987

Parameter	Units	10535198008 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	2.0	1.9	6	
Naphthalene	ug/m3	ND	<4.0		
o-Xylene	ug/m3	ND	<1.3		
Propylene	ug/m3	ND	<0.52		
Styrene	ug/m3	ND	<1.3		
Tetrachloroethene	ug/m3	1.3	1.3	1	
Tetrahydrofuran	ug/m3	ND	<0.89		
Toluene	ug/m3	6.9	7.0	1	
trans-1,2-Dichloroethene	ug/m3	ND	<1.2		
trans-1,3-Dichloropropene	ug/m3	ND	<1.4		
Trichloroethene	ug/m3	1.6	1.6	1	
Trichlorofluoromethane	ug/m3	ND	<1.7		
Vinyl acetate	ug/m3	ND	<1.1		
Vinyl chloride	ug/m3	ND	<0.39		

SAMPLE DUPLICATE: 3768988

Parameter	Units	10535913001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.8		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.1		
1,1,2-Trichloroethane	ug/m3	ND	<0.88		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.5		
1,1-Dichloroethane	ug/m3	ND	<1.3		
1,1-Dichloroethene	ug/m3	ND	<1.3		
1,2,4-Trichlorobenzene	ug/m3	ND	<11.9		
1,2,4-Trimethylbenzene	ug/m3	4.1	4.2	3	
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.2		
1,2-Dichlorobenzene	ug/m3	ND	<1.9		
1,2-Dichloroethane	ug/m3	ND	<0.65		
1,2-Dichloropropane	ug/m3	ND	<1.5		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.6		
1,3-Butadiene	ug/m3	ND	<0.71		
1,3-Dichlorobenzene	ug/m3	ND	<1.9		
1,4-Dichlorobenzene	ug/m3	ND	<4.8		
2-Butanone (MEK)	ug/m3	ND	<4.7		
2-Hexanone	ug/m3	ND	<6.6		
2-Propanol	ug/m3	172	166	4	
4-Ethyltoluene	ug/m3	ND	<4.0		
4-Methyl-2-pentanone (MIBK)	ug/m3	12.7	13.3	5	
Acetone	ug/m3	32.8	29.6	10	
Benzene	ug/m3	0.83	0.85	3	
Benzyl chloride	ug/m3	ND	<4.2		
Bromodichloromethane	ug/m3	ND	<2.1		
Bromoform	ug/m3	ND	<8.3		
Bromomethane	ug/m3	ND	<1.2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768988

Parameter	Units	10535913001 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	ND	<1.0		
Carbon tetrachloride	ug/m3	ND	<2.0		
Chlorobenzene	ug/m3	ND	<1.5		
Chloroethane	ug/m3	ND	<0.85		
Chloroform	ug/m3	ND	<0.78		
Chloromethane	ug/m3	0.77	<0.66		
cis-1,2-Dichloroethene	ug/m3	ND	<1.3		
cis-1,3-Dichloropropene	ug/m3	ND	<1.5		
Cyclohexane	ug/m3	ND	<2.8		
Dibromochloromethane	ug/m3	ND	<2.7		
Dichlorodifluoromethane	ug/m3	2.6	1.9	31	R1
Dichlorotetrafluoroethane	ug/m3	ND	<2.2		
Ethanol	ug/m3	156	139	11	
Ethyl acetate	ug/m3	ND	<1.2		
Ethylbenzene	ug/m3	179	186	4	
Hexachloro-1,3-butadiene	ug/m3	ND	<8.6		
m&p-Xylene	ug/m3	542	564	4	
Methyl-tert-butyl ether	ug/m3	ND	<5.8		
Methylene Chloride	ug/m3	ND	<5.6		
n-Heptane	ug/m3	2.7	2.7	1	
n-Hexane	ug/m3	ND	<1.1		
Naphthalene	ug/m3	ND	<4.2		
o-Xylene	ug/m3	141	147	4	
Propylene	ug/m3	ND	<0.55		
Styrene	ug/m3	ND	<1.4		
Tetrachloroethene	ug/m3	ND	<1.1		
Tetrahydrofuran	ug/m3	3.3	3.3	0	
Toluene	ug/m3	1.5	1.5	3	
trans-1,2-Dichloroethene	ug/m3	7.0	7.0	0	
trans-1,3-Dichloropropene	ug/m3	ND	<1.5		
Trichloroethene	ug/m3	2.4	2.4	0	
Trichlorofluoromethane	ug/m3	ND	<1.8		
Vinyl acetate	ug/m3	ND	<1.1		
Vinyl chloride	ug/m3	ND	<0.41		

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

C8	Result may be biased high due to carryover from previously analyzed sample.
R1	RPD value was outside control limits.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70149325001	**PRE-CARBON-SP-301**	TO-15	705120		
70149325002	**MID-CARBON-SP-302**	TO-15	705120		
70149325003	**EFFLUENT-SP-303**	TO-15	705120		
70149325004	**PRE-CARBON-PI-401**	TO-15	705120		
70149325005	**MID-CARBON-PI-402**	TO-15	705120		
70149325006	**POST-CARBON-PI-403**	TO-15	705287		

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AIR: CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL DOCUMENT. All rel

WO# : 70149325

70149325

Section A Required Client Information:

Company: TeTra Tech
Address: 175 N Corporate Dr
Brookfield WI
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Glenn Nutuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed Martin
Project Number:

Section C Invoice Information:

Attention: Glenn Nutuschil
Company Name: TeTra Tech
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 41249

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	Section D AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Pre-Carbon - SP-301	1LC		10/6/20	2:05			28	7	3167						X					
2	Mid-Carbon - SP-302	1LC		10/6/20	2:09			25	7	2603						X					
3	Effluent - SP-303	1LC		10/6/20	2:10			26	7	2199						X					
4																					
5																					
6	Pre-Carbon - PI-401	1LC		10/5/20	10:08			28	7	2489						X					
7	Mid-Carbon - PI-402	1LC		10/5/20				25	7	2604						X					
8	Post-Carbon - PI-403	1LC		10/5/20				27	7	3282						X					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy NRC	10/9/20	1341	RBlan	10/9/20	1341
RBlan	10/9/20	1700	[signature] / Pace	10/10/20	9:00

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY) 10/9/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01 03Feb2010

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services - Minneapolis

Air Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #:

WO#: 70149325

PM: KMM **Due Date: 10/27/20**

CLIENT: TETRA

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☐

Tracking Number: 7717 5940 4514

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☐ No

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other:_____ **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermometer Used:** ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** 10-12-20 MZ

Type of Ice Received ☐ Blue ☐ Wet ☒ None

			Comments:
Chain of Custody Present?	☑ Yes	☐ No	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	7.
Sufficient Volume?	☑ Yes	☐ No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☑ Yes ☑ Yes	☐ No ☐ No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☑ Yes	☐ No	10.
Media: Air Can Airbag Filter TDT Passive			11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☑ Yes	☐ No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒ Yes	☐ No	13.

Gauge # ☑ 10AIR26 ☐ 10AIR34 ☐ 10AIR35 ☐ 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SP-301	3167	—	-6.5	+10					
" -302	2603	-	-6.5						
" -303	2199	—	-5						
PI-401	2489	—	-6						
" -402	2604	—	-9						
" -403	3282	—	-9						
Unused	2773	—	-27	-					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Appendix A-4

SSDS Expansion Summary

TETRA TECH

MEMORANDUM

To:	Project File
From:	Glenn Netuschil
Subject:	Summary of the Start-Up and Testing Plan of SDS-9

This memorandum summarizes the results of start-up and testing of the new sub-slab depressurization sump, SDS-9 at the sub-slab depressurization system (SSDS) at the Former French Road Facility, 525 French Road, Utica, NY.

SDS-9 Installation

A non-intrusive sub-surface geophysical survey of the proposed SDS-9 location was performed on December 7, 2020 by New York Leak Detection, Inc. The geophysical survey did not identify any sub-surface utilities (Refer to Attachment 1 for geophysical survey report). The SDS-9 sump was installed on December 10, 2020. The SDS-9 well casing was fitted with monitoring/control devices consistent with those used for pre-existing SDS's, and as depicted on the As-Built drawings. These include a vapor sampling port, vacuum gauge, flow control valve, and orifice plate. As done during previous SDS installations, three short sections of 3-inch diameter, standard dimension ratio (SDR) 11, high-density polyethylene (HDPE) pipes accompanied by flanged ends were utilized to connect the monitoring/control devices to one another. Vertical piping of 3-inch diameter polyvinyl chloride (PVC) material was extended up the wall to an elevation sufficient for continuation of piping overhead. Approximately 70 feet of 4-inch diameter schedule 40 PVC pipe was run overhead across the mould storage room to connect with the existing 6-inch diameter overhead depressurization/vacuum header pipe located near SDS-7.

All PVC pipe connections were made absent of solvent-welding techniques by dry-fitting socket-style connections and using reducing rubber couplings to seal joints. Wall-mounted and overhead pipe hangers were used to provide SDS-9 piping with support. Piping/fitting activities for SDS-9 were conducted from December 11 to 14, 2020.

As-Built Survey

A post-construction survey was performed by a licensed New York State Land Surveyor (Thew Associates, LS) on December 14, 2020. The survey was conducted to document the as-built components associated with the installation of SDS-9 and the new vertical and horizontal piping. Global positioning system (GPS) survey instrumentation was utilized to collect the data (i.e., northing, easting, and elevations). The updated SSDS as-built survey drawing is provided as Attachment 2.

Leak Detection Testing

The newly installed piping and fittings for SDS-9 were successfully leak tested on December 14, 2020. This process, performed consistent with the annual SSDS leak detection testing procedure, included physical inspection of each pipe section, fitting, and connection. An ultrasonic leak detection instrument (Ultraprobe® 9000) was used to test the piping and fitting connections for leaks.

SDS-9 Startup

Pre-Startup/Baseline Measurements

The startup and testing of SDS-9 began on December 14, 2020. Prior to applying vacuum at SDS-9, a full round of system performance monitoring measurements was taken. These measurements are included in Tables 1 and 2 and included the following parameters:

- Instantaneous vacuum measurements at all the vacuum monitoring points (VMPs);
- Applied vacuum, orifice plate differential pressure, and flow control valve position at each of the eight (8) pre-existing SDSs; and
- Overall system readings including applied vacuum (VT-201), flow rate (FT-301), post-blower temperature (TT-201), and post-blower pressure (PT-201).
- The results of these measurements were relatively consistent with the ongoing operation of the SSDS.
- The overall system was operating with an extraction flow rate of approximately 75 actual cubic feet per minute (acfm) at an applied vacuum of 81 in.W.C..

SDS-9 Performance Monitoring

Following the collection of pre-startup/baseline readings, SDS-9 was brought online on December 14, 2020 by opening its flow control valve 100% which resulted in a vacuum of 54 inches of water column (in. W.C.) at SDS-9. A complete round of instantaneous vacuum measurements at all the vacuum monitoring points (VMPs) was performed as summarized in Table 2. These readings indicated that bringing SDS-9 on-line significantly increased the instantaneous vacuum measurements at VMP-8C and VMP-8D. The vacuum readings at VMP-8C and VMP-8D were 0.396 in. W.C. and 0.471 in. W.C., respectively. The instantaneous vacuum measurements indicated that the remaining VMPs met or exceeded the operational criteria of 0.004 in. W.C. with some slight decreases in vacuum from the baseline readings. The overall system readings showed a vacuum decrease from 81 to 66 in. W.C. and a flow rate increase to approximately 230 cubic feet per minute (cfm). Due to the significant increase in vacuum at VMP-8C and overall flow rate, the vacuum at SDS-9 was reduced to approximately 10 in. W.C by closing the flow control valve to allow for better operation of the existing system while still improving the vacuum at VMP-8C. The vacuum at VMP-1A slightly increased from 0.004 to 0.006 in W.C. The vacuum readings at VMP-8C and VMP-8D decreased to 0.088 in. W.C. and 0.122 in. W.C., respectively. The system was left operating overnight with SDS-9 on-line; no adjustments were made

to the flow control valves at the pre-existing SDSs. The data for the existing SDSs is included in the attached table.

Additional rounds of system performance monitoring data were collected on December 15, 2020 which are included in Tables 1 and 2, are summarized as follows:

- All twenty-five VMPs had differential pressure measurements in excess of the performance criteria;
- SDS-9 exhibited significant vacuum influence on VMP-8C (0.088 in.W.C.), and 8D (0.130 in.W.C.);
- The flowrate from SDS-9 at an applied vacuum of 10 in.W.C. was approximately 33 scfm; and
- The overall system was operating with a soil vapor extraction rate of roughly 110 acfm, an applied vacuum ranging from 77 to 78 in.W.C.

SDS-9 VMP Data Logging

Since sub-slab differential pressures at all twenty-five (25) VMPs indicated that the performance criteria was being met, differential pressure data loggers were setup to continuously monitor VMP-8C and 8D. The differential pressure data loggers were setup on December 15, 2020 and recorded data through December 16, 2020. The attached data (Attachment 3) indicated that the tested VMPs were achieving the performance criteria consistently over the 24-hour period without any fluctuations due to HVAC, etc.

SDS-9 Startup Evaluation

Evaluation of the SDS-9 startup data indicated the following:

- Addition of SDS-9's operation to the existing SSDS has created a sub-slab vacuum at VMP-8C well in excess of the target performance criteria of -0.004 in.W.C. of vacuum;
- The additional flow from SDS-9 did not significantly impact the influence of the other SSDS sumps, as all the remaining VMP's maintained sufficient sub-slab vacuums; and
- The additional flow from SDS-9 was well within the existing SSDS's extraction and treatment capabilities with the blower speed kept at 50.0 hertz.

Conclusions and Recommendations

Based on the evaluation of the startup data the installation and operation of SDS-9 was successful at providing a vacuum measurement that was greater than the systems performance criteria of 0.004 in.W.C of vacuum. As such, SDS-9 was left online at the completion of the startup and testing on December 15, 2020, and currently remains operational.

Tables

Table 1. SDS-9 Startup Log Sheet, SDS Points, Former Lockheed Martin French Road Facility, Utica, New York

Date	Time	SSDS Blower System Parameters					SDS-1		SDS-2		SDS-3		SDS-4		SDS-5		SDS-6		SDS-7		SDS-8		SDS-9	
		VFD (Hz)	VT-201 (in.W.C.)	TT-201 (F)	PT-201 (in.W.C.)	FT-301 (acfm)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)	Applied (in.W.C.)	Orifice Plate D.P. (in.W.C.)
12/14/2020	1:45 PM	50	-80.7	201.8	2.4	74	-80	0.02	-0.7	0.03	-4.0	0.80	-2.0	1.50	-80	0.26	-80	0.02	-80	0.020	-80	1.00	-	-
12/14/2020	2:45 PM	50	-68.0	158.0	5.7	226	-68	0.03	-1.0	0.04	-2.0	1.00	-1.5	2.00	-68	0.24	-68	0.03	-68	0.030	-68	1.50	-54	7.5
12/14/2020	4:00 PM	50	-77.8	179.8	3.4	116	-78	0.02	-0.7	0.03	-4.0	0.80	-2.1	1.50	-78	0.36	-78	0.02	-78	0.020	-78	1.00	-12	1.0
12/15/2020	9:50 AM	50	-78.0	181.1	3.8	109	-78	0.02	-0.7	0.03	-4.0	0.80	-2.0	1.50	-78	0.36	-78	0.02	-78	0.020	-78	1.00	-10	0.5
12/15/2020	11:00 AM	50	-78.0	183.1	3.7	109	-78	0.02	-0.7	0.03	-4.0	0.80	-2.0	1.50	-77	0.36	-77	0.02	-77	0.020	-76	1.00	-10	0.5

Table 2. SDS-9 Startup Log Sheet, Vapor Monitoring Points, Sub-Slab Depressurization System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	Time	Notes																								
			VMP-1A	VMP-1B	VMP-1C	VMP-2A	VMP-2B	VMP-2C	VMP-3A	VMP-3B	VMP-3C	VMP-3D	VMP-3E	VMP-4	VMP-5	VMP-5A	VMP-5B	VMP-6	VMP-6A	VMP-6B	VMP-7	VMP-7A	VMP-7B	VMP-8A	VMP-8B	VMP-8C	VMP-8D
12/14/2020	1:45 PM	Baseline	-0.006	-0.261	-0.109	-0.063	-0.118	-0.118	-0.022	-0.012	-0.030	-0.022	-0.010	-0.014	-0.661	-0.063	-0.039	-0.191	-0.536	-0.197	-0.558	-20.000	-0.135	-1.899	-10.000	-0.004	-0.024
12/14/2020	2:15 PM	SDS-9 brought online with flow control valve 100% open (~54 inches of water at SDS-9).																									
12/14/2020	2:30 PM		-0.004	-0.292	-0.090	-0.054	-0.104	-0.103	-0.025	-0.010	-0.027	-0.018	-0.007	-0.100	-0.555	-0.052	-0.025	-0.171	-0.510	-0.213	-0.533	-12.000	-0.189	-1.721	-6.000	-0.396	-0.471
12/14/2020	3:00 PM	SDS-9 adjusted to ~10 inches of water.																									
12/14/2020	4:00 PM		-0.006	-0.266	-0.095	-0.06	-0.114	-0.112	-0.035	-0.011	-0.024	-0.019	-0.007	-0.02	-0.641	-0.07	-0.03	-0.195	-0.521	-0.215	-	-8.000	-0.144	-1.84	-6.000	-0.088	-0.122
12/15/2020	9:50 AM	System ran overnight with SDS-9 on-line at 10 inches of water.	-0.007 to -0.013	-0.325	-0.109	-0.065	-0.121	-0.114	-0.038	-0.010	-0.026	-0.020	-0.007	-0.015	-0.649	-0.077	-0.028	-0.192	-0.515	-0.209	-	-8.000	-0.151	-1.857	-6.000	-0.109	-0.135
12/15/2020	11:00 AM		-0.008 to -0.013	-0.331	-0.109	-0.058	-0.106	-0.111	-0.040	-0.012	-0.028	-0.021	-0.009	-0.008	-0.632	-0.068	-0.031	-0.198	-0.568	-0.219	-	-8.000	-0.153	-1.881	-6.000	-0.093	-0.124
12/15/2020	11:40 AM	Set-up Dataloggers on VMP-8C and VMP-8D.																									

Attachment 1
Geophysical Survey Report

NYLD **Infrastructure**

NEW YORK LEAK DETECTION, INC.
PO Box 269 Jamesville, NY 13078
315-469-4601 info@nyld.com

Field Report – Utility Location

Date(s) on site: 11/9/20

Technician: Joe Goodfellow **Other Technicians on site:**

Customer: NRC/US Ecology

Site Address: ConMed 525 French Rd. Utica, NY

Contact Person: Steve McCarthy **Phone:** 315-750-0894

Scope of Work: Location Services

Type of Service: *mark all that apply*

- ☐ *Leak Detection*
- ☐ Comprehensive *Leak Survey*
- ☐ *Pressurized Pipe Inspection*
- ☐ *Infrastructure Assessment*
- ☒ *Utility Location/GPR*
- ☐ *Utility Mapping/AutoCAD*
- ☐ *EM Survey*
- ☐ *Video Inspection*
- ☐ *Valve Exercising*

Type of Equipment Used: *mark all that apply*

- ☐ *Profiler EMP 400*
- ☐ *RD8000 Pipe & Cable Locator*
- ☒ MetroTech vLocPro2
- ☐ *LC2500 Leak Correlator*
- ☐ *Noggin 250* mHz
- ☐ PosiTector UTG G3
- ☐ *S-30 Surveyor*
- ☐ Noggin 500 mHz
- ☐ *Video Inspection Camera*
- ☐ *Sonde / Locatable Rodder*
- ☒ Conquest 1000 mHz
- ☐ *Helium #* *Bottles*
- ☐ *Leica Robotic Total Station*
- ☐ *Leica RTK GPS*
- ☐ *JD7 Investigator*
- ☐ *Valve Maintenance Trailer*
- ☐ *Thermal Imaging Camera*
- ☐ *ZCorr Data Loggers*

Marking Used: *mark all that apply*

- ☐ *Paint*
- ☐ *Flags*
- ☒ *Chalk/Marker*
- ☐ *Tape*
- ☐ *Updated Onsite Mapping*
- ☐ *Other* _____

Site Access/Safety Training: **Expiration Date:**

Ground Cover/Weather Conditions: Concrete floor

Instructions from Onsite Contact: Clear area for boring.

NYLD **Infrastructure**

NEW YORK LEAK DETECTION, INC.
PO Box 269 Jamesville, NY 13078
315-469-4601 info@nyld.com

Field Report – Utility Location

Information Transfer:

In addition to this field report, mark all that apply:

☒ *Information relayed on site to:*

Steve McCarthy

☐ *Hand drawn sketch*

☒ *Photographs*

☐ *Surveyed and AutoCAD Mapping by NYLD*

☐ *Maps updated onsite*

☐ *Surveyed by others*

Notes/Testing Results:

Cleared small area in materials handling room. See attached.

A visual inspection was performed in the area of concern to assess for utility structures. Utilizing the MetroTech vLocPro2 in conductive, inductive and power/radio modes, located and marked out utilities as shown in the area below. Sonde/Locatable Rodder was used within applicable utilities. Additional confirmation performed with the Noggin with a 250 MHz antenna. GPR signal reception varies depending upon soil conditions. Therefore, it is utilized in combination with various other geophysical tools for the most accurate verification of known/unknown utilities and/or structures.

Utilities were painted in appropriate color, marked with flags and depths provided where possible.

This report is back up to information relayed and marked on site at time of service. It is for informational purposes only.

Key

Blue	Water
Red	Power
Orange	Communications
Yellow	Gas/Flammable Fuel
White	Unknown
Green	Storm/Sanitary

NYLD **Infrastructure**

NEW YORK LEAK DETECTION, INC.
PO Box 269 Jamesville, NY 13078
315-469-4601 info@nyld.com

Field Report – Utility Location



NYLD **Infrastructure**

NEW YORK LEAK DETECTION, INC.
PO Box 269 Jamesville, NY 13078
315-469-4601 info@nyld.com

Field Report – Utility Location

Subsurface Limitations

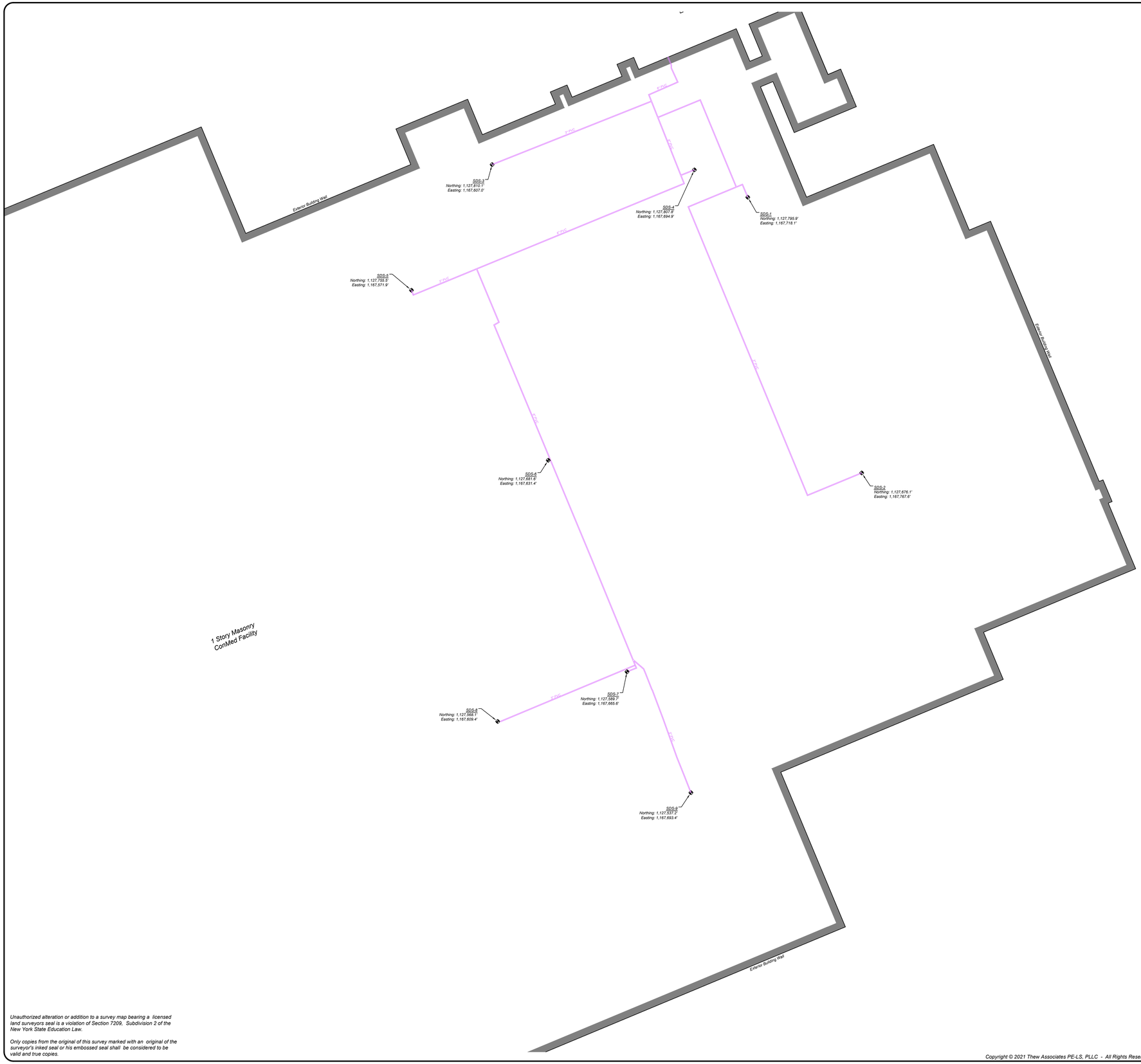
Utility locating is the art and science of using non-intrusive methods to search for, find and mark out buried, unseen conduits or other objects. There are innumerable variables involved in locating underground utilities, such as topography, size and complexity of job site, depth and proximity of buried utilities, above ground obstructions, short turnaround schedules, changes in the scope of work, lack of (or outdated) blueprints and adverse weather conditions.

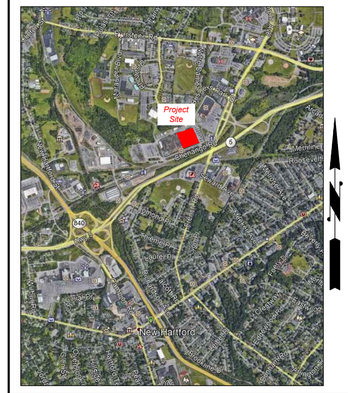
New York Leak Detection, Inc. (NYLD) has made a substantial financial investment in crossover technologies and training to meet our clients' needs when locating and mapping utilities. However, due to unpredictable factors that may affect the results, NYLD makes no guarantee, expressed or implied, with respect to the completeness or accuracy of the information provided. Any use or reliance on the information or opinion is at the risk of the user and NYLD shall not be liable for any damage or injury arising out of the use or misuse of the information provided.

NYLD strives to provide the highest quality utility location services possible with the technical expertise of our field specialists and state-of-the-art equipment used. Every effort is made to provide our clients with the most accurate information possible without adverse consequences.

NYLD makes no guarantee that all subsurface utilities and obstructions will be detected. GPR signal penetration might not be sufficient to detect all utilities. NYLD is not responsible for detecting subsurface utilities and obstructions that normally cannot be detected by the methods employed or that cannot be detected because of site conditions. NYLD is not responsible for maintaining mark-outs after leaving the work area. Mark-outs made in inclement weather and in high traffic areas may not last. Surveyor assumes responsibility of picking up data on site.

Attachment 2
As-Built Survey





Google Earth Imagery
New Hartford, New York
Not to Scale

Legend:

- *Sub-slab Depressurization Sump Location*
- *Exterior Building Wall*
- *Sub-slab Depressurization Overhead Piping*
- *PVC* — *Polyvinyl Chloride*

General Notes

1. *This survey is referenced horizontally to the North American Datum of 1983, 2011 Adjustment (NAD83/2011), projected on the New York State Plane Coordinate System (Central Zone).*
2. *The reference horizontal control station is a GPS Continuously Operating Reference Station (CORS) designated as "Rome CORS ARP" (NYRM). NYRM is a special horizontal control station established by National Geodetic Survey in July 1997.*
3. *North arrow as shown indicates Grid North referenced to NAD83/2011 and projected on the New York State Plane Coordinate System (Central Zone).*
4. *The information shown hereon for SDS-9 and associated piping is based on a field survey completed on December 14, 2020. The remainder is based on Reference Drawings 3 and 4.*

Referenced Drawings:

1. *"Environmental Easement Survey Former Lockheed Martin French Road Facility DEC Site Nos. 633036 and 633036A" (Sheets 1 through 4), dated April 12, 2016, prepared by Thew Associates PE-LS, PLLC, and is distinguished as Project No. UK554-10-15.*
2. *"Former Lockheed Martin Facility Existing ConMed Corporation Facility City of Utica and Town of New Hartford Oneida County, New York Topographic and Utility Survey', dated November 30, 2007, prepared by Thew Associates PE-LS, PLLC, and is distinguished as Project No. UK156-10-07.*
3. *"Existing Monitor Well and Sample Location Plan Former Lockheed Martin Facilty", dated October 18, 2013, prepared by Thew Associates PE-LS, PLLC, and is distinguished as Project No. UK156-10-07.*
4. *"Sub-slab Depressurization System Layout", dated 2013, prepared by ARCADIS of New York, Inc., and is distinguished as Project No. NJ001043.0001.*

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

REV	DESCRIPTION	DATE

PROJECT NUMBER: *UK733-06-19*

DRAWN: R.D.S.

CHECKED:

SCALE: *1" = 20'*

DATE: *01/26/2021*

Map Showing
As-built Sub-slab Depressurization System
Former Lockheed Martin French Road Facility
Existing ConMed Facility

Town of New Hartford
County of Oneida
State of New York

P.O. Box 463
6431 US Highway 11
Canton, New York 13617
T: 315/386-2778
F: 315/386-1012

Thew Associates LAND SURVEYORS
www.ThewAssociates.com

9478 River Road
Marcy, New York 13403
T: 315/753-7278
F: 315/797-1957

Unauthorized alteration or addition to a survey map bearing a licensed land surveyors seal is a violation of Section 7209, Subdivision 2 of the New York State Education Law.

Only copies from the original of this survey marked with an original of the surveyor's inked seal or his embossed seal shall be considered to be valid and true copies.

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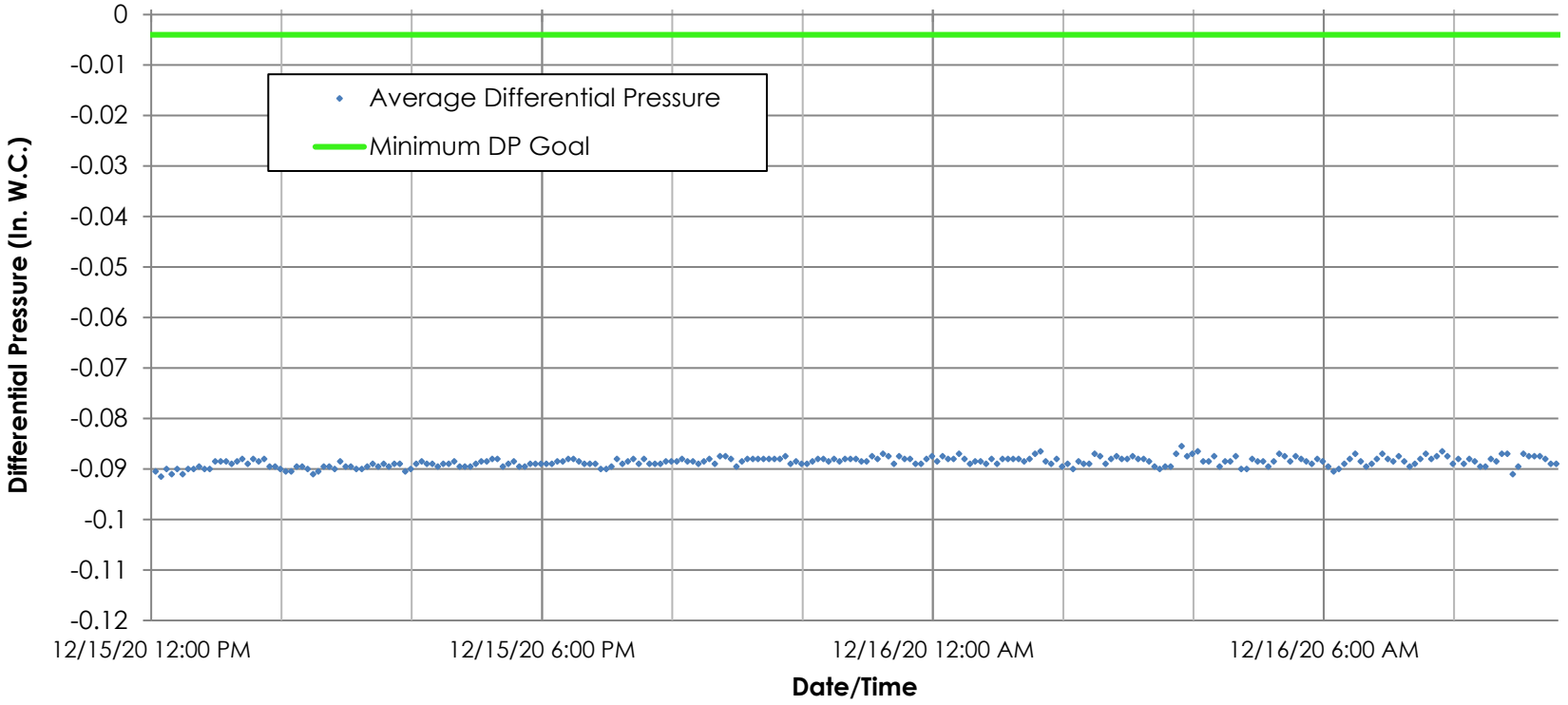
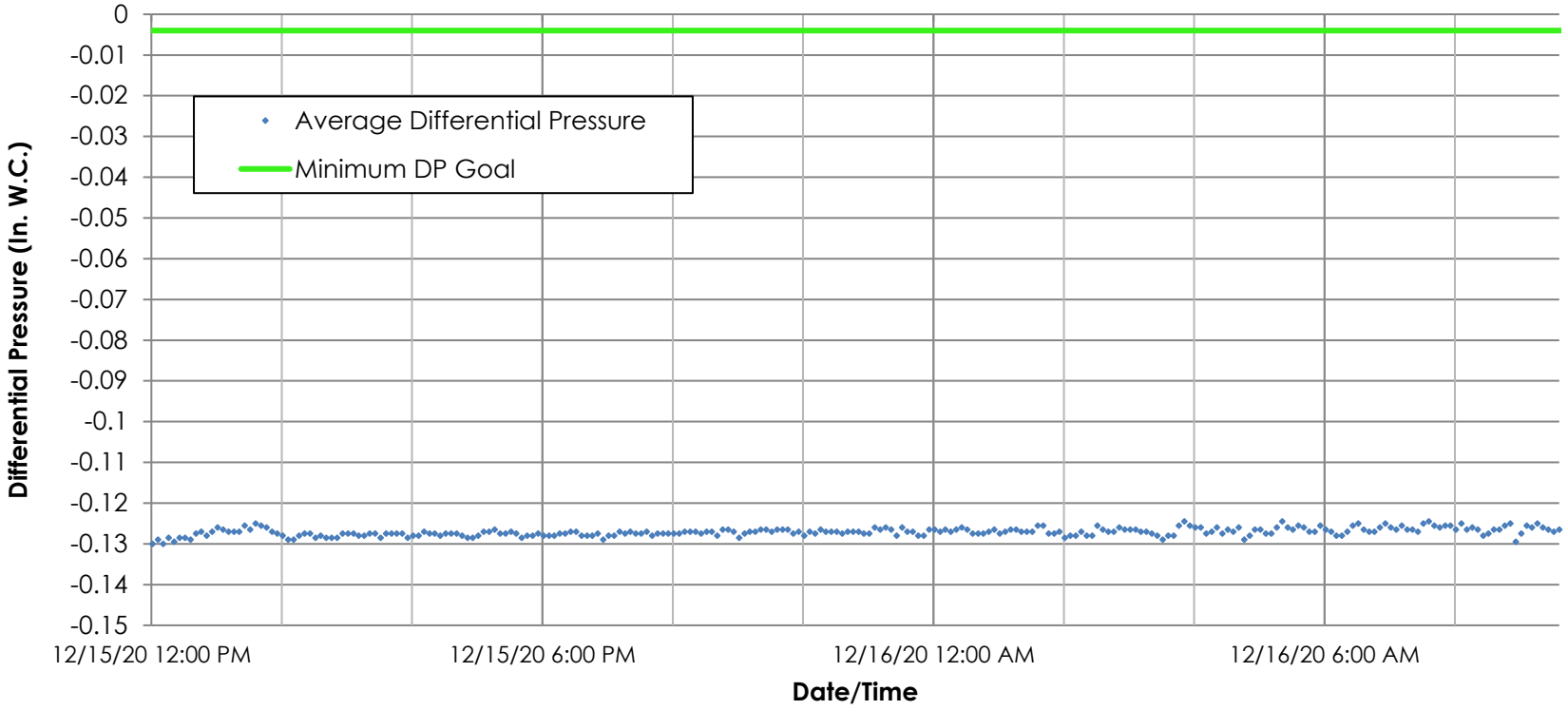
Attachment 3
Data Loggers

VMP-8C



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

VMP-8D



Note:
1. in. W.C. = Inches of water column
2. The differential pressure measurement range of the D.P. datalogger instrument is between -0.250 and +0.250. Values exceeding these limits are recorded as the maximum measurable value.

Attachment 4
Photographs



New sump SDS-9.



New aboveground piping for SDS-9.



New piping connection to existing 6-inch diameter SSDS piping.

2020 Annual Site Management Report

APPENDIX B: Groundwater Collection and Treatment System Operation, Maintenance, and Monitoring Performance Report

Former Lockheed Martin
French Road Facility
Utica, New York



Prepared for:
Lockheed Martin Corporation
Environment, Safety and Health
6801 Rockledge Drive
Bethesda, Maryland 20817

Prepared by:
Tetra Tech, Inc.
One Oxford Place, Suite 200
Langhorne, PA 19047

March 2021

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ABBREVIATIONS & ACRONYMS

AGC	annual guideline concentration
CB	catch basin
cfm	cubic feet per minute
CVOCs	chlorinated volatile organic compounds
DAR	Division of Air Resources
DCA	dichloroethane
DCE	dichloroethene
ft	feet
FNPD	former northern perimeter ditch
GAC	granular activate carbon
gpm	gallons per minute
HDPE	high-density polyethylene
HOA	hand-off-auto
Hp	horsepower
in	inch
in. W.C.	inches of water column
lb(s)	pound(s)
Lockheed Martin	Lockheed Martin Corporation
MH	manhole
mL	milliliters
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OM&M	operation, maintenance, and monitoring
PCE	tetrachloroethene
PLC	programmable logic controller
ppm	parts per million
PVC	polyvinyl chloride
QAPP	quality assurance project plan
RCP	reinforced-concrete pipe
Report	2020 Groundwater Collection and Treatment System Operation, Maintenance and Monitoring Performance Report
RL	reporting limits

SGC	short-term guideline concentration
SMR	site management report
SOP	standard operating procedure
SPDES	state pollutant discharge elimination system
TCE	trichloroethene
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
WTC	water treatment chemical

1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) has prepared this 2020 Groundwater Collection and Treatment System Operation, Maintenance, and Monitoring Performance Report (Report) as an Appendix to the *2020 Annual Site Management Report* (SMR) for the Former Lockheed Martin Corporation (Lockheed Martin) French Road Facility (Site) at 525 French Road, Utica, New York. This Report has been prepared to meet requirements specified in the *Operation, Maintenance, and Monitoring Plan, Groundwater Collection and Treatment System Manual* (Updated OM&M Plan; Tetra Tech, 2021a). The activities described herein satisfy requirements of the October 3, 2008 "*Order on Consent*" (CO 6-20080321-5) issued by the New York State Department of Environmental Conservation (NYSDEC; NYSDEC, 2008).

This Report summarizes the operation, maintenance, and monitoring (OM&M) of the groundwater collection and treatment system (GCTS) from January 1 through December 31, 2020. The report includes a review of influent and effluent system sampling, analysis of key operating parameters (e.g., flow rates, pressures, system run-time, and maintenance activities), and recommendations related to continued system operation and monitoring.

2.0 GROUNDWATER COLLECTION AND TREATMENT SYSTEM

The GCTS is designed to collect groundwater contaminated with chlorinated volatile organic compounds (CVOCs) from the former Solvent Dock Area and former northern-perimeter ditch (FNPD) area and convey it to a treatment building where the dissolved-phase CVOCs are removed by an air stripper. Following treatment, groundwater is discharged via gravity to the local municipal storm drain under a NYSDEC "State Pollutant Discharge Elimination System" (SPDES) permit (permit No. NY-0121894). The system operates automatically but requires routine periodic inspections and maintenance. An automated system operation log is sent daily via e-mail to project team members to verify operation. A more detailed explanation of the GCTS appears below.

The GCTS system layout is shown on Figure B-1. The overall remedial goal of GCTS operation is to depress the water table in the former Solvent Dock Area and FNPD area and reduce the potential for the impacted groundwater to infiltrate the facility's stormwater drainage system, which ultimately discharges to Nail Creek (located to the southeast of the site). Groundwater is captured by three separate buried, perforated "underdrain" pipelines and flows via gravity to three corresponding collection manholes, designated MH-1 through MH-3. The captured water is then periodically pumped in batch mode from each manhole through subsurface double-walled pipelines to the GCTS building, which houses the air stripper and vapor phase granular activated carbon (VPGAC) treatment units. During air stripping, contaminated water enters the air stripper at the top and ambient air is forced in from the bottom. The groundwater flows over four trays in series where CVOCs are transferred from aqueous phase to vapor phase in the counter-current air stream. The volatile organic compound (VOC)-containing air stream was treated using VPGAC before discharge to the atmosphere up until December 2020. The NYSDEC agreed to removal of the GAC treatment units on October 28, 2020. The VPGAC treatment units were bypassed on December 2, 2020.

The GCTS design and operation are more fully described in the updated *GCTS OM&M Manual* (Tetra Tech, 2021a), and its history is more fully described in Section 1.3 of the SMR.

2.1 MAJOR SYSTEM COMPONENTS

Major components of the system are listed below. System components are described in more detail in the *GCTS OM&M Manual* (Tetra Tech, 2021a).

- MH-1: 6-ft diameter and 13-ft deep pre-cast concrete pumping-manhole equipped with the following components:
    - Two ¾ horsepower (Hp) submersible pumps;
    - Five associated float-switches;
    - 2-in/4-in diameter, double-walled, high-density polyethylene (HDPE) discharge-piping; and

  - Gravity Collection Drain - 670 feet (ft) of 8-inch (in) diameter perforated HDPE pipe installed in a 7 to 10-ft deep, stone-filled collection trench located parallel to the FNPD.

- MH-2: 6-ft diameter and 18-ft deep pre-cast concrete pumping-manhole equipped with the following components:
  - Two ¾ Hp submersible pumps;
  - Five associated float-switches;
  - 2-in/4-in diameter, double-wall HDPE discharge piping; and
  - Gravity Collection Drain - 70 ft of 6-in diameter perforated HDPE-pipe installed in a 16-ft deep, stone-filled collection trench located adjacent to the former Solvent Dock area.
- MH-3: 6-ft diameter and 17-ft deep pre-cast concrete pumping-manhole equipped with the following components:
  - Two ¾ Hp submersible pumps;
  - Five associated float-switches;
  - 2-in/4-in diameter, double-wall HDPE discharge piping; and
  - Gravity Collection Drain - 173 ft of 6-in diameter perforated HDPE-pipe installed in a 9 to 11-ft deep, stone-filled collection trench located adjacent to the facility stormwater drainage line within the former Solvent Dock area.
- Pre-Engineered Metal Building: A 24-ft 8-in by 20-ft pre-engineered metal treatment-building set on a concrete foundation and slab equipped with a secondary-containment dike and floor sump;
- Programmable Logic Controller (PLC) and motor control panels for the air stripper, duct heater, and manhole pumps;
- Air Stripper: Low-profile, stainless steel air stripper rated for a maximum liquid flowrate of 120 gallons per minute (gpm);
- Liquid Phase Discharge: 60-ft of 4-in diameter schedule-40 polyvinyl chloride (PVC) gravity-discharge pipe from the air stripper effluent to the local municipal stormwater collection and drainage system (30-in diameter reinforced-concrete pipe(RCP));
- Duct Heater: Inline duct heater rated at 600 standard cubic feet per minute (cfm);
- Vapor Phase Treatment Vessels: Two 1000-pound (lb) vapor phase granular activated carbon vessels;
- The air stripper off-gas is discharged through the exhaust-duct made of PVC (interior) and stainless steel (exterior) that extends approximately 28-ft above the ground surface; and

- Chemical Feed System: Aries Chemical sequestering agent 2908 ([1-Hydroxy-ethylidene] diphosphonic acid) is injected into the influent groundwater stream for mineral deposit (scale) control using an LMI chemical feed pump model AA941-353 BI, equipped with a LMI Digi-Pulse Meter model FM-200 rated for 0.05-5.0 milliliter (mL) per stroke. Approval for the water treatment chemical (WTC) was received from NYSDEC on April 13, 2011. Usage of the WTC began on April 20, 2011.

2.2 REMEDIAL OPERATIONAL OBJECTIVES

The overall remedial goal of GCTS operation is to reduce the potential for groundwater contaminated with CVOCs to infiltrate the facility's storm drainage system (Figure B-1), which ultimately discharges to Nail Creek. The GCTS operational objectives for 2020 were to:

- Maintain and operate the system continuously without significant downtime;
- Demonstrate the system's effectiveness in preventing infiltration of CVOC-contaminated groundwater into the facility storm drain;
- Demonstrate that the air stripper is removing CVOCs from the influent groundwater streams before being discharged into the local county storm drain system, in compliance with the Site SPDES permit;
- Demonstrate that vapor-phase discharge from the air stripper complies with NYSDEC Division of Air Resources (DAR-1); and
- Achieve the site-specific goal of 95% mass removal of target CVOCs, which are tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethane (1,1-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), and trans-1,2-dichloroethene (trans-1,2-DCE), in the system vapor effluent.

The operational goals, as recommended in the 2019 Annual Site Management Report (Tetra Tech, 2020), were successfully achieved during the 2020 reporting period by performing the following activities:

- Monitored the GCTS operation remotely on a daily basis to review operating parameters and maximize runtime;
- Performed monthly physical system inspections to verify proper operation, and to perform required maintenance and repairs;
- Responded to non-fatal and fatal alarms as required;
- Performed monthly system compliance sampling to demonstrate that the related CVOCs were being removed from the groundwater prior to discharge through the system effluent; and
- Performed quarterly system OM&M, which included the following:
    - Collected stormwater samples from the onsite catch basins (CBs) to monitor for the presence of CVOCs.

- Collected system pre-carbon (influent), mid-carbon, and post-carbon (effluent) vapor samples during each quarter to calculate mass removal efficiencies and to monitor the effluent discharge concentrations of site-related CVOCs.

3.0 OPERATION AND MAINTENANCE ACTIVITIES

3.1 OPERATIONAL SUMMARY

The GCTS operational run time was approximately 99.96%, with minor scheduled routine maintenance and/or operational interruptions due to system alarm conditions.

During the reporting period system operation was routinely monitored via: 1) review of the daily system operation e-mails; 2) remote monitoring using ProControl software and a modem connection; and 3) physical Site inspections. System operating parameters were recorded during monthly Site inspections and compliance sampling events. The GCTS operational summary is provided in Table B-1.

3.2 DAILY ROUTINE SYSTEM INSPECTIONS

Daily remote system monitoring was performed throughout the year. Monitoring included review of the daily system operational e-mails and data attachments, and/or logging onto the system remotely to confirm that the system was operational, that system variables were within their allowable ranges, and that alarm conditions were not present.

3.3 MONTHLY ROUTINE SYSTEM INSPECTIONS

This section summarizes the activities completed during the OM&M monthly Site visits. These activities were recorded on the OM&M log sheets. Completed 2020 GCTS OM&M log sheets are included herein in Appendix B-1. Monthly routine GCTS inspections included checking the following system components:

Air Stripper:

- Observe the air stripper for visible leaks;
- Inspect the air stripper trays via the glass door and record and note deposits;
- Clean scale and bio-fouling from the air stripper aeration trays and sump, when appropriate;
- Observe the blower for proper operation;
- Adjust valves and blower damper to maintain proper air flow (as needed); and
- Record the gauge pressure and level readings for the following:
    - Air stripper sump; and
    - Air stripper-sump water level.

Flow Meters:

- Observe the flow meters for proper operation and clean as necessary; and
- Record the monthly and permanent totalizer readings.

Vapor Phase Equipment:

- Inspect the duct heater for proper operation;
- Record pre-duct heater and carbon vessel temperatures;
- Inspect the carbon vessels for signs of leaks; and
- Record pressures before the lead vessel, and between the lead and lag vessels.

Control Panels:

- Test Hand-Off-Auto (HOA) switches for proper operation; and
- Test power and pump-run lights.

Water Treatment Chemical:

- Inspect chemical feed pump and associated tubing for any signs of leaks;
- Record and date remaining chemical level in drum; and
- Track chemical consumption and dosing rates.

Miscellaneous OM&M:

- Observe all treatment-building piping for signs of leaks;
- Check the building unit heaters and thermostats, adjust as necessary; and
- Inspect health and safety-related equipment and replace as necessary.

3.4 QUARTERLY SYSTEM OM&M AND INSPECTIONS

This section describes activities completed during the OM&M quarterly Site visits. These activities were recorded on the OM&M log sheets (attached in Appendix B-1). Monitoring activities included collecting monthly system data and performing monthly system component inspections, and the following additional quarterly tasks:

- Manhole inspections including checking float switches;
- Collect MH-1, MH-2, and MH-3 influent pH values;
- Measure influent air velocity into the carbon beds;
- Grease blower bearings;
- Exercise MH-1, MH-2, and MH-3 influent ball valves to clean any mineral deposits in order to maintain full operational range of the valve; and
- Calibrate liquid flow transmitters, if needed.

The system was temporarily turned off as needed during each quarterly event to facilitate critical device testing. The testing occurred during the following dates:

- January 20-21, 2020;
- April 6-8, 2020;
- July 7-9, 2020; and
- October 6-8, 2020.

An optimization effort resulted in a recommended reduction of the specific tasks conducted during the OM&M visits. Previously, the three manholes were inspected monthly. It was recommended that manhole inspection frequency change from monthly to quarterly. In addition, the following critical device tests have changed from a quarterly to semi-annual frequency:

- Air Stripper Low Pressure;
- High Air Flowrate;
- Pre-Carbon Low Temperature;
- Pre-Carbon Low Pressure;
- MH-1, MH-2, MH-3, and Aggregate Low Flowrate;
- Building Sump High Level;
- Sequestering Agent Wet Spill Pallet Sensor; and
- MH-1, MH-2, MH-3 High Levels.

Furthermore, it was recommended that the GCTS air stripper low liquid level testing be removed from the monitoring program. The NYSDEC approved the reduction of GCTS OM&M activities as discussed above in a letter dated August 3, 2020 (NYSDEC, 2020b).

Critical devices were tested for proper operation as described in the GCTS OM&M Manual standard operating procedures (SOPs). All devices passed the testing.

3.5 NON-ROUTINE OPERATION AND MAINTENANCE ACTIVITIES

The following non-routine system OM&M activities were performed in 2020:

- The results of NYSDEC AERSCREEN dispersion modeling performed in October 2020 showed that emissions of target compounds would result in impacts of 0.4% and 3.8% of the SGC and AGC, respectively. Based on these results, the predicted impacts to air quality are well below the acceptable levels and vapor phase treatment is not needed for the effective operation of the GCTS. Therefore, it was recommended that the VPGAC treatment units be removed; the NYSDEC approved the VPGAC treatment unit removal on October 28, 2020. The VPGAC treatment units were bypassed on December 2, 2020.

3.6 ALARM CONDITIONS AND SYSTEM MODIFICATIONS

One fatal alarm and fifty non-fatal alarms occurred during 2020. A fatal alarm is one that causes automatic system shutdown; non-fatal alarms are warnings. In addition, occasional communication deficiencies occurred during the year when either daily emails were not

received from the GCTS system or one or more data attachments were not included in the emails received. Although these are not alarm conditions, response actions were taken as needed.

Fatal Alarms

The cause of the one fatal alarm and the corresponding corrective action is summarized in Table B-1. The alarm response log is provided in Appendix B-2. Below is a summary of the fatal alarm and shutdown, and corrective actions taken:

- March 29, 11:20; Process 47, Pre-Carbon Low Temperature. The pre-carbon temperature (TT-400) went below the alarm setpoint of 60°F for the duct heater and after a 3-minute delay, the system shut down. The duct heater raises the temperature of the effluent air stream from the air stripper prior to entering the VPGAC vessels. Tetra Tech traveled to the site on March 29, 2020 and checked the system and the duct heater. The duct heater was manually reset and the system was re-started. Tetra Tech observed a pump down cycle and TT-400 was within its normal operating temperature and the system operated normally.

Fifty non-fatal alarms occurred during the reporting period. For each occurrence Tetra Tech logged on to the system remotely to ensure proper operation. The Alarm Response Log generated for each of these alarm situations is included in Appendix B-2; the alarm descriptions and actions taken are not duplicated here.

The following types of non-fatal alarms occurred:

- Process 29/30/31 – Manhole Pump Low Flowrate
- Process 32 – Air Stripper Sump High Liquid Level
- Process 36/38/40 – Manhole Low Level
- Process 55/56/57 – Aggregate Low Flowrate

4.0 ANALYTICAL MONITORING ACTIVITIES

This section summarizes the GCTS compliance sampling and monitoring activities completed during the reporting period. Laboratory analytical reports are included in Appendix B-3.

4.1 SYSTEM EFFLUENT MONITORING

The treatment system discharges to an Oneida County storm drain under the terms of an SPDES permit (permit No. NY-0121894). The SPDES permit was renewed in July 2019 and has a new expiration date of July 31, 2024. As required by the SPDES permit, effluent grab-water samples were collected monthly from the treatment system. The effluent grab-samples were collected monthly from the treatment system effluent sampling port SP-106 (designated by NYSDEC as "Outfall #2"), located on the 4-in diameter air stripper liquid phase effluent line.

Samples were collected in 40-mL vials supplied by a New York State Department of Health (NYSDOH)-certified laboratory. The sampling protocol for the effluent sample is included in the Site-Specific *Quality Assurance Project Plan* (QAPP; Stantec, 2015). Samples obtained from January through December were submitted to Pace Analytical in Melville, New York. One laboratory trip-blank accompanied each water sample. All samples were analyzed for VOCs by United States Environmental Protection Agency (USEPA) Method 8260. The SPDES permit also requires monthly collection and analysis of a grab sample for pH. The pH is measured at the time of sampling using a site-dedicated pH meter.

The system-effluent samples contained no detectable concentrations of VOCs above their respective laboratory reporting limits (RL) (as shown in Table B-2) during the reporting period.

The SPDES permit limits the system's effluent average daily discharge flow (over the course of a monthly reporting period) to 45 gpm. Effluent flow did not exceed this average during the reporting period; the average flow was 6.5 gpm. In addition, the pH recorded during the reporting period ranged from 7.04 to 7.40 standard units (SU), and remained within the SPDES effluent limits of 6.5 to 8.5 SU.

The DMRs for the reporting period were submitted via NetDMR (an electronic DMR submittal process). Each month the maximum and average daily flow rates, effluent pH, and the concentrations of 12 analytes are reported. A copy of the laboratory analytical results is attached to the DMR prior to submittal.

4.2 SYSTEM INFLUENT MONITORING

Influent-water samples were collected as part of quarterly monitoring activities in January, April, July, and October. Influent samples were collected from each of the manhole influent sampling ports (SP-101, SP-102 and SP-103) located upstream of the air stripper. The sampling protocol and sample handling and delivery were identical to those for the SPDES compliance sampling (see section 4.1 above). Complete system influent analytical sampling results are summarized in

Table B-3. The following is a summary of the target CVOC concentrations detected for each manhole influent sample for each quarterly sampling event:

	2020 Manhole Influent Sample Results			
	January	**April**	**July**	**October**
Manhole MH-1				
1,1-DCA	2.3	2.4	2.6	1.9
cis-1,2-DCE	18.5	17.2	23	18.2
PCE	13.2	13.7	14.3	16.9
TCE	19.6	22.8	24.3	19.8
Manhole MH-2				
1,1-DCA	1.4	1.1	<1.0	1.9
cis-1,2-DCE	6	5	<1.0	8.7
PCE	<1.0	<1.0	<1.0	<1.0
TCE	1.8	2	<1.0	2.1
Vinyl Chloride	1.4	<1.0	<1.0	2.7
Manhole MH-3				
cis-1,2-DCE	3.5	2.8	4.3	2.9
PCE	34.2	30.2	37.6	34.4
TCE	10.1	10.4	18.1	13.5

Notes:

1. All results are expressed in micrograms per liter, or µg/L.
2. < indicates less than laboratory detection limit.

4.3 STORMWATER MONITORING

In accordance with the OM&M Manual, quarterly stormwater samples were collected from three CB locations at the Site (designated CB-1, CB-2, and CB-3; see Figure B-1). All samples were analyzed for VOCs by USEPA Method 8260.

The quarterly stormwater samples collected from the CBs contained no detectable concentrations of VOCs above their respective laboratory RLs (as shown in Table B-4).

5.0 GCTS PERFORMANCE RESULTS

Operational data collected during monthly and quarterly OM&M visits are summarized in the following sections.

5.1 GROUNDWATER RECOVERY/EXTRACTED LIQUID FLOWRATE

The groundwater recovery/extraction-liquid flow rates for the reporting period are summarized in Table B-5. These data include the average liquid flow rates and cumulative volume of groundwater extracted for individual manholes and the entire system. Total extracted-groundwater flow readings were collected from the flow-meters FT-101 (MH-1), FT-102 (MH-2) and FT -103 (MH-3). Total flow and recovery rates for the three system manholes during 2020 were as follows:

Manhole #	Total Flow (gal)	Avg. Recovery Rate (gpm)
MH-1	2,133,261	4.1
MH-2	205,206	0.4
MH-3	1,068,885	2.0

The resulting total annual flow for the GCTS was approximately 3,407,352 gallons (gal) of groundwater. The total flows recorded correspond to an average recovery rate of approximately 6.5 gallons per minute (gpm) over the reporting period. The 2020 volume and average recovery rate values are lower than the 2019 values (4,172,220 gal and 8.0 gpm, respectively).

The operational uptime of the GCTS was 99.96% for 2020, and catch basin sample results, which were all "non-detect" for VOCs, demonstrate that the system is performing as required. Additionally, groundwater contour patterns demonstrated capture by the system (see Section 5.6 below).

5.2 AIR STRIPPER PERFORMANCE

Monthly air stripper performance data are summarized in Table B-5. The overall system uptime for the reporting period was 99.96%. The air stripper effluent vapor flowrate was recorded during each monthly sampling event. This flowrate is calculated by converting the differential pressure measurement recorded by flow transmitter FT-106 (located "post carbon") into a volumetric flow. The vapor flowrate ranged from 475 to 650 standard cfm during the reporting period; the average flow rate was approximately 543 scfm. The air stripper sump pressures ranged from 26.0 to 31.6 inches of water column (in. W.C.) during the reporting period.

5.3 AIR STRIPPER EMISSIONS

GCTS pre-carbon, mid-carbon, and effluent vapor samples were collected quarterly. The samples were analyzed by Pace Analytical's Melville, New York facility. Samples were collected in batch-certified Summa® canisters and analyzed per USEPA Method TO-15 for VOCs.

Quarterly estimated mass removal rate data are summarized in Table B-6. The GCTS removed an estimated 2.51 lbs of target VOCs from groundwater during the reporting period. This value was calculated using the quarterly pre-carbon vapor analytical data, the average monthly air stripper effluent vapor flowrate, and an average blower runtime of 37% to 49%, depending on the quarter. This runtime reflects the percentage of the time the blower and stripper were actually operating.

The estimated total VOC mass removal is most likely overestimated due to the fact that manhole MH-1, which normally has the highest influent concentration of VOCs, is always pumping during the time of the quarterly sample collection. VOC removal efficiency of the carbon vessels was tracked throughout the reporting period (Table B-7). Both cumulative and target VOC percent removal was calculated by comparing the quarterly vapor influent, mid-carbon, and post-carbon analytical results. Vapor phase carbon change-out was performed on January 9, 2020 due to the decreased removal efficiency (92%) calculated based on the October 2019 sampling results. As noted in Section 2.2, the site-specific goal for vapor phase treatment was 95% mass removal of target VOCs. Percent removals calculated based on effluent results ranged from 97% to 100% during 2020.

The volatile organic compound (VOC)-containing air stream was treated using VPGAC before discharge to the atmosphere up until December 2020. The NYSDEC agreed to removal of the GAC treatment units on October 28, 2020 (See Section 3.5). The VPGAC treatment units were bypassed on December 2, 2020.

5.4 WATER TREATMENT CHEMICAL MONITORING

The terms of the SPDES permit (permit no. NY0121894) for the system discharge require that the total volume of any WTC discharged during a permit year be reported to NYSDEC in the December Monthly Discharge Monitoring Report. Monthly WTC sequestering agent usage, dosing rates, and date of recording are summarized in Table B-8.

The total amount of WTC discharged through Outfall 002 during 2020 was approximately 550.5 lbs, or an average of 1.50 lbs per day over the reporting period. This is below the maximum allowable rate of 12.5 lbs per day. The total amount of WTC discharged corresponds to an average dosing rate of 18.2 parts per million (ppm) over the reporting period.

5.5 STORMWATER MONITORING

As presented in Section 4.3, the quarterly stormwater samples contained no detectable concentrations of VOCs above their respective laboratory RLs (as shown in Table B-4).

The general absence of constituents detected in the stormwater samples collected at the Site indicates that the GCTS continues to operate as designed and is preventing the migration of impacted groundwater into the stormwater system.

5.6 GROUNDWATER ELEVATION MEASUREMENTS

Groundwater elevation measurements are collected from Site monitoring wells and piezometers as part of the annual OM&M program. A groundwater data summary was generated for the groundwater sampling event conducted in July 2020 and was provided to NYSDEC. Annual data and a groundwater contour map are provided in the Groundwater Monitoring Report included as Appendix D to this SMR.

Groundwater elevations in 2020 were generally consistent with historical measurements at the Site; however, 2020 water levels were generally lower than the 2019 levels. The groundwater contour drawing included in Appendix D of this SMR illustrates general flow toward the east to southeast, and influence and groundwater capture by the GCTS.

6.0 2021 GOALS AND RECOMMENDATIONS

A GCTS optimization investigation work plan (Tetra Tech, 2021b) has been prepared that proposes a storm sewer and groundwater investigation to evaluate the potential for permanent shutdown of the existing GCTS. The storm sewer and groundwater investigation is anticipated to begin in May 2021. The storm sewer investigation includes the completion of two test pits and installation of eight new piezometers in the FNPD area. The GCTS will be temporarily shut down in May 2021 following installation of the new piezometers and backfilling of the test pits. Four quarterly groundwater monitoring and storm sewer monitoring events will be conducted during the temporary shutdown of the GCTS.

6.1 GOALS

The GCTS 2021 remedial and operational goals will be to maintain and operate the GCTS until May 2021 when it will be temporarily shut down as part of the GCTS optimization investigation. The OM&M activity and data collection to be continued until the temporary shutdown include:

- GCTS influent-water samples will be collected in January and April 2021;
- Stormwater samples will be collected in January and April 2021 from the pipe running beneath the manufacturing building and traversing east towards the public storm-drain pipe. These samples will be collected at catch-basin locations CB-1, CB-2, and CB-3. Samples will be analyzed for VOCs by USEPA Method 8260 and collected and submitted to the laboratory in accordance with procedures outlined in the QAPP;
- Monthly effluent SPDES compliance samples will be collected up until May 2021 and the results will be reported, including tracking the WTC dosing rates;
- Continue demonstrating that VOCs concentrations in the GCTS air stripper exhaust remain below the NYSDEC DAR-1 guidance values, through quarterly vapor sampling, before being discharged to the atmosphere; and
- Daily review of GCTS operation email logs and prompt response to system alarms.

6.2 RECOMMENDATIONS

The following recommendations and action items are planned for implementation during the next reporting period (January through May 2021):

- Continued operation of the GCTS;
- Continued system compliance sampling, including monitoring the pH of the system effluent;
- Continued preventive maintenance and failure-mode-effects analyses to maintain system reliability; and
- Modification of the OM&M Manual as needed if new system enhancements or modifications are made.

7.0 REFERENCES

ARCADIS, 2010 — *Groundwater Collection and Treatment System 100% Design Work Plan, Solvent Dock Area*. February 2010.

NYSDEC, 2008 — *Order on Consent Index # CO 6-20080321-5, Site Code # 633036A*. October 3, 2008.

NYSDEC, 2015 — Letter to Lockheed Martin demonstrating that the referenced facility was in compliance of its SPDES Permit. *Lockheed Martin SPDES #NY0121894; French Road Facility; Utica (C), Oneida County*. September 14, 2015.

Stantec, 2015 — *Quality Assurance Project Plan, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. October 2015.

Tetra Tech, 2020 — 2019 Annual Site Management Report. Former Lockheed Martin French Road Facility, Utica, New York. March 2020.

Tetra Tech, 2021a — Updated *Groundwater Collection and Treatment System Operations, Maintenance, and Monitoring Manual*. Former Lockheed Martin French Road Facility, Utica, New York. February 2021.

Tetra Tech, 2021b — *GCTS Optimization Investigation Work Plan*. *Former Lockheed Martin French Road Facility, Utica, New York.* February 2021.

TABLES

Table B-1. Groundwater Collection and Treatment System Operation Summary
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
June 1996	Historical data (pre- 2009) has not been included in this table.						
1/17/2009	1/17/09 8:25	1/17/09 9:34	0.05	45	High/low air temperature.	Low ambient air temperature.	Adjusted low temperature alarm setting from 40 to 32 F to account for low ambient temperature.
8/3/2009	7/31/09 9:58	8/3/09 14:38	3.2	40	Wall louver fault.	Power outage due to inclement weather.	Restart system and observe proper operation following storm event.
9/4/2009	9/1/09 15:09	9/4/09 12:47	2.9	NA	Power outage	Power outage due to inclement weather.	Restart system and observe proper operation following storm event.
2009 % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		6.1	357.86	98%			
1/25/2010	1/25/10 17:53	1/27/10 7:57	1.6	46/Other	Low Air Flow/System PLC left in manual mode accidentally	Blower influent damper/tray and/or demister pad fouled	Adjust blower damper/Restart system remotely
3/2/2010	3/2/10 17:55	3/3/10 11:31	0.7	42	High level air stripper sump.	Blower influent damper in need of adjustment following air stripper tray cleaning.	Damper adjusted to allow more air flow.
4/7/2010	4/7/10 12:00	4/7/10 18:00	0.3	NA	Quarterly System Testing	NA	NA
4/15/2010	4/15/10 8:00	4/15/10 19:30	0.5	NA	Annual Stripper Cleaning	NA	NA
4/22/2010	4/22/10 6:20	4/22/10 11:08	0.2	42	High Air Stripper Sump Level	Low back pressure due to recent stripper cleaning which results in gravity discharge issues.	Adjust blower damper to increase air flow/sump pressure.
4/25/2010	4/25/10 19:08	4/26/10 9:39	0.6	42	High Air Stripper Sump Level	Low back pressure due to recent stripper cleaning which results in gravity discharge issues.	Adjust blower damper to increase air flow/sump pressure.
4/27/2010	4/27/10 8:53	4/27/10 14:58	0.3	42	High Air Stripper Sump Level	Low back pressure due to recent stripper cleaning which results in gravity discharge issues.	Adjust blower damper to increase air flow/sump pressure.
4/29/2010	4/29/10 16:35	4/30/10 7:41	0.6	42	High Air Stripper Sump Level	Low back pressure due to recent stripper cleaning which results in gravity discharge issues.	Adjust blower damper to increase air flow/sump pressure.
5/28/2010	5/28/10 16:35	5/31/10 9:40	2.7	NA	Power outage	Power outage due to inclement weather. Electric meter damaged as a result.	Inspect system, temporarily bypass faulty E-meter, perform critical device inspection, restart system and monitor for proper operation.
6/1/2010	6/1/10 14:42	6/2/10 8:55	0.8	42	High Air Stripper Sump Level	Low back pressure due to recent stripper cleaning which results in gravity discharge issues.	Adjust blower damper to increase air flow/sump pressure.
7/12/2010	7/12/10 16:00	7/16/10 14:31	3.9	0	MH-1 offline for testing phase, air stripper left in auto with MH-2 online.	NA	NA
11/2/2010	11/2/10 22:22	11/3/10 13:45	0.6	41	High Pressure in Air Stripper Sump.	Blower damper adjustment.	Adjust air stripper blower damper.
11/10/2010	11/10/10 11:42	11/10/10 20:23	0.4	48	Manual system shutdown/LOTO	Implementing GCTS system upgrades.	Restart system after completing work.
11/11/2010	11/11/10 9:52	11/11/10 16:21	0.3	48	Manual system shutdown/LOTO	Implementing GCTS system upgrades.	Restart system after completing work.
11/11/2010	11/11/10 16:37	11/11/10 18:49	0.1	41	High Pressure in Air Stripper Sump.	Blower damper adjustment.	Adjust air stripper blower damper.
11/11/2010	11/11/10 19:18	11/12/10 9:08	0.6	41	High Pressure in Air Stripper Sump.	Blower damper adjustment.	Adjust air stripper blower damper.
11/12/2010	11/12/10 9:18	11/12/10 12:43	0.1	41	High Pressure in Air Stripper Sump.	Blower damper adjustment.	Adjust air stripper blower damper.
11/12/2010	11/12/10 12:55	11/12/10 13:04	0.0	41	High Pressure in Air Stripper Sump.	Fouled air stripper trays.	Clean air stripper trays and adjust air stripper blower damper.
11/18/2010	11/18/10 10:23	11/18/10 19:22	0.4	48	Manual system shutdown/LOTO	Implementing GCTS system upgrades.	Restart system after completing work.
11/19/2010	11/19/10 9:44	11/19/10 17:06	0.3	40	Wall louver damper motor fault.	Power failure due to a system shutdown for system inspection during construction phase.	Restart system after inspection.
11/29/2010[3]	11/29/10 12:53	12/31/10 23:59	23.5	NA	Air Stripper taken permanently offline.	Implementing GCTS system upgrades.	Install temporary air stripper.
2010 % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		38.4	326.6	89%			

Table B-1. Groundwater Collection and Treatment System Operation Summary
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
1/1/2011[4]	1/1/11 0:00	1/24/11 23:59	22.7	NA	Air Stripper taken permanently offline.	Implementing GCTS system upgrades.	Periodically operated system.
1/31/2011	1/31/11 4:30	1/31/11 16:02	0.5	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Restarted system remotely.
2/2/2011	2/2/11 7:09	2/2/11 11:21	0.2	42	High Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
2/8/2011	2/8/11 2:53	2/8/11 8:52	0.2	42	High Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
2/8/2011	2/8/11 13:59	2/8/11 19:11	0.2	46	High Pre-Carbon Temperature	Residual heat in duct heater raising pre-carbon temperature following blower/duct heater shutdown.	Modified programming so that duct heater shuts off 2 minutes prior to blower.
2/8/2011	2/8/11 19:51	2/9/11 8:17	0.5	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
2/11/2011	2/11/11 5:06	2/11/11 11:46	0.3	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
2/13/2011	2/13/11 18:01	2/17/11 16:03	3.9	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
2/19/2011	2/19/11 10:31	2/21/11 9:42	2.0	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
2/24/2011	2/24/11 0:08	2/24/11 8:47	0.4	47	Low Pre-Carbon Temperature	Following end-cycle of manhole pump down and 10 minute continuation of blower operation, air stream generated by blower with duct heater off causing pre-carbon temperature to drop.	Restart system.
2/26/2011	2/26/11 3:23	2/26/11 10:58	0.3	47	Low Pre-Carbon Temperature	Following end-cycle of manhole pump down and 10 minute continuation of blower operation, air stream generated by blower with duct heater off causing pre-carbon temperature to drop.	Restart system.
2/26/2011	2/26/11 13:46	2/28/11 10:22	1.9	47	Low Pre-Carbon Temperature	Following end-cycle of manhole pump down and 10 minute continuation of blower operation, air stream generated by blower with duct heater off causing pre-carbon temperature to drop.	Modified programming so that duct heater shuts off in parallel with blower and pre-carbon temperature alarms are ignored when blower is not operating.
3/14/2011	3/14/11 0:33	3/14/11 10:31	0.4	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
3/14/2011	3/14/11 23:53	3/15/11 9:14	0.4	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
3/20/2011	3/20/11 7:16	3/20/11 12:35	0.2	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
3/23/2011	3/23/11 6:47	3/23/11 11:42	0.2	42	High Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
3/26/2011	3/26/11 3:21	3/26/11 9:37	0.3	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation.
3/26/2011	3/26/11 21:38	3/29/11 9:52	2.5	32	Low Air Stripper Sump Level	Narrow sump elevation operating range.	Adjusted blower damper and/or liquid effluent pipe elevation. Will replace existing high level sensor with tethered float to allow wider operating range in sump.
6/11/2011	6/11/11 16:53	6/12/11 11:40	0.8	NA	Power outage	Power outage due to inclement weather.	Restart system after inspection.
6/12/2011	6/12/11 23:00	6/13/11 7:15	0.3	47	Low Pre-Carbon Temperature	Duct heater requires local reset following power outage therefore not operating.	Low temperature setpoint temporarily lowered until local restart could be initiated on 6/13/11.
7/9/2011	7/9/11 6:58	7/11/11 8:56	2.1	NA	Power outage	Power outage.	Restart system.
7/12/2011	7/12/11 22:13	7/13/11 12:53	0.6	47	Low Pre-Carbon Temperature	Duct heater requires local reset following power outage therefore not operating.	Duct heater locally reset.
11/21/2011	11/21/11 16:23	11/23/11 12:00	1.8	NA	PLC Reset to "Manual" for unknown reason, identified during remote login following no daily fax receipt.	System reset automatically, exact cause unknown. Suspect cause due to bad remote system reconfiguration due to faulty/interrupted remote connection.	Log into the system remotely and reconfigures the PLC with the latest GCTS File #17.
12/8/2011	12/8/11 10:06	12/9/11 21:00	1.5	46	High Pre-Carbon Temperature	Unknown	Monitor system and temperatures remotely.
12/11/2011	12/11/11 20:06	12/11/11 20:13	0.0	46	High Pre-Carbon Temperature	Unknown	Review datalogger file/site inspection to verify transmitter readings versus field gauge.
12/14/2011	12/12/11 1:17	12/12/11 9:49	0.4	45	High Air Flowrate	Potential drifting associated with transmitter calibration.	Adjust high flow alarm setpoint
12/13/2011	12/13/11 3:50	12/13/11 8:06	0.2	46	High Pre-Carbon Temperature	Potential drifting associated with transmitter calibration.	Adjust high temperature alarm setpoint

2011 % Run Time Summary	Days Offline	Days Online	% Run Time
	47	348	88%

Table B-1. Groundwater Collection and Treatment System Operation Summary
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
1/14/2012	1/14/12 19:46	1/15/12 8:10	0.5	32	Low water level in air stripper sump	Increased back pressure from air stripper trays	Temporarily adjust air stripper damper on 1/16/12. Clean air stripper on 1/26/12.
1/26/2012	1/25/12 11:06	1/26/12 13:54	1.1	NA	Annual Stripper Cleaning and float replacement	NA - Scheduled maintenance	NA
1/30/2012	1/30/12 20:03	1/31/12 8:59	0.5	32	Low water level in air stripper sump	Increased back pressure due to air stripper damper being left open too much.	Re-adjust air stripper blower damper on 2/2/12
2/6/2012	2/6/12 16:45	2/7/12 11:00	0.8	42	High water level in air stripper sump	The LSH-100 was tripped during a automated startup when MH-1 was called to pumped. The data logger indicated that the LSH-100 went into alarm several seconds after one of the pumps turned on. The high level alarm is most likely a result of the new level float being set with too short of tether during the initial install.	Manually drained enough water from the air stripper sump in order to clear (un-latch) the high level alarm. The length of the high level float tether was increased 3-inches.
3/7/2012	3/7/12 9:06	3/7/12 16:55	0.3	NA	System temporarily taken offline to complete the arc flash study field reconnaissance	NA	NA
4/16/2012	4/16/12 9:18	4/17/12 12:45	1.1	NA	System PLC/building power outage.	Power outage due to inclement weather.	Manually reset PLC UPS/battery backup and restart system. Will test alarm dial-out sequence in the event of a power outage.
4/23/2012	4/23/12 12:27	4/23/12 16:39	0.2	NA	Chris Davern onsite making modification to GCTS cfg file and to test UPS battery	GCTS cfg file was modified to make LSH-100 in the up position be a fatal alarm condition regardless of blower status. UPS battery backup tested successfully, UPS provided power to PLC for approx. 60 minutes.	NA
7/16/2012	7/16/12 5:57	7/16/12 12:12	0.3	47	Low temperature alarm for pre-VPGAC air stream.	Critical device testing activities conducted 7/13/12 resulted in occurrence of internal high temperature alarm for duct heater. Alarm requires local resetting of duct heater, which was not done on 7/13/12.	Mobilize field staff to site and manually reset duct heater high temperature alarm. Restart system.
7/17/2012	7/17/12 18:06	7/18/12 12:16	0.8	42	High water level in air stripper sump	The LSH-100 was tripped following an automated ending of a manhole pumping cycle (i.e., batch). No system adjustments (e.g., damper adjustment) made or observed drift in operational parameters (e.g., air stripper sump pressure).	Mobilize field staff and manually drop liquid level of air stripper sump so that tethered high float LSH-100 will drop into off position. Done by manually partially closing pre-VPGAC butterfly valve to raise air stripper sump pressure and lower air stripper sump elevation. Restart system. Opened damper slightly.
10/11/2012	10/11/12 6:15	10/11/12 13:49	0.3	45	Low/High Air Flowrate	Potential drifting associated with transmitter calibration.	Restart system.
10/12/2012	10/12/12 12:10	10/12/12 14:51	0.1	45	Low/High Air Flowrate	Potential drifting associated with transmitter calibration.	Inspect transmitter and pitot tube, restart system.
10/13/2012	10/13/12 5:37	10/14/12 18:01	1.5	45	Low/High Air Flowrate	Potential drifting associated with transmitter calibration.	Inspect transmitter and pitot tube, restart system.
10/16/2012	10/16/12 8:40	10/17/12 8:35	1.0	NA	Replacement of air stripper gaskets	NA	NA
10/30/2012	10/30/12 12:28	10/30/12 18:50	0.3	NA	Critical Device Testing	NA	NA
11/4/2012	11/4/12 3:37	11/5/12 20:44	1.7	45	Low and High air stripper air flow rates, FT-106.	4-20 mA signal drift from the pressure transmitter FT-106 to the PLC.	Log into system remotely on 11/5/12 at 20:44. Following an inspection of the PLC data logger files the system was restarted and monitored for proper operation. The air flow rate was noted at approximately 550-600 cfm with all three manholes online pumping at a total flow rate of 70 gpm with a corresponding air stripper sump pressure of ~32 in.W.C., which confirmed that sufficient air flow was flowing through the air stripper.
11/7/2012	11/7/12 5:03	11/7/12 9:23	0.2	45	Low and High air stripper air flow rates, FT-106.	4-20 mA signal drift from the pressure transmitter FT-106 to the PLC.	Following receiving the alarm again on 11/7/12 at 5:03 ARCADIS mobilized to site that morning at 9:08 to inspect the system. Following an inspection of the PLC and other major system components, and confirming that the system was operating as intended the Process 45 alarm was changed from a fatal to non-fatal. The system was restarted at 9:23.
12/26/2012	12/26/12 4:24	12/26/12 12:24	0.3	32	Low water level in air stripper sump	Increased back pressure due to air stripper damper being left open too much.	Restart system remotely, monitor for proper operation including flows, pressures, float levels, etc.
2012 % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		11.0	355.0	97%			
2/4/2013	2/4/13 9:00	2/6/13 18:00	2.4	NA	System taken offline to upgrade PLC with cellular modem.	NA	NA
2/11/2013	2/11/13 9:00	2/11/13 18:59	0.4	NA	System temporarily taken offline to complete the cellular modem upgrade.	NA	NA
11/30/2013	11/30/13 5:50	11/30/13 20:21	0.6	32	Low water level in air stripper sump	The LSL-100 was tripped during a automated system shutdown. The data logger indicated that the LSL-100 was toggling back and forth during the 10 minute blower shutdown mode and latched long enough (5 second set point) in the off position to trigger the alarm.	Restart system and monitor for normal operation.
12/17/2013	12/17/13 4:40	12/17/13 8:07	0.1	32	Low water level in air stripper sump	The LSL-100 was tripped during a automated system shutdown. The data logger indicated that the LSL-100 was toggling back and forth during the 10 minute blower shutdown mode and latched long enough (5 second set point) in the off position to trigger the alarm.	Restart system and monitor for normal operation.
12/25/2013	12/25/13 5:07	12/25/13 21:08	0.7	32	Low water level in air stripper sump	The LSL-100 was tripped during a automated system shutdown. The data logger indicated that the LSL-100 was toggling back and forth during the 10 minute blower shutdown mode and latched long enough (5 second set point) in the off position to trigger the alarm.	Restart system and monitor for normal operation.
Current Quarter % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		1.4	89.8	98%			
2013 % Run Time Summary (through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		4.2	360.8	99%			

Table B-1. Groundwater Collection and Treatment System Operation Summary
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
1/14/2014	1/15/14 3:15	1/15/14 11:12	0.3	NA	Daily system operational status email not received.	Unknown - PLC processor not responding.	Reboot the PLC and restart system and monitor for normal operation.
3/5/2014	3/5/14 7:39	3/5/14 9:10	0.1	44	Building Low Temperature	Prolonged opening of overhead door cooled building temperature.	Temperature returned to normal and system restarted.
1st Quarter (2014) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.4	89.6	100%			
5/7/2014	5/7/14 9:20	5/12/14 9:00	5.0	Manual	System was in manual mode	System was inadvertently switched to manual mode during a site visit and rendered the system inoperative.	System was restarted remotely in AUTO mode as soon as issue was found.
6/28/2014	6/28/14 7:31	6/29/14 13:00	1.2	36/38	Power loss to system building	Planned ConMed electrical shutdown	Could not restart system remotely - Site visit made and system was restarted manually.
2nd Quarter (2014) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		6.2	84.8	93%			
7/1/2014	7/1/14 20:03	7/1/14 21:40	0.1	Process 41	High Air Stripper Sump Level	Butterfly valve closed on carbon manifold to increase pressure in air stipper sump and keep the sump level down.	System was restarted remotely in AUTO mode.
			0.0				
			0.0				
3rd Quarter (2014) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.1	91.9	99.9%			
			0.0				
			0.0				
			0.0				
4th Quarter (2014) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.0	92.0	100%			
2014 % Run Time Summary (through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		6.7	358.3	98%			
1/14/2015	1/14/15 10:28	1/14/15 10:30	0.0	Process 44	Building Low Temperature	Outdoor freezing conditions. Entry door left open while performing groundwater sampling activities.	Door was shut and system restarted. Operation returned to normal.
1st Quarter (2015) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.0	90.0	100%			
			0.0				
			0.0				
			0.0				
2nd Quarter (2015) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.0	91.0	100%			
7/10/2015	7/10/15 17:23	7/11/15 13:20	0.8	Process 42	Air Stripper High Liquid Level	High liquid level due to lack of pressure in air stripper sump.	System operated to lower the sump liquid level and the sump float switch was inspected and found to be operational. Adjusted the position of BFV-401 to apply backpressure to the air stripper and lower the operating sump liquid level.
7/11/2015	7/11/15 16:11	7/15/15 18:40	4.1	Process 42	Air Stripper High Liquid Level	Erroneous high level output by the air stripper sump level float switch.	Air stripper sump level float switch inspected and its electrical leads tested with a continuity tester. Level switch was registering inconsistent closed (high level) circuit readings during the test. System left in shutdown mode while a replacement level float switch was sourced. Sump level float switch was replaced (malfunctioning float switch was found to contain water due to a defective seal at the electrical lead).
8/20/2015	8/20/15 7:55	8/20/15 8:30	0.0	Process 45	High Air Flow Rate	Erroneous signal from FT-106 pressure transmitter (Dwyer 668-4).	The erroneous outputs are the result of a 'zero shift' in the flow sensor output where the flow values are inflated by approximately 600 cfm at all times. The pressure differential transmitter was replaced during Stantec's September Monthly site visit. No downltime resulted.
3rd Quarter (2015) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		5.0	87.0	95%			
4th Quarter (2015) % Run Time Summary		**Days Offline**	**Days Online**	**% Run Time**			
		0.0	92.0	100%			
2015 % Run Time Summary (through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		5.0	360.0	99%			

Table B-1. Groundwater Collection and Treatment System Operation Summary
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
2/18/2016	2/18/16 14:42	2/19/16 15:30	1.0	Process 30 > Process 42	Clearing Manhole 2 Low Flowrate lead to Air Stripper High Liquid Level	Suspected that the paddlewheel in flow meter FT-102 was the cause of the original alarm.	The Air Stripper High Level float was triggered while testing MH-2 check valve operation, and the float switch alarm could not be cleared with remote manipulation. The system was left off until Stantec reported to the site to return the level to normal by pressurizing the air stripper with manipulation of BFV-401. The float required manual flexing to reset. In the process the threads on the fitting which holds and seals the float cable through the wall of the air stripper cracked, and had to be replaced. Stantec removed FT-102, cleaned scale and biofouling material from the paddle wheel, and reinstalled the sensor.
1st Quarter (2016) % Run Time Summary (though March 31)		Days Offline	Days Online	% Run Time			
		1.0	90.0	98.9%			
			0.0				
2nd Quarter (2016) % Run Time Summary (Through June 30)		Days Offline	Days Online	% Run Time			
		0.0	91.0	100.0%			
			0.0				
			0.0				
			0.0				
9/24/2016	9/24/16 5:17	9/24/16 12:10	0.3	32/36/38	Power loss to system building	Area-wide power outage that impacted the ConMed facility	System was restarted at the site
9/27/2016	9/27/16 11:43	9/27/16 13:50	0.1	32/36/38	Power loss to system building	Area-wide power outage that impacted the ConMed facility	System was restarted st the site
3rd Quarter (2016) % Run Time Summary (Through September 30)		Days Offline	Days Online	% Run Time			
		0.4	91.6	100%			
10/27/2016	10/27/16 16:54	10/27/16 21:45	0.2	Process 45	Low Air Vapor Flow Rate	Faulty flow transmitter	Purchased new flow transmitter
			0.0				
			0.0				
4th Quarter (2016) % Run Time Summary (Through December 31)		Days Offline	Days Online	% Run Time			
		0.2	90.8	100%			
2016 % Run Time Summary (Through December 31)		Days Offline	Days Online	% Run Time			
		1.2	363.4	99.7%			
1st Quarter (2017) % Run Time Summary (Through March 31)		Days Offline	Days Online	% Run Time			
		0.0	90.0	100.0%			
4/24/2017	4/24/17 12:00	4/24/17 14:30	0.1	-	FT-103 flow incorrect	Faulty flow transmitter	Repaired short in wiring at PLC
5/17/2017	5/17/17 14:00	5/17/17 16:00	0.1	Process 42	Air stripper high liquid level	Water level in air stripper too high	Adjusted BFV-401 to a more closed position, creating additional back pressure in the air stripper and lowering water level.
6/10/2017	6/10/17 15:42	6/10/17 17:47	0.1	Process 47	Pre-carbon low temperature	Temperature dropped below 60°F	Restarted system, monitored pump-down cylces, temperature remained within normal range.
2nd Quarter (2017) % Run Time Summary (Through June 30)		Days Offline	Days Online	% Run Time			
		0.3	90.7	99.7%			
7/20/2017	7/20/17 18:08	7/21/17 10:10	0.7	Process 22	Pre-carbon heat exchanger exceeded temperature limit	Temperature rose above 115°F	Tested system, but heat exchanger was not functioning properly. Aztech found that the TT-301 Hi Analog Input to set to 300°F, reset to 100°F. System operating normal.
8/26/2017	8/26/17 5:30	8/26/17 5:30	0.0	Process 32	Air stripper low liquid level	Water level in air stripper too low	Remotely logged into PLC and turned off LA-100, system operated normally for the day.
8/27/2017	8/27/17 5:43	8/27/17 5:43	0.0	Process 32	Air stripper low liquid level	Water level in air stripper too low	LSL-100 float goes through off/on positions during pump-down cycles and at certain times remains off longer than 10 minutes triggering LA-100 (warning/non-fatal)
9/5/2017	9/5/17 10:36	9/5/17 17:08	0.3	Process 29 and 55	Low Flowrate and Aggregate Low Flow	Tetra Tech inadvertently triggered the alarm (FA-101) due to actions taken while sampling the GCTS effluent. In the process of sampling GCTS effluent NRC manually switched MH 1 Pump 1 to the Hand position to start MH 1 in a pump down cycle. After collecting the effluent sample NRC did not fully engage the MH Pump 1 switch to the Auto position. Once MH 1 float was triggered no pump was engaged and FA 101 was triggered. After a 10 minute FA 105 was triggered.	NRC returned to the GCTS building after receiving the Alarm notice and checked the MH-1 Pump 1 switch, reengaged it, and MH-1 Pump 1 instantly turned on. Tetra Tech monitored the system to ensure it was operating normally. Tetra Tech remotely switched off FA-101 alarm and restarted the system.
3rd Quarter (2017) % Run Time Summary (Through September 30)		Days Offline	Days Online	% Run Time			
		1.0	91.0	98.9%			
4th Quarter (2017) % Run Time Summary (Through December 31)		Days Offline	Days Online	% Run Time			
		0.0	92.0	100.0%			
2017 % Run Time Summary (Through December 31)		Days Offline	Days Online	% Run Time			
		1.3	363.7	99.6%			

Table B-1. Groundwater Collection and Treatment System Operation Summary
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Date/Time			Process	Description	Suspected Cause of Alarm	Corrective Action
	Shutdown	Online	Off (days)				
1/12/2018	1/12/18 6:26	1/12/18 11:45	0.2	Process 42	Air stripper high liquid level	High water level in air stripper	Closed BFV-401 approximately 50%, pulled LSH 100 to free stuck float
2/15/2018	2/15/18 14:14	2/15/18 17:30	0.1	Process 42	Air stripper high liquid level	High water level in air stripper	Closed BFV-401 approximately 50%, pulled LSH 100 to free stuck float
1st Quarter (2018) % Run Time Summary (Through March 31)		**Days Offline**	**Days Online**	**% Run Time**			
		0.4	89.6	99.6%			
2nd Quarter (2018) % Run Time Summary (June 30)		**Days Offline**	**Days Online**	**% Run Time**			
		0.0	91.0	100.0%			
7/18/2018	7/18/18 8:30	7/18/18 14:45	0.3	NA	System temporarily shutdown for maintenance	NA	NA
3rd Quarter (2018) % Run Time Summary (Through September 30)		**Days Offline**	**Days Online**	**% Run Time**			
		0.3	91.7	99.7%			
4th Quarter (2018) % Run Time Summary (December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		0.0	92.0	100.0%			
2018 % Run Time Summary (through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		0.7	364.3	99.8%			
2/9/2019	2/9/19 1:16	2/9/19 15:30	0.6	Process 47	Pre Carbon Low Temperature	Low pre-carbon temperature went below alarm setpoint of 60 degrees.	Site visit was performed on 2-9-19 to inspect system. System re-started.
3/8/2019	3/8/19 3:20	3/26/19 15:20	17.5	NA	Power outage shutdown system.	Short in underground electrical line.	Underground electrical line repair. Site visit on 3-26-19 to re-start system.
1st Quarter (2019) % Run Time Summary (Through March 31)		**Days Offline**	**Days Online**	**% Run Time**			
		18.1	71.9	79.9%			
5/25/2019	5/25/19 6:50	5/25/19 14:10	0.3	NA	Power outage shutdown system.	Power outage due to inclement weather.	Site visit on 5-25-19 to re-start system.
5/31/2019	5/31/19 12:30	5/31/19 15:00	0.1	Process 47	Pre Carbon Low Temperature.	Low pre-carbon temperature went below alarm setpoint of 60 degrees.	Site visit was performed on 5-31-19 to inspect system. System re-started.
2nd Quarter (2019) % Run Time Summary (Through June 30)		**Days Offline**	**Days Online**	**% Run Time**			
		0.4	90.6	99.6%			
8/7/2019	8/7/19 19:15	8/16/19 10:00	8.6	Process 41	Air Stripper Sump High Pressure	Partial power loss (low voltage in 2 of the 3 power legs).	Site visit was performed on 8-7-19 and 8-8-19 to inspect system; blower not operating. Follow-up site visit on 8-12-19 determined loss of power to building; repairs needed on splice joints from March 2019 power outage repair. System re-started on 8-16-19.
3rd Quarter (2019) % Run Time Summary (Through September 30)		**Days Offline**	**Days Online**	**% Run Time**			
		8.6	83.4	90.6%			
4th Quarter (2019) % Run Time Summary (Through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		0.0	92.0	100.0%			
2019 % Run Time Summary (Through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		27.1	337.9	92.6%			
3/29/2020	3/29/20 11:20	3/29/20 15:00	0.16	Process 47	Pre Carbon Low Temperature.	Low pre-carbon temperature went below alarm setpoint of 60 degrees.	Site visit was performed on 3-29-20 to inspect system. System re-started.
1st Quarter (2020) % Run Time Summary (Through March 31)		**Days Offline**	**Days Online**	**% Run Time**			
		0.16	90.84	99.8%			
2nd Quarter (2020) % Run Time Summary (Through June 30)		**Days Offline**	**Days Online**	**% Run Time**			
		0.00	91.00	100.0%			
3rd Quarter (2020) % Run Time Summary (Through September 30)		**Days Offline**	**Days Online**	**% Run Time**			
		0.00	92.00	100.0%			
4th Quarter (2020) % Run Time Summary (Through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		0.00	91.00	100.0%			
2020 % Run Time Summary (Through December 31)		**Days Offline**	**Days Online**	**% Run Time**			
		0.16	364.84	99.96%			

1. Table does not include brief (less than 3 hours [0.1 days]) system shutdowns for routine operation and maintenance activities.

2. Table does not include non-fatal alarms (i.e. low liquid flow, low air flow, etc.) observed during the reporting period.

3. Between 11/29/10 and 12/31/10, temporary system was operational approximately 10 hours (7AM to 5PM) per weekday excluding 12/24/10, 12/30/10, and 12/31/10. System offline for nights and weekends due to lack of safety controls/interlocks and freezing weather conditions.

4. Between 1/1/11 and 1/24/11, the upgraded system was operated on the following dates: 1/13, 1/14, 1/17, 1/18 and 1/20. An average daily run time of 6 hours has been estimated for those dates.

Table B-2. Groundwater Collection and Treatment System Effluent Analytical Sampling Results
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (ug/L)	1/16/2013	2/7/2013	3/5/2013	4/24/2013	5/9/2013	6/12/2013	7/11/2013	8/8/2013	9/10/2013	10/22/2013	11/5/2013	12/3/2013	1/23/2014	2/6/2014	3/4/2014	4/3/2014	5/5/2014	6/13/2014	7/10/2014	8/7/2014	9/3/2014	10/9/2014	11/5/2014	12/3/2014
1,1,1-Trichloroethane	10	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 0.82	< 0.82	< 0.82
1,1-Dichloroethane	10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 1.0	< 0.38	< 0.38	< 0.38
1,2-Dichlorobenzene	10	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 0.79	< 0.79	< 0.79
1,3-Dichlorobenzene	-	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 0.78	< 0.78	< 0.78
1,4-Dichlorobenzene	-	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 0.84	< 0.84	< 0.84
Benzene	-	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 0.41	< 0.41	< 0.41
Chlorobenzene	-	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 0.75	< 0.75	< 0.75
Chloroethane	10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 0.32	< 0.32	< 0.32
cis-1,2-Dichloroethene	10	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	**0.88**	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 1.0	< 0.81	< 0.81	< 0.81
Ethylbenzene	5	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 0.74	< 0.74	< 0.74
m-Xylene & p-Xylene	-	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0
o-Xylene	-	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 0.76	< 0.76	< 0.76
Tetrachloroethene	10	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 1.0	< 0.36	< 0.36	< 0.36
Toluene	5	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 0.51	< 0.51	< 0.51
trans-1,2-Dichloroethene	10	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.9	< 0.9	< 0.9	< 0.9	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 0.90	< 0.90	< 0.90
Trichloroethene	10	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	**1.1**	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 1.0	< 0.46	< 0.46	< 0.46
Vinyl Chloride	10	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total	15	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0
pH (S.U.)[2]	**8.5**	**7.9**	**8.2**	**8.2**	**8.0**	**8.2**	**8.0**	**8.0**	**8.1**	**8.1**	**8.0**	**8.1**	**8.1**	**8.1**	**8.1**	**8.4**	**8.3**	**8.4**	**8.4**	**8.2**	**8.3**	**8.1**	**8.2**	**8.4**	**8.2**
Volatile Organic[1] Compounds (µg/L)	**SPDES Effluent Limitations (ug/L)**	**1/8/2015**	**2/6/2015**	**3/4/2015**	**4/15/2015**	**5/7/2015**	**6/17/2015**	**7/8/2015**	**8/11/2015**	**9/8/2015**	**10/5/2015**	**11/4/2015**	**12/2/2015**	**1/7/2016**	**2/3/2016**	**3/2/2016**	**4/6/2016**	**5/5/2016**	**6/2/2016**	**7/11/2016**	**8/4/2016**	**9/8/2016**	**10/12/2016**	**11/2/2016**	**12/8/2016**
1,1,1-Trichloroethane	10	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	<1.0
1,1-Dichloroethane	10	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	<1.0
1,2-Dichlorobenzene	10	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	<1.0
1,3-Dichlorobenzene	-	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	<1.0
1,4-Dichlorobenzene	-	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	<1.0
Benzene	-	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	<1.0
Chlorobenzene	-	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	<1.0
Chloroethane	10	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	<1.0
cis-1,2-Dichloroethene	10	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	<1.0
Ethylbenzene	5	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	<1.0
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
o-Xylene	-	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	<1.0
Tetrachloroethene	10	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	<1.0
Toluene	5	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	<1.0
trans-1,2-Dichloroethene	10	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	<1.0
Trichloroethene	10	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	<1.0
Vinyl Chloride	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
Xylenes, total	15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0
pH (S.U.)[2]	**8.5**	**7.9**	**8.2**	**7.6**	**8.0**	**7.5**	**8.1**	**7.5**	**8.1**	**7.7**	**8.0**	**8.4**	**7.5**	**7.7**	**7.8**	**7.2**	**8.0**	**7.3**	**8.2**	**8.2**	**8.1**	**7.6**	**7.3**	**8.0**	**8.2**

Notes on page 2

Table B-2. Groundwater Collection and Treatment System Effluent Analytical Sampling Results
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (ug/L)	1/10/2017	2/3/2017	3/8/2017	4/13/2017	5/20/2017	6/14/2017	7/20/2017	9/5/2017	9/10/2017	10/2/2017	11/7/2017	12/5/2017	1/3/2018	2/1/2018	3/1/2018	4/2/2018	5/5/2018	6/3/2018	7/10/2018	8/7/2018	9/5/2018	10/10/2018	11/7/2018	12/6/2018
1,1,1-Trichloroethane	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m-Xylene & p-Xylene	-	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**6.0**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes, total	15	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
pH (S.U.)[2]	**8.5**	**8.4**	**7.2**	**7.7**	**8.25**	**7.89**	**7.56**	**8.02**	**8.1**	**7.78**	**8.35**	**8.34**	**7.71**	**7.54**	**6.85**	**7.51**	**6.91**	**8.2**	**8.26**	**7.12**	**7.3**	**8.04**	**7.62**	**7.16**	**7.24**

Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (ug/L)	1/2/2019	2/4/2019	3/5/2019	4/1/2019	5/1/2019	6/4/2019	7/9/2019	8/5/2019	9/10/2019	10/2/2019	11/1/2019	12/3/2019	1/21/2020	2/5/2020	3/4/2020	4/7/2020	5/5/2020	6/1/2020	7/6/2020	8/3/2020	9/2/2020	10/5/2020	11/3/2020	12/2/2020
1,1,1-Trichloroethane	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m-Xylene & p-Xylene	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes, total	15	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
pH (S.U.)[2]	**8.5**	**7.71**	**7.63**	**7.66**	**7.61**	**7.71**	**6.95**	**7.25**	**7.30**	**7.25**	**7.11**	**7.10**	**7.37**	**7.10**	**7.21**	**7.10**	**7.04**	**7.22**	**7.14**	**7.13**	**7.40**	**7.11**	**7.27**	**7.11**	**7.04**

Notes:

1. Analyzed using United States Environmental Protection Agency (USEPA) Method 8260.

2. Analyzed in field.

3. The September 5, 2017 effluent sample was not collectted in accordance with Standard Operating Procedure GCTS-03. The sampling technician collected the sample by manually starting Manhole 1 using the HOA switch instead of collectinng the sample under a normal pump-down cycle. Under this condition the air stripper is not operating normally, so several VOCs were detected but did not exceed criteria.

BOLD indicates detected concentrations.

Definitions:

< - less than laboratory detection limit listed

- No Standard

NS - Not Sampled For

mg/L - milligrams per liter

S.U. - Standard Units

µg/L - micrograms per liter

Table B-3. Groundwater Collection and Treatment System Influent Groundwater Concentrations
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic[1] Compounds (µg/L)	MH-1																					
	2/4/2009	1/12/2010	4/7/2010	7/8/2010	10/6/2010	12/22/2010	2/23/2011	4/5/2011	7/7/2011	10/11/2011	1/26/2012	4/5/2012	7/12/2012	10/17/2012	1/15/2013	4/24/2013	7/11/2013	10/22/2013	2/6/2014	4/4/2014	7/10/2014	10/9/2014
1,1,1-Trichloroethane	< 1.0	< 0.40	< 0.40	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 0.82	< 0.82
1,1-Dichloroethane	**8.4**	**9**	**6**	**6**	**6.2**	**3.6**	**4.2**	**2.7**	**8.5**	**5.9**	**4.9**	**8.5**	**10**	**8**	**3.5**	**5.4**	**4.2**	**5.9**	**5.8**	**3.3**	**3.3**	**6.5**
1,2-Dichlorobenzene	< 1.0	< 0.50	< 0.50	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 0.79	< 0.79
1,3-Dichlorobenzene	< 1.0	< 0.40	< 0.40	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 0.78	< 0.78
1,4-Dichlorobenzene	< 1.0	< 0.40	< 0.40	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 0.84	< 0.84
Benzene	< 1.0	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 0.41	< 0.41
Chlorobenzene	< 1.0	< 0.40	< 0.40	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 0.75	< 0.75
Chloroethane	**0.70 J**	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 0.32	< 0.32
cis-1,2-Dichloroethene	**39**	**44**	**28**	**42**	**35**	**21**	**30**	**19**	**43**	**33**	**28**	**39**	**56**	**43**	**21**	**28**	**24**	**36**	**33**	**18**	**20**	**38**
Ethylbenzene	< 1.0	< 0.40	< 0.40	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 0.74	< 0.74
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1	< 1.0	< 2.0	< 1.0	< 1.0
o-Xylene	-	< 0.40	< 0.40	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 0.76	< 0.76
Tetrachloroethene	**31**	**31**	**27**	**29**	**21**	**8.4**	**23**	**18**	**26**	**19**	**16**	**23**	**36**	**28**	**16**	**21**	**16**	**24**	**22**	**14**	**12**	**27**
Toluene	< 1.0	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 0.51	< 0.51
trans-1,2-Dichloroethene	< 1.0	< 0.42	< 0.42	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.9	< 0.90	< 1.0	< 0.90	< 0.90
Trichloroethene	**64**	**51**	**55**	**49**	**33**	**11**	**57**	**27**	**57**	**29**	**26**	**52**	**66**	**41**	**23**	**36**	**24**	**32**	**44**	**21**	**20**	**39**
Vinyl Chloride	**0.50 J**	**0.41 J**	< 1.0	< 1.0	< 1.0	**0.99 J**	**1.3**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.90	< 1.0	< 0.90	< 0.90	< 0.90	< 1	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total	< 3.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 1.0	< 0.66	< 0.66	< 0.66	< 1	< 1.0	< 2.0	< 1.0	< 1.0

Volatile Organic[1] Compounds (µg/L)	MH-2																					
	2/4/2009	1/12/2010	4/7/2010	7/8/2010	10/6/2010	12/22/2010	2/23/2011	4/5/2011[2]	7/7/2011	10/11/2011	1/26/2012	4/5/2012	7/12/2012	10/17/2012	1/15/2013	4/24/2013	7/11/2013	10/22/2013	2/6/2014	4/4/2014	7/10/2014	10/9/2014
1,1,1-Trichloroethane	< 1.0	< 0.40	< 0.40	< 0.82	< 0.82	< 0.82	< 0.82	-	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 0.82	< 0.82
1,1-Dichloroethane	**1.6**	**11**	**2**	**2.4**	**2.6**	**1.9**	**1.5**	**-**	**3.5**	**3**	**1.5**	**1.8**	**2.5**	**2.4**	**1.3**	**1.4**	**2**	**2.5**	**1.3**	**0.97 J**	**2.1**	**2.6**
1,2-Dichlorobenzene	< 1.0	< 0.50	< 0.50	< 0.79	< 0.79	< 0.79	< 0.79	-	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 0.79	< 0.79
1,3-Dichlorobenzene	< 1.0	< 0.40	< 0.40	< 0.78	< 0.78	< 0.78	< 0.78	-	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 0.78	< 0.78
1,4-Dichlorobenzene	< 1.0	< 0.40	< 0.40	< 0.84	< 0.84	< 0.84	< 0.84	-	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 0.84	< 0.84
Benzene	< 1.0	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	-	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 0.41	< 0.41
Chlorobenzene	< 1.0	< 0.40	< 0.40	< 0.75	< 0.75	< 0.75	< 0.75	-	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 0.75	< 0.75
Chloroethane	< 1.0	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.32	-	< 0.32	< 0.32	< 0.32	< 0.32	< 0.35	< 0.35	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 0.32	< 0.32
cis-1,2-Dichloroethene	**10**	**47**	**12**	**14**	**13**	**12**	**7.6**	**-**	**12**	**16**	**5.4**	**8.3**	**22**	**13**	**7.8**	**8.2**	**16**	**14**	**6.5**	**9.1**	**11**	**17**
Ethylbenzene	< 1.0	< 0.40	< 0.40	< 0.74	< 0.74	< 0.74	< 0.74	-	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 0.74	< 0.74
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1	< 1.0	< 2.0	< 1.0	< 1.0
o-Xylene	-	< 0.40	< 0.40	< 0.76	< 0.76	< 0.76	< 0.76	-	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 0.76	< 0.76
Tetrachloroethene	**3.8**	**28**	**3.5**	**9.3**	**7.5**	**4.5**	**2.6**	**-**	**2.8**	**3.6**	**1.6**	**1.7**	< 0.36	**0.76**	**2.5**	**2**	**3.9**	**2.5**	**1.1**	**2.7**	**2.1**	**0.98**
Toluene	< 1.0	< 0.60	< 0.60	< 0.60	< 0.60	< 0.60	< 0.51	-	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 0.51	< 0.51
trans-1,2-Dichloroethene	**0.22 J**	< 0.42	< 0.42	< 0.90	< 0.90	< 0.90	< 0.90	-	< 0.90	< 0.90	< 0.90	< 0.90	**4.9**	**1.6**	< 0.90	< 0.90	< 0.90	< 0.9	< 0.90	< 1.0	< 0.90	**1.8**
Trichloroethene	**6.7**	**53**	**7.5**	**18**	**14**	**8.4**	**4.6**	**-**	**7.7**	**7.5**	**2.8**	**4.8**	**1.6**	**6.7**	**5.2**	**4.6**	**9.8**	**5.1**	**4.3**	**4.9**	**5.1**	**5.1**
Vinyl Chloride	**1.0 J**	< 1.0	**1.4**	**2.3**	**1.8**	**1.5**	**1.5**	**-**	**6.1**	**4.5**	**1.2**	**1.6**	**2.4**	**3.3**	< 0.90	**1.2**	**1.7**	**3.1**	< 1.0	< 1.0	< 1.0	**2.4**
Xylenes, total	< 3.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 1.0	< 0.66	< 0.66	< 0.66	< 1	< 1.0	< 2.0	< 1.0	< 1.0

Volatile Organic[1] Compounds (µg/L)	MH-3																					
						1/28/2011	2/23/2011	4/5/2011	7/7/2011	10/11/2011	1/26/2012	4/5/2012	7/12/2012	10/17/2012	1/15/2013	4/24/2013	7/11/2013	10/22/2013	2/6/2014	4/3/2014	7/10/2014	10/9/2014
1,1,1-Trichloroethane						< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 0.82	< 0.82
1,1-Dichloroethane						< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 1.0	< 0.38	< 0.38
1,2-Dichlorobenzene						< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 0.79	< 0.79
1,3-Dichlorobenzene						< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 0.78	< 0.78
1,4-Dichlorobenzene						< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 0.84	< 0.84
Benzene						< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 0.41	< 0.41
Chlorobenzene						< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 0.75	< 0.75
Chloroethane						< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 0.32	< 0.32
cis-1,2-Dichloroethene						**3.7**	**2.3**	**3.5**	**3.8**	**3.1**	**2.5**	**2.7**	**3.2**	< 0.81	**2.4**	**2.3**	**1.7**	**2.7**	**2.6**	**2.0**	**2.6**	**2.5**
Ethylbenzene						< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 0.74	< 0.74
m-Xylene & p-Xylene						< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1	< 1.0	< 2.0	< 1.0	< 1.0
o-Xylene						< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 0.76	< 0.76
Tetrachloroethene						**1.2**	**1.1**	**12**	**21**	**23**	**33**	**49**	**49**	< 0.36	**44**	**48**	**32**	**35**	**37**	**30**	**41**	**33**
Toluene						< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 0.51	< 0.51
trans-1,2-Dichloroethene						< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.9	< 0.90	< 1.0	< 0.90	< 0.90
Trichloroethene						**4.2**	**5.6**	**9**	**19**	**13**	**16**	**17**	**22**	< 0.46	**14**	**14**	**13**	**16**	**15**	**10**	**17**	**17**
Vinyl Chloride						< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total						< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1	< 1.0	< 1.0	< 1.0	< 1.0

Notes:

1. Analyzed using United States Environmental Protection Agency (USEPA) Method 8260.
2. Manhole MH-2 not sampled during Second Quarter 2011 event due to manhole being offline for pump replacement.
3. Values in parentheses are duplicate results

BOLD indicates detected concentrations.

Definitions:

< - less than laboratory detection limit listed
"-" - Analyte Not Analyzed For
J - Indicates concentration is estimated
µg/L - micrograms per liter
* - RPD of the LCS and LCSD exceeds the control limits
^ - Instrument related QC is outside acceptance limits.

Table B-3. Groundwater Collection and Treatment System Influent Groundwater Concentrations
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic[1] Compounds (µg/L)	MH-1																							
	1/8/2015	4/15/2015	7/8/2015	10/6/2015	1/7/2016	4/6/2016	7/12/2016	10/12/2016	1/10/2017	4/13/2017	7/20/2017	10/2/2017	1/3/2018	4/2/2018	7/10/2018	10/10/2018	1/2/2019	4/2/2019	7/9/2019	10/2/2019	1/21/2020	4/7/2020	7/6/2020	10/5/2020
1,1,1-Trichloroethane	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	**1.7**	**2.6**	**3.9**	**3.2**	**3.2**	**3.6**	**3.9**	**8.0**	**3.5**	**1.5**	**2.3**	**7.9**	**3.6**	**2.6**	**3**	**3.8**	**1.4**	**2.0**	**3.0**	**4.1**	**2.3**	**2.4**	**2.5**	**1.9**
1,2-Dichlorobenzene	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	**15**	**17**	**27**	**22**	**22**	**22**	**29**	**42**	**28.5**	**12.7**	**20.8**	**48.7**	**24.6**	**15.3**	**23.7**	**26**	**10.5**	**13.2**	**23.1**	**27.1**	**18.5**	**17.2**	**23**	**18.2**
Ethylbenzene	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m-Xylene & p-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	**12**	**15**	**17**	**15**	**14**	**17**	**24**	**27**	**16.3**	**11**	**13.6**	**28.4**	**16.3**	**9.4**	**16.4**	**22**	**4.5**	**12**	**14.9**	**15.4**	**13.2**	**13.7**	**14.3**	**16.9**
Toluene	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	**19**	**28**	**31**	**20**	**22**	**25**	**33**	**35**	**22.8**	**21.7**	**20.2**	**42.3**	**27.5**	**17.5**	**30.7**	**25.7**	**9.3**	**25.1**	**27.4**	**23.7**	**19.6**	**22.8**	**24.3**	**19.8**
Vinyl Chloride	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Volatile Organic[1] Compounds (µg/L)	**MH-2**																							
	1/8/2015	**4/15/2015**	**7/8/2015**	**10/6/2015**	**1/7/2016**	**4/6/2016**	**7/11/2016**	**10/11/2016**	**1/10/2017**	**4/14/2017**	**7/20/2017**	**10/4/2017**	**1/3/2018**	**4/2/2018**	**7/10/2018**	**10/10/2018**	**1/2/2019**	**4/2/2019**	**7/10/2019**	**10/2/2019**	**1/21/2020**	**4/7/2020**	**7/6/2020**	**10/5/2020**
1,1,1-Trichloroethane	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	**1.2**	**1.0**	**1.9**	**2.2**	**1.3**	**1.2**	**2.3**	**2.7**	**1.1**	< 1.0	**2.1**	**3.8**	**1.5**	< 1.0	**1.9**	**1.5**	< 1.0	< 1.0	**1.5**	**2.5**	**1.4**	**1.1**	<1.0	**1.9**
1,2-Dichlorobenzene	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	**5.0**	**6.5**	**9.7**	**16**	**8.1**	**6.5**	**8.8**	**9.5**	**6.6**	**6**	**9.1**	**16.4**	**7.3**	**5.1**	**8**	**8**	**2.3**	**3.4**	**7.4**	**9.6**	**6**	**5**	<1.0	**8.7**
Ethylbenzene	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m-Xylene & p-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	**2.2**	**1.6**	**1.9**	< 0.36	**1.5**	**1.5**	**1.8**	**2.0**	**1.2**	**1.4**	**1.1**	**2.1**	**1.4**	**1.1**	**12.9**	**2**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	< 0.90	< 0.90	< 0.90	**2.9**	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	**1.0**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	**3.7**	**2.7**	**5.2**	**1.6**	**4.5**	**3.3**	**4.0**	**4.1**	**3.7**	**3.1**	**2.6**	**5.0**	**2.7**	**2.1**	**7.5**	**4.1**	**1.2**	**1.9**	**3.3**	**2.6**	**1.8**	**2**	<1.0	**2.1**
Vinyl Chloride	< 1.0	< 1.0	< 1.0*	**1.9^**	< 1.0	< 1.0	**1.4**	**2.9**	< 1.0	< 1.0	**1.4**	**3.2**	< 1.0	< 1.0	**1.5**	**1.2**	< 1.0	< 1.0	**1.2**	**2.6**	**1.4**	<1.0	<1.0	**2.7**
Xylenes, total	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Volatile Organic[1] Compounds (µg/L)	**MH-3**																							
	1/8/2015	**4/15/2015**	**7/8/2015**	**10/6/2015**	**1/7/2016**	**4/6/2016**	**7/11/2016**	**10/10/2016**	**1/10/2017**	**4/13/2017**	**7/20/2017**	**10/2/2017**	**1/3/2018**	**4/2/2018**	**7/10/2018**	**10/10/2018**	**1/2/2019**	**4/2/2019**	**7/8/2019**	**10/2/2019**	**1/21/2020**	**4/7/2020**	**7/6/2020**	**10/5/2020**
1,1,1-Trichloroethane	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	**2.6**	**2.3**	**2.2**	**2.2**	**2.6**	**1.9**	**2.7**	**3.0**	**3.3 [3.6]**	**2.2**	**3.0 [2.8]**	**4.9**	**4.4**	**2.8**	**2.4**	**3.8**	**1.6**	**2.8**	**4**	**2.7**	**3.5**	**2.8**	**4.3**	**2.9**
Ethylbenzene	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m-Xylene & p-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0 [< 2.0]	< 2.0	< 2.0 [< 2.0]	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	**41**	**38**	**36**	**18**	**39**	**43**	**49**	**36**	**46 [47.1]**	**36.6**	**39.5 [39.2]**	**54.7**	**37.1**	**38.9**	**28.9**	**58.2**	**17.3**	**24.7**	**36.8**	**29.5**	**34.2**	**30.2**	**37.6**	**34.4**
Toluene	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	**14**	**12**	**15**	**13**	**13**	**12**	**17**	**16**	**12.2 [12.2]**	**9.7**	**14.0 [14.4]**	**18.9**	**15.1**	**10.7**	**14.6**	**17.7**	**7.3**	**8.9**	**15.5**	**14.8**	**10.1**	**10.4**	**18.1**	**13.5**
Vinyl Chloride	< 1.0	< 1.0	< 1.0*	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0 [< 1.0]	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0 [< 1.0]	< 2.0	< 1.0 [< 1.0]	< 2.0	< 2.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Notes:

1. Analyzed using United States Environmental Protection Agency (USEPA) Method 8260.
2. Manhole MH-2 not sampled during Second Quarter 2011 event due to manhole being offline for pump replacement.
3. Values in parentheses are duplicate results

BOLD indicates detected concentrations.

Definitions:

< - less than laboratory detection limit listed
"-" - Analyte Not Analyzed For
J - Indicates concentration is estimated
µg/L - micrograms per liter
* - RPD of the LCS and LCSD exceeds the control limits
^ - Instrument related QC is outside acceptance limits.

Table B-4. Stormwater Analytical Sampling Results
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (µg/L)	CB-1																						
		1/12/2010	4/7/2010	7/8/2010	12/22/2010	2/23/2011	4/5/2011	7/7/2011	10/11/2011	1/26/2012	4/5/2012	7/12/2012	10/16/2012	1/15/2013	4/24/2013	7/11/2013	10/22/2013	3/19/2014 [3]	4/3/2014	7/10/2014	10/9/2014	1/9/2015	4/15/2015	7/8/2015
1,1,1-Trichloroethane	10	< 0.40	< 0.40	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82
1,1-Dichloroethane	10	< 0.75	< 0.75	< 0.75	< 0.75	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 1.0	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
1,2-Dichlorobenzene	10	< 0.50	< 0.50	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
1,3-Dichlorobenzene	-	< 0.40	< 0.40	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78
1,4-Dichlorobenzene	-	< 0.40	< 0.40	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84
Benzene	-	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41
Chlorobenzene	-	< 0.40	< 0.40	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75
Chloroethane	10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
cis-1,2-Dichloroethene	10	< 0.40	< 0.40	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 1.0	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81
Ethylbenzene	5	< 0.40	< 0.40	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	-	< 0.40	< 0.40	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76
Tetrachloroethene	10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 1.0	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
Toluene	5	< 0.60	< 0.60	< 0.60	< 0.60	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51
trans-1,2-Dichloroethene	10	< 0.42	< 0.42	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90
Trichloroethene	10	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 1.0	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46
Vinyl Chloride	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0*
Xylenes, total	15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (µg/L)	CB-2																						
		1/12/2010	4/7/2010	7/8/2010	12/22/2010	2/23/2011	4/5/2011	7/7/2011	10/11/2011	1/26/2012	4/5/2012	7/12/2012	10/16/2012	1/15/2013	4/24/2013	7/11/2013	10/22/2013	3/19/2014 [3]	4/3/2014	7/10/2014	10/9/2014	1/9/2015	4/15/2015	7/8/2015
1,1,1-Trichloroethane	10	< 0.40	< 0.40	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82
1,1-Dichloroethane	10	< 0.75	< 0.75	< 0.75	< 0.75	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 1.0	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
1,2-Dichlorobenzene	10	< 0.50	< 0.50	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
1,3-Dichlorobenzene	-	< 0.40	< 0.40	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78
1,4-Dichlorobenzene	-	< 0.40	< 0.40	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84
Benzene	-	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41
Chlorobenzene	-	< 0.40	< 0.40	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75
Chloroethane	10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
cis-1,2-Dichloroethene	10	< 0.40	< 0.40	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 1.0	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81
Ethylbenzene	5	< 0.40	< 0.40	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	-	< 0.40	< 0.40	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76
Tetrachloroethene	10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 1.0	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
Toluene	5	< 0.60	< 0.60	< 0.60	< 0.60	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51
trans-1,2-Dichloroethene	10	< 0.42	< 0.42	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90
Trichloroethene	10	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 1.0	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46
Vinyl Chloride	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total	15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (µg/L)	CB-3																						
		1/12/2010	4/7/2010	7/8/2010	12/22/2010	2/23/2011	4/5/2011	7/7/2011	10/11/2011	1/26/2012	4/5/2012	7/12/2012	10/16/2012	1/15/2013	4/24/2013	7/11/2013	10/22/2013	3/19/2014 [3]	4/3/2014	7/10/2014	10/9/2014	1/9/2015	4/15/2015	7/8/2015
1,1,1-Trichloroethane	10	< 0.40	< 0.40	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82
1,1-Dichloroethane	10	< 0.75	< 0.75	**0.85**	< 0.75	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	**0.64**	< 0.38	< 0.38	< 0.38	**0.42 J**	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38
1,2-Dichlorobenzene	10	< 0.50	< 0.50	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
1,3-Dichlorobenzene	-	< 0.40	< 0.40	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78
1,4-Dichlorobenzene	-	< 0.40	< 0.40	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 0.84	< 0.84	< 0.84	< 0.84	< 0.84
Benzene	-	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 0.41	< 0.41	< 0.41	< 0.41	< 0.41
Chlorobenzene	-	< 0.40	< 0.40	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 0.75	< 0.75	< 0.75	< 0.75	< 0.75
Chloroethane	10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 0.32	< 0.32	< 0.32	< 0.32	< 0.32
cis-1,2-Dichloroethene	10	< 0.40	< 0.40	**1.9**	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 1.0	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81
Ethylbenzene	5	< 0.40	< 0.40	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 0.74	< 0.74	< 0.74	< 0.74	< 0.74
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	-	< 0.40	< 0.40	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 0.76	< 0.76	< 0.76	< 0.76	< 0.76
Tetrachloroethene	10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.36	**0.51**	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36	**0.83**	< 1.0	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
Toluene	5	< 0.60	< 0.60	< 0.60	< 0.60	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51
trans-1,2-Dichloroethene	10	< 0.42	< 0.42	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90
Trichloroethene	10	< 0.46	< 0.46	**0.69**	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46	**0.47**	< 0.46	< 0.46	< 0.46	< 1.0	< 0.46	< 0.46	< 0.46	< 0.46	< 0.46
Vinyl Chloride	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.90	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0*
Xylenes, total	15	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:

1. Analyzed using United States Environmental Protection Agency (USEPA) Method 8260.
2. **BOLD** indicates concentrations above method detection limits.
3. Q1 2014 sampling delayed until March due to frozen conditions and lack of fluid during February.
4. During the Q1 2016 event, a sample was unable to be collected at CB-2 due to frozen conditions and lack of fluid at the time of sampling; sampling delayed until the February 2016.
5. CB-1 was not sampled during the Q1 2018 event due to the catch basin was dry. A sample was collected on February 16, 2018.

Definitions:

< - less than laboratory detection limit listed
µg/L - micrograms per liter
* - RPD of the LCS and LCSD exceeds the control limits

Table B-4. Stormwater Analytical Sampling Results
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (µg/L)		CB-1																		
		10/5/2015	1/7/2016	4/6/2016	7/12/2016	10/10/2016	1/11/2017	4/13/2017	7/20/2017	10/4/2017	2/16/2018[5]	4/2/2018	7/10/2018	10/10/2018	1/2/2019	4/3/2019	7/8/2019	10/2/2019	1/21/2020	4/7/2020	7/7/2020	10/5/2020
1,1,1-Trichloroethane	10	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	10	< 0.38	< 0.38	< 0.38	< 0.38	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	10	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	-	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	-	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	-	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	-	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	10	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	10	< 0.81	< 0.81	< 0.81	< 0.81	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	5	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene	-	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	10	< 0.36	< 0.36	< 0.36	< 0.36	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	5	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	10	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	10	< 0.46	< 0.46	< 0.46	< 0.46	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total	15	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (µg/L)		CB-2																		
		10/5/2015	2/3/2016 [4]	4/6/2016	7/12/2016	10/10/2016	1/11/2017	4/13/2017	7/20/2017	10/4/2017	1/3/2018	4/2/2018	7/10/2018	10/10/2018	1/2/2019	4/3/2019	7/8/2019	10/2/2019	1/21/2020	4/7/2020	7/7/2020	10/5/2020
1,1,1-Trichloroethane	10	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	10	< 0.38	< 0.38	< 0.38	< 0.38	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	10	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	-	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	-	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	-	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	-	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	10	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	10	< 0.81	< 0.81	< 0.81	< 0.81	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	5	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene	-	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	10	< 0.36	< 0.36	< 0.36	< 0.36	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	5	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	10	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	10	< 0.46	< 0.46	< 0.46	< 0.46	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total	15	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	<2.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Volatile Organic[1] Compounds (µg/L)	SPDES Effluent Limitations (µg/L)		CB-3																		
		10/5/2015	1/7/2016	4/6/2016	7/12/2016	10/10/2016	1/11/2017	4/13/2017	7/20/2017	10/4/2017	1/3/2018	4/2/2018	7/10/2018	10/10/2018	1/2/2019	4/3/2019	7/8/2019	10/2/2019	1/21/2020	4/7/2020	7/7/2020	10/5/2020
1,1,1-Trichloroethane	10	< 0.82	< 0.82	< 0.82	< 0.82	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	10	< 0.38	< 0.38	< 0.38	< 0.38	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	10	< 0.79	< 0.79	< 0.79	< 0.79	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	-	< 0.78	< 0.78	< 0.78	< 0.78	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	-	< 0.84	< 0.84	< 0.84	< 0.84	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	-	< 0.41	< 0.41	< 0.41	< 0.41	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	-	< 0.75	< 0.75	< 0.75	< 0.75	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	10	< 0.32	< 0.32	< 0.32	< 0.32	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	10	< 0.81	< 0.81	< 0.81	< 0.81	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	5	< 0.74	< 0.74	< 0.74	< 0.74	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m-Xylene & p-Xylene	-	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
o-Xylene	-	< 0.76	< 0.76	< 0.76	< 0.76	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	10	< 0.36	< 0.36	< 0.36	< 0.36	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	5	< 0.51	< 0.51	< 0.51	< 0.51	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	10	< 0.90	< 0.90	< 0.90	< 0.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	10	< 0.46	< 0.46	< 0.46	< 0.46	< 1.0	**4.2**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Xylenes, total	15	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

Notes:

1. Analyzed using United States Environmental Protection Agency (USEPA) Method 8260.
2. **BOLD** indicates concentrations above method detection limits.
3. Q1 2014 sampling delayed until March due to frozen conditions and lack of fluid during February.
4. During the Q1 2016 event, a sample was unable to be collected at CB-2 due to frozen conditions and lack of fluid at the time of sampling; sampling delayed until the February 2016.
5. CB-1 was not sampled during the Q1 2018 event due to the catch basin was dry. A sample was collected on February 16, 2018.

Definitions:

< - less than laboratory detection limit listed
µg/L - micrograms per liter
* - RPD of the LCS and LCSD exceeds the control limits

Table B-5. Groundwater Collection and Treatment System Flowrates
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Cumulative			MH-1			MH-2			MH-3			Air Stripper Parameters		
	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Average Sump Pressure (in. W.C.)	Differential Pressure (in. W.C.)	Vapor Phase Flowrate (scfm)[5]
1/8/2009	51,642,496	547,845	10.3	43,857,473	468,600	8.8	7,785,023	79,245	1.5	-	-	-	14.0	1.0	1,398
2/5/2009	51,882,819	240,323	6.0	44,074,280	216,807	5.4	7,808,539	23,516	0.6	-	-	-	14.0	1.0	1,398
3/4/2009	52,290,566	407,747	10.5	44,426,462	352,182	9.1	7,864,104	55,565	1.4	-	-	-	15.0	1.0	1,398
4/1/2009	52,820,498	529,932	13.1	44,879,781	453,319	11.2	7,940,717	76,613	1.9	-	-	-	14.0	1.0	1,398
5/5/2009	53,224,271	403,773	8.2	45,236,249	356,468	7.3	7,988,022	47,305	1.0	-	-	-	14.0	1.0	1,398
6/2/2009	53,499,861	275,590	6.8	45,470,774	234,525	5.8	8,029,087	41,065	1.0	-	-	-	15.0	1.5	1,712
7/1/2009	53,736,159	236,298	5.7	45,666,782	196,008	4.7	8,069,377	40,290	1.0	-	-	-	15.0	1.5	1,712
8/14/2009	54,078,743	342,584	5.4	45,940,852	274,070	4.3	8,137,891	68,514	1.1	-	-	-	14.0	1.5	1,712
9/4/2009	54,230,373	151,630	5.0	46,060,707	119,855	4.0	8,169,666	31,775	1.1	-	-	-	14.0	1.5	1,712
10/9/2009	54,512,663	282,290	5.6	46,289,841	229,134	4.5	8,222,822	53,156	1.1	-	-	-	14.5	1.0	1,398
11/4/2009	54,750,788	238,125	6.4	46,494,959	205,118	5.5	8,255,829	33,007	0.9	-	-	-	14.5	1.0	1,398
12/11/2009	55,029,188	278,400	5.2	46,722,959	228,000	4.3	8,306,229	50,400	0.9	-	-	-	14.0	1.3	1,594
2009 Totals[1]	-	**3,934,537**	**7.3**	-	**3,334,086**	**6.2**	-	**600,451**	**1.1**	-	-	-	**14.3**	**1.2**	**1,519**
1/12/2010	55,368,138	338,950	7.4	47,041,049	318,090	6.9	8,327,089	20,860	0.5	-	-	-	18.0	1.2	1,531
2/3/2010	55,615,048	246,910	7.8	47,254,345	213,296	6.7	8,360,703	33,614	1.1	-	-	-	24.0	1.0	1,398
3/3/2010	55,830,985	215,937	5.4	47,442,614	188,269	4.7	8,388,371	27,668	0.7	-	-	-	11.0	1.7	1,823
4/7/2010	56,443,357	612,372	12.2	47,970,713	528,099	10.5	8,472,644	84,273	1.7	-	-	-	12.0	1.5	1,712
5/5/2010	56,705,454	262,097	6.5	48,202,863	232,150	5.8	8,502,591	29,947	0.7	-	-	-	17.5	2.7	2,297
6/3/2010	56,921,019	215,565	5.2	48,388,351	185,488	4.4	8,532,668	30,077	0.7	-	-	-	16.1	2.7	2,297
7/7/2010	57,256,158	335,139	6.8	48,646,601	258,250	5.3	8,609,557	76,889	1.6	-	-	-	15.5	2.4	2,166
8/5/2010	57,518,041	261,883	6.3	48,863,064	216,463	5.2	8,654,977	45,420	1.1	-	-	-	15.9	2.2	2,073
9/7/2010	57,797,649	279,608	5.9	49,095,255	232,191	4.9	8,702,394	47,417	1.0	-	-	-	18.5	1.9	1,927
10/5/2010	58,082,548	284,899	7.1	49,327,736	232,481	5.8	8,754,812	52,418	1.3	-	-	-	17.0	2.0	1,977
11/2/2010	58,456,895	374,347	9.3	49,643,060	315,324	7.8	8,813,835	59,023	1.5	-	-	-	22.0	0.9	1,289
12/22/2010	59,009,574	552,679	7.7	50,101,316	458,256	6.4	8,908,258	94,423	1.3	-	-	-	17.0	NA[2]	NA[2]
2010 Totals[2]	-	**3,980,386**	**7.4**	-	**3,378,357**	**6.2**	-	**602,029**	**1.1**	-	-	-	**17.0**	**1.8**	**1,863**
1/28/2011	59,088,966	79,392	1.5	50,142,913	41,597	0.8	8,930,851	22,593	0.4	15,202	-	-	25.9	-	718
2/23/2011	59,483,460	394,494	10.5	50,432,263	289,350	7.7	8,976,813	45,962	1.2	74,384	59182.0	1.6	26.0	-	742
3/22/2011	60,118,863	635,403	16.3	50,940,888	508,625	13.1	9,102,550	125,737	3.2	75,425	1041.0	0.0	26.2	-	681
4/5/2011	60,264,174	145,311	7.2	51,085,909	145,021	7.2	9,102,790	240	0.0	75,475	50	0.0	29.0	-	663
5/12/2011	61,189,715	925,541	17.4	51,609,588	523,679	9.8	9,161,683	58,893	1.1	418,444	342,969	9.2	26.5	-	553
6/2/2011	61,557,472	367,757	12.2	51,834,699	225,111	7.4	9,189,679	27,996	0.9	533,094	114,650	2.9	26.5	-	618
7/7/2011	61,975,516	418,044	8.3	52,075,707	241,008	4.8	9,227,668	37,989	0.8	672,141	139,047	2.8	25.2	-	636
8/11/2011	62,296,730	321,214	6.4	52,243,445	167,738	3.3	9,265,879	38,211	0.8	787,406	115,265	2.3	26.5	-	651
9/8/2011	62,817,398	520,668	12.9	52,508,569	265,124	6.6	9,342,539	76,660	1.9	966,290	178,884	4.4	28.5	-	609
10/11/2011	63,444,585	627,187	13.2	52,883,146	374,577	7.9	9,400,121	57,582	1.2	1,161,318	195,028	4.1	27.0	-	715
11/1/2011	63,764,975	320,390	10.6	53,071,145	187,999	6.2	9,435,095	34,974	1.2	1,258,735	97,417	3.2	27.0	-	784
12/1/2011	64,185,589	420,614	9.7	53,345,456	274,311	6.3	9,469,773	34,678	0.8	1,370,360	111,625	2.6	27.0	-	739
2011 Totals[2][6]	-	**5,176,015**	**10.4**	-	**3,244,140**	**6.5**	-	**561,515**	**1.1**	-	**1,355,158**	**2.7**	**26.8**	-	**676**
1/27/2012	64,972,202	786,613	9.6	53,871,038	525,582	6.4	9,542,467	72,694	0.9	1,558,697	188,337	2.3	32.2	-	745
2/9/2012	65,195,486	223,284	11.9	54,009,006	137,968	7.4	9,573,810	31,343	1.7	1,612,670	53,973	2.9	29.0	-	787
3/1/2012	65,448,455	252,969	8.4	54,180,412	171,406	5.7	9,596,526	22,716	0.8	1,671,517	58,847	1.9	29.0	-	766
First Quarter 2012	-	**1,262,866**	**9.6**	-	**834,956**	**6.4**	-	**126,753**	**1.0**	-	**301,157**	**2.3**	**30.1**	-	**766**
4/5/2012	65,853,255	404,800	8.0	54,447,552	267,140	5.3	9,635,004	38,478	0.8	1,770,699	99,182	2.0	27.0	-	740
5/1/2012	66,090,367	237,112	6.3	54,595,683	148,131	4.0	9,661,648	26,644	0.7	1,833,036	62,337	1.7	26.6	-	805
6/7/2012	66,591,098	500,731	9.4	54,904,479	308,796	5.8	9,710,985	49,337	0.9	1,975,634	142,598	2.7	27.4	-	752
Second Quarter 2012	-	**1,142,643**	**8.1**	-	**724,067**	**5.1**	-	**114,459**	**0.8**	-	**304,117**	**2.2**	**27.0**	-	**766**
7/12/2012	66,828,112	237,014	4.7	55,041,035	136,556	2.7	9,738,010	27,025	0.5	2,049,067	73,433	1.5	25.0	-	630
8/15/2012	67,068,471	240,359	4.9	55,163,445	122,410	2.5	9,766,492	28,482	0.6	2,138,534	89,467	1.8	27.7	-	701
9/11/2012	67,259,158	190,687	4.9	55,259,345	95,900	2.5	9,790,891	24,399	0.6	2,208,922	70,388	1.8	27.7	-	761
Third Quarter 2012	-	**668,060**	**4.8**	-	**354,866**	**2.6**	-	**79,906**	**0.6**	-	**233,288**	**1.7**	**26.8**	-	**697**
10/17/2012	67,568,957	309,799	6.0	55,424,161	164,816	3.2	9,830,240	39,349	0.8	2,314,556	105,634	2.0	26.2	-	677
11/8/2012	67,777,512	208,555	6.6	55,542,079	117,918	3.7	9,852,388	22,148	0.7	2,383,045	68,489	2.2	30.8	-	778
12/6/2012	67,979,019	201,507	5.0	55,665,689	123,610	3.1	9,874,745	22,357	0.6	2,438,585	55,540	1.4	29.3	-	934
Fourth Quarter 2012	-	**719,861**	**5.8**	-	**406,344**	**3.3**	-	**83,854**	**0.7**	-	**229,663**	**1.9**	**28.8**	-	**796**
2012 Totals	-	**3,793,430**	**7.1**	-	**2,320,233**	**4.3**	-	**404,972**	**0.8**	-	**1,068,225**	**2.0**	**28.2**	-	**756**
1/15/2013	68,601,819	622,800	10.8	56,064,192	398,503	6.9	9,937,367	62,622	1.1	2,600,260	161,675	2.8	29.6	-	830
2/7/2013	68,933,628	331,809	10.0	56,285,230	221,038	6.7	9,972,998	35,631	1.1	2,675,400	75,140	2.3	31.1	-	894
3/5/2013	69,250,256	316,628	8.5	56,490,599	205,369	5.5	10,000,253	27,255	0.7	2,759,404	84,004	2.2	28.7	-	836
First Quarter 2013	-	**1,271,237**	**9.9**	-	**824,910**	**6.4**	-	**125,508**	**1.0**	-	**320,819**	**2.5**	**29.8**	-	**853**
4/24/2013	69,990,978	740,722	10.3	56,960,249	469,650	6.5	10,083,948	83,695	1.2	2,946,781	187,377	2.6	27.7	-	715
5/9/2013	70,150,855	159,877	7.4	57,063,303	103,054	4.8	10,097,769	13,821	0.6	2,989,783	43,002	2.0	26.0	-	718
6/12/2013	70,634,036	483,181	9.9	57,352,931	289,628	5.9	10,154,228	56,459	1.2	3,126,877	137,094	2.8	25.5	-	635
Second Quarter 2013	-	**1,383,780**	**9.7**	-	**862,332**	**6.0**	-	**153,975**	**1.1**	-	**367,473**	**2.6**	**26.4**	-	**689**
7/11/2013	71,537,658	903,622	21.6	57,910,436	557,505	13.4	10,242,031	87,803	2.1	3,385,191	258,314	6.2	27.9	-	602
8/8/2013	71,875,374	337,716	8.4	58,109,657	199,221	4.9	10,279,795	37,764	0.9	3,485,922	100,731	2.5	28.0	-	633
9/10/2013	72,237,550	362,176	7.6	58,313,137	203,480	4.3	10,332,018	52,223	1.1	3,592,395	106,473	2.2	27.2	-	695
Third Quarter 2013	-	**1,603,514**	**12.4**	-	**960,206**	**7.4**	-	**177,790**	**1.4**	-	**465,518**	**3.6**	**27.7**	-	**643**
10/22/2013	72,683,219	445,669	7.4	58,574,976	261,839	4.3	10,387,447	55,429	0.9	3,720,796	128,401	2.1	28.0	-	763
11/5/2013	72,809,855	126,636	6.3	58,651,023	76,047	3.8	10,402,542	15,095	0.7	3,756,290	35,494	1.8	30.5	-	799
12/3/2013	73,139,690	329,835	8.2	58,855,332	204,309	5.1	10,439,113	36,571	0.9	3,845,245	88,955	2.2	31.0	-	702
Fourth Quarter 2013	-	**902,140**	**7.5**	-	**542,195**	**4.5**	-	**107,095**	**0.9**	-	**252,850**	**2.1**	**29.8**	-	**755**
2013 Totals	-	**5,160,671**	**9.9**	-	**3,189,643**	**6.1**	-	**564,368**	**1.1**	-	**1,406,660**	**2.7**	**28.4**	-	**735**
1/23/2014	73,923,345	783,655	10.7	59,358,620	503,288	6.9	10,527,204	88,091	1.2	4,037,521	192,276	2.6	32.4	-	771
2/6/2014	74,030,005	106,660	5.3	59,433,504	74,884	3.7	10,535,270	8,066	0.4	4,061,231	23,710	1.2	28.0	-	788
3/4/2014	74,323,569	293,564	7.8	59,644,595	211,091	5.6	10,556,036	20,766	0.6	4,122,938	61,707	1.6	28.0	-	848
First Quarter 2014	-	**1,183,879**	**9.0**	-	**789,263**	**6.0**	-	**116,923**	**0.9**	-	**277,693**	**2.1**	**29.5**	-	**802**
4/1/2014	74,817,439	493,870	12.2	59,967,227	322,632	8.0	10,598,933	42,897	1.1	4,251,279	128,341	3.2	27.0	-	821
5/5/2014	75,502,123	684,684	14.0	60,390,981	423,754	8.7	10,663,846	64,913	1.3	4,447,296	196,017	4.0	27.0	-	715
6/13/2014	76,112,994	610,871	10.9	60,788,558	397,577	7.1	10,724,198	60,352	1.1	4,600,238	152,942	2.7	25.5	-	656
Second Quarter 2014	-	**1,789,425**	**12.3**	-	**1,143,963**	**7.9**	-	**168,162**	**1.2**	-	**477,300**	**3.3**	**26.5**	-	**730**
7/8/2014	76,499,000	386,006	10.7	61,018,320	229,762	6.4	10,762,606	38,408	1.1	4,718,074	117,836	3.3	26.7	-	633
8/7/2014	76,854,057	355,057	8.2	61,236,646	218,326	5.1	10,792,351	29,745	0.7	4,825,060	106,986	2.5	26.4	-	630
9/3/2014	77,169,456	315,399	8.1	61,421,404	184,758	4.8	10,822,990	30,639	0.8	4,925,062	100,002	2.6	28.1	-	609
Third Quarter 2014	-	**1,056,462**	**8.9**	-	**632,846**	**5.4**	-	**98,792**	**0.8**	-	**324,824**	**2.8**	**27.1**	-	**624**
10/7/2014	77,458,482	289,026	5.9	61,596,858	175,454	3.6	10,850,636	27,646	0.6	5,010,988	85,926	1.8	26.0	-	563
11/5/2014	77,796,601	338,119	8.1	61,802,713	205,855	4.9	10,885,790	35,154	0.8	5,108,098	97,110	2.3	28.0	-	637

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Table B-5. Groundwater Collection and Treatment System Flowrates
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Cumulative			MH-1			MH-2			MH-3			Air Stripper Parameters		
	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Average Sump Pressure (in. W.C.)	Differential Pressure (in. W.C.)	Vapor Phase Flowrate (scfm)[3]
12/3/2014	78,138,217	341,616	8.5	62,013,010	210,297	5.2	10,915,655	29,865	0.7	5,209,552	101,454	2.5	29.0	-	674
Fourth Quarter 2014	-	**968,761**	**7.4**	-	**591,606**	**4.5**	-	**92,665**	**0.7**	-	**284,490**	**2.2**	**27.7**	-	**625**
2014 YTD Totals	-	**4,998,527**	**9.5**	-	**3,157,678**	**6.0**	-	**476,542**	**0.9**	-	**1,364,307**	**2.6**	**27.7**	-	**695**
1/8/2015	78,826,464	688,247	13.3	62,453,076	440,066	8.5	10,976,435	60,780	1.2	5,396,953	187,401	3.6	24.5	-	788
2/6/2015	79,019,235	192,771	4.6	62,573,015	119,939	2.9	10,992,124	15,689	0.4	5,454,096	57,143	1.4	28.0	-	826
3/4/2015	79,107,280	88,045	2.4	62,634,843	61,828	1.7	10,998,307	6,183	0.2	5,474,130	20,034	0.5	25.0	-	709
First Quarter 2015	-	**969,063**	**7.4**	-	**621,833**	**4.7**	-	**82,652**	**0.6**	-	**264,578**	**2.0**	**25.8**	-	**774**
4/15/2015	79,745,795	638,515	10.6	63,030,148	395,305	6.5	11,064,065	65,758	1.1	5,651,582	177,452	2.9	29.2	-	690
5/7/2015	79,994,824	249,029	7.9	63,181,925	151,777	4.8	11,081,175	17,110	0.5	5,731,724	80,142	2.5	27.4	-	630
6/17/2015	80,425,499	430,675	7.3	63,434,676	252,751	4.3	11,117,190	36,015	0.6	5,873,633	141,909	2.4	28.0	-	633
Second Quarter 2015	-	**1,318,219**	**8.7**	-	**799,833**	**5.3**	-	**118,883**	**0.8**	-	**399,503**	**2.6**	**28.2**	-	**651**
7/8/2015	80,689,725	264,226	8.7	63,587,536	152,860	5.1	11,137,505	20,315	0.7	5,964,684	91,051	3.0	24.9	-	698
8/5/2015	80,899,820	210,095	5.2	63,701,711	114,175	2.8	11,155,507	18,002	0.4	6,042,602	77,918	1.9	28.1	-	*****
9/8/2015	81,113,844	214,024	4.4	63,807,588	105,877	2.2	11,177,326	21,819	0.4	6,128,930	86,328	1.8	28.8	-	624
Third Quarter 2015	-	**688,345**	**5.8**	-	**372,912**	**3.1**	-	**60,136**	**0.5**	-	**255,297**	**2.1**	**27.3**	-	**661**
10/5/2015	81,296,488	182,644	4.7	63,895,238	87,650	2.3	11,195,462	18,136	0.5	6,205,788	76,858	2.0	28.2	-	583
11/4/2015	81,556,697	260,209	6.0	64,032,554	137,316	3.2	11,220,155	24,693	0.6	6,303,988	98,200	2.3	27.4	-	617
12/2/2015	81,720,805	164,108	4.1	64,125,208	92,654	2.3	11,236,147	15,992	0.4	6,359,450	55,462	1.4	28.3	-	635
Fourth Quarter 2015	-	**606,961**	**5.0**	-	**317,620**	**2.6**	-	**58,821**	**0.5**	-	**230,520**	**1.9**	**28.0**	-	**612**
2015 Totals	-	**3,582,588**	**6.8**	-	**2,112,198**	**4.0**	-	**320,492**	**0.6**	-	**1,149,898**	**2.2**	**27.3**	-	**676**
1/6/2016	82,163,529	442,724	8.8	64,383,362	258,154	5.1	11,274,369	38,222	0.8	6,505,798	146,348	2.9	31.2	-	665
2/3/2016	82,436,591	273,062	6.8	64,548,755	165,393	4.1	11,294,801	20,432	0.5	6,593,035	87,237	2.2	29.6	-	643
3/1/2016	82,816,671	380,080	9.8	64,780,947	232,192	6.0	11,329,895	35,094	0.9	6,705,829	112,794	2.9	29.3	-	652
First Quarter 2016	-	**1,095,866**	**8.5**	-	**655,739**	**5.1**	-	**93,748**	**0.7**	-	**346,379**	**2.7**	**30.0**	-	**653**
4/5/2016	83,210,705	394,034	7.8	65,019,475	238,528	4.7	11,359,312	29,417	0.6	6,831,918	126,089	2.5	29.6	-	669
5/5/2016	83,575,267	364,562	8.4	65,236,163	216,688	5.0	11,382,881	23,569	0.5	6,956,223	124,305	2.9	29.4	-	534
6/2/2016	83,775,831	200,564	5.0	65,358,429	122,266	3.0	11,395,227	12,346	0.3	7,022,175	65,952	1.6	27.9	-	532
Second Quarter 2016	-	**959,160**	**7.2**	-	**577,482**	**4.3**	-	**65,332**	**0.5**	-	**316,346**	**2.4**	**29.0**	-	**578**
7/11/2016	84,058,311	282,480	5.0	65,513,983	155,554	2.8	11,418,877	23,650	0.4	7,125,451	103,276	1.8	28.9	-	483
8/4/2016	84,214,535	156,224	4.5	65,594,475	80,492	2.3	11,432,336	13,459	0.4	7,187,724	62,273	1.8	30.8	-	393
9/8/2016	84,470,130	255,595	5.1	65,723,058	128,583	2.6	11,454,652	22,316	0.4	7,292,420	104,696	2.1	28.5	-	420
Third Quarter 2016	-	**694,299**	**4.9**	-	**364,629**	**2.6**	-	**59,425**	**0.4**	-	**270,245**	**1.9**	**29.4**	-	**432**
10/12/2016	84,621,773	151,643	3.1	65,799,367	76,309	1.6	11,468,981	14,329	0.3	7,353,425	61,005	1.2	28.0	-	624
11/2/2016	84,857,794	236,021	7.8	65,923,713	124,346	4.1	11,488,791	19,810	0.7	7,445,290	91,865	3.0	28.9	-	542
12/8/2016	85,247,552	389,758	7.5	66,141,675	217,962	4.2	11,519,088	30,297	0.6	7,586,789	141,499	2.7	28.2	-	625
Fourth Quarter 2016	-	**777,422**	**5.9**	-	**418,617**	**3.2**	-	**64,436**	**0.5**	-	**294,369**	**2.2**	**28.4**	-	**597**
2016 Totals	-	**3,526,747**	**6.6**	-	**2,016,467**	**3.8**	-	**282,941**	**0.5**	-	**1,227,339**	**2.3**	**29.2**	-	**565**
1/10/2017	85,655,101	407,549	8.6	66,399,192	257,517	5.4	11,548,086	28,998	0.6	7,707,823	121,034	2.5	27.4	-	673
2/3/2017	86,032,095	376,994	10.9	66,630,567	231,375	6.7	11,576,533	28,447	0.8	7,824,995	117,172	3.4	27.3	-	696
3/8/2017	86,498,236	466,141	9.8	66,922,839	292,272	6.2	11,611,576	35,043	0.7	7,963,821	138,826	2.9	27.8	-	741
First Quarter 2017	-	**1,250,684**	**9.7**	-	**781,164**	**6.0**	-	**92,488**	**0.7**	-	**377,032**	**2.9**	**27.5**	-	**703**
4/14/2017	87,309,563	811,327	15.2	67,377,757	454,918	8.5	11,662,978	51,402	1.0	8,268,828	305,007	5.7	27.8	-	741
5/20/2017	87,801,500	491,937	9.5	67,684,058	306,301	5.9	11,694,307	31,329	0.6	8,423,135	154,307	3.0	26.8	-	645
6/14/2017	88,174,877	373,377	10.4	67,919,666	235,608	6.5	11,720,778	26,471	0.7	8,534,433	111,298	3.1	29.5	-	482
Second Quarter 2017	-	**1,676,641**	**11.9**	-	**996,827**	**7.1**	-	**109,202**	**0.8**	-	**570,612**	**4.0**	**28.0**	-	**623**
7/20/2017	88,777,875	602,998	11.6	68,290,036	370,370	7.1	11,762,845	42,067	0.8	8,724,994	190,561	3.7	29.5	-	453
8/16/2017	89,001,219	223,344	5.7	68,418,933	128,897	3.3	11,775,955	13,110	0.3	8,806,331	81,337	2.1	30.3	-	437
9/10/2017	89,204,230	203,011	5.6	68,528,919	109,986	3.1	11,789,472	13,517	0.4	8,885,839	79,508	2.2	29.9	-	454
Third Quarter 2017	-	**1,029,353**	**8.1**	-	**609,253**	**4.8**	-	**68,694**	**0.5**	-	**351,406**	**2.8**	**29.9**	-	**448**
10/2/2017	89,315,626	111,396	3.5	68,588,663	59,744	1.9	11,796,455	6,983	0.2	8,930,508	44,669	1.4	29.9	-	502
11/7/2017	89,630,366	314,740	6.1	68,761,889	173,226	3.3	11,821,262	24,807	0.5	9,047,215	116,707	2.3	30.3	-	566
12/5/2017	89,904,027	273,661	6.8	68,922,424	160,535	4.0	11,836,464	15,202	0.4	9,145,139	97,924	2.4	30.2	-	658
Fourth Quarter 2017	-	**699,797**	**5.7**	-	**393,505**	**3.2**	-	**46,992**	**0.4**	-	**259,300**	**2.1**	**30.1**	-	**575**
2017 Totals	-	**4,656,475**	**8.9**	-	**2,780,749**	**5.3**	-	**317,376**	**0.6**	-	**1,558,350**	**3.0**	**28.9**	-	**587**

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Table B-5. Groundwater Collection and Treatment System Flowrates
Former Lockheed Martin French Road Facility, Utica, NY.

Date	Cumulative			MH-1			MH-2			MH-3			Air Stripper Parameters		
	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Permanent Flow (gallons) [5]	Flow Per Reporting Period (gallons)	Monthly Flowrate (gpm)	Average Sump Pressure (in. W.C.)	Differential Pressure (in. W.C.)	Vapor Phase Flowrate (scfm)[3]
1/3/2018	90,119,675	215,648	5.2	69,060,744	138,320	3.3	11,846,329	9,865	0.2	9,212,602	67,463	1.6	28.7	-	744
2/1/2018	90,456,279	336,604	8.1	69,274,746	214,002	5.1	11,870,653	24,324	0.6	9,310,880	98,278	2.4	29.8	-	639
3/1/2018	90,887,086	430,807	10.7	69,527,915	253,169	6.3	11,908,487	37,834	0.9	9,450,684	139,804	3.5	30.4	-	619
First Quarter 2018	-	**983,059**	**7.9**	-	**605,491**	**4.9**	-	**72,023**	**0.6**	-	**305,545**	**2.5**	**29.6**	-	**667**
4/2/2018	91,424,623	537,537	11.7	69,850,454	322,539	7.0	11,946,018	37,531	0.8	9,628,151	177,467	3.9	30.3	-	592
5/5/2018	91,854,034	429,411	9.0	70,114,793	264,339	5.6	11,969,659	23,641	0.5	9,769,582	141,431	3.0	28.8	-	532
6/3/2018	92,102,942	248,908	6.0	70,269,992	155,199	3.7	11,981,054	11,395	0.3	9,851,896	82,314	2.0	28.2	-	515
Second Quarter 2018	-	**1,215,856**	**9.0**	-	**742,077**	**5.5**	-	**72,567**	**0.5**	-	**401,212**	**3.0**	**29.1**	-	**547**
7/10/2018	92,313,602	210,660	4.0	70,391,431	121,439	2.3	11,990,769	9,715	0.2	9,931,402	79,506	1.5	28.2		489
8/6/2018	92,455,082	141,480	3.6	70,463,155	71,724	1.8	11,999,014	8,245	0.2	9,992,913	61,511	1.6	29.3		446
9/5/2018	92,648,233	193,151	4.5	70,559,880	96,725	2.2	12,011,835	12,821	0.3	10,076,518	83,605	1.9	30.4		434
Third Quarter 2018	-	**545,291**	**4.0**	-	**289,888**	**2.1**	-	**30,781**	**0.2**	-	**224,622**	**1.7**	**29.3**	-	**456**
10/10/2018	92,955,686	307,453	6.1	70,716,026	156,146	3.1	12,034,306	22,471	0.4	10,205,354	128,836	2.6	31.5		476
11/7/2018	93,327,050	371,364	9.2	70,902,324	186,298	4.6	12,095,011	60,705	1.5	10,329,715	124,361	3.1	32.9		503
12/6/2018	93,888,155	561,105	13.4	71,214,951	312,627	7.5	12,162,491	67,480	1.6	10,510,713	180,998	4.3	30.8		589
Fourth Quarter 2018	-	**1,239,922**	**9.4**	-	**655,071**	**4.9**	-	**150,656**	**1.1**	-	**434,195**	**3.3**	**31.7**	-	**523**
2018 Totals	-	**3,984,128**	**7.6**	-	**2,292,527**	**4.3**	-	**326,027**	**0.6**	-	**1,365,574**	**2.6**	**29.9**	-	**548**
1/3/2019	94,248,790	360,635	8.9	71,420,478	205,527	5.1	12,210,696	48,205	1.2	10,617,616	106,903	2.7	30.6	-	636
2/4/2019	94,640,606	391,816	8.5	71,649,864	229,386	5.0	12,262,191	51,495	1.1	10,728,551	110,935	2.4	30.7	-	626
3/5/2019	95,031,612	391,006	9.4	71,878,784	228,920	5.5	12,305,489	43,298	1.0	10,847,339	118,788	2.8	30.5	-	603
First Quarter 2019	-	**1,143,457**	**8.9**	-	**663,833**	**5.2**	-	**142,998**	**1.1**	-	**336,626**	**2.6**	**30.6**	-	**622**
4/1/2019	95,188,450	156,838	4.0	71,967,813	89,029	2.3	12,328,795	23,306	0.6	10,891,842	44,503	1.1	29.5	-	642
5/1/2019	95,637,515	449,065	10.4	72,246,695	278,882	6.5	12,368,605	39,810	0.9	11,022,215	130,373	3.0	30.5	-	573
6/4/2019	96,165,660	528,145	10.8	72,587,630	340,935	7.0	12,404,202	35,597	0.7	11,173,828	151,613	3.1	30.5	-	573
Second Quarter 2019	-	**1,134,048**	**8.7**	-	**708,846**	**5.4**	-	**98,713**	**0.8**	-	**326,489**	**2.5**	**30.1**	-	**596**
7/9/2019	96,505,104	339,444	6.7	72,808,655	221,025	4.4	12,428,866	24,664	0.5	11,267,583	93,755	1.9	27.1	-	500
8/5/2019	96,743,963	238,859	6.1	72,938,275	129,620	3.3	12,445,140	16,274	0.4	11,360,548	92,965	2.4	29.7	-	425
9/10/2019	97,052,126	308,163	5.9	73,109,779	171,504	3.3	12,468,348	23,208	0.4	11,473,999	113,451	2.2	29.0	-	501
Third Quarter 2019	-	**886,466**	**6.3**	-	**522,149**	**3.7**	-	**64,146**	**0.5**	-	**300,171**	**2.1**	**28.6**	-	**475**
10/1/2019	97,165,525	113,399	3.7	73,175,229	65,450	2.2	12,476,285	7,937	0.3	11,514,011	40,012	1.3	27.2		524
11/1/2019	97,614,733	449,208	10.1	73,438,751	263,522	5.9	12,501,168	24,883	0.6	11,674,814	160,803	3.6	31.4		508
12/3/2019	98,060,375	445,642	9.7	73,726,655	287,904	6.2	12,523,842	22,674	0.5	11,809,878	135,064	2.9	31.3		613
Fourth Quarter 2019	-	**1,008,249**	**8.3**	-	**616,876**	**5.1**	-	**55,494**	**0.5**	-	**335,879**	**2.8**	**30.0**	-	**549**
2019 Totals	-	**4,172,220**	**8.0**	-	**2,511,704**	**4.8**	-	**361,351**	**0.7**	-	**1,299,165**	**2.5**	**29.8**	-	**560**
1/20/2020	98,678,024	617,649	8.9	74,129,440	402,785	5.8	12,562,214	38,372	0.6	11,986,370	176,492	2.6	33.2	-	650
2/5/2020	98,818,685	140,661	6.1	74,224,613	95,173	4.1	12,569,144	6,930	0.3	12,024,928	38,558	1.7	26.0	-	575
3/4/2020	99,194,769	376,084	9.3	74,477,149	252,536	6.3	12,588,618	19,474	0.5	12,129,002	104,074	2.6	29.0	-	572
First Quarter 2020	-	**1,134,394**	**8.6**	-	**750,494**	**5.7**	-	**64,776**	**0.5**	-	**319,124**	**2.4**	**29.4**	-	**599**
4/6/2020	99,610,616	415,847	8.8	74,747,061	269,912	5.7	12,615,778	27,160	0.6	12,247,777	118,775	2.5	29.5	-	502
5/5/2020	99,886,908	276,292	6.6	74,958,600	211,539	5.1	12,628,657	12,879	0.3	12,299,651	51,874	1.2	29.0	-	541
6/1/2020	100,117,468	230,560	5.9	75,113,578	154,978	4.0	12,637,342	8,685	0.2	12,366,548	66,897	1.7	30.4	-	490
Second Quarter 2020	-	**922,699**	**5.5**	-	**636,429**	**3.8**	-	**48,724**	**0.3**	-	**237,546**	**1.4**	**29.6**	-	**511**
7/6/2020	100,295,012	177,544	3.5	75,222,126	108,548	2.2	12,650,787	13,445	0.3	12,422,099	55,551	1.1	27.8	-	475
8/3/2020	100,588,557	293,545	7.3	75,375,191	153,065	3.8	12,673,699	22,912	0.6	12,539,667	117,568	2.9	28.3	-	484
9/2/2020	100,850,462	261,905	6.1	75,519,456	144,265	3.3	12,691,864	18,165	0.4	12,639,142	99,475	2.3	28.7	-	509
Third Quarter 2020	-	**732,994**	**4.2**	-	**405,878**	**2.3**	-	**54,522**	**0.3**	-	**272,594**	**1.6**	**28.3**	-	**489**
10/5/2020	101,023,334	172,872	3.6	75,607,265	87,809	1.8	12,704,919	13,055	0.3	12,711,150	72,008	1.5	29.3	-	562
11/3/2020	101,213,201	189,867	4.5	75,713,066	105,801	2.5	12,709,041	4,122	0.1	12,791,094	79,944	1.9	31.6	-	542
12/2/2020	101,467,727	254,526	6.1	75,859,916	146,850	3.5	12,729,048	20,007	0.5	12,878,763	87,669	2.1	29.4	-	613
Fourth Quarter 2020	-	**617,265**	**4.7**	-	**340,460**	**2.6**	-	**37,184**	**0.3**	-	**239,621**	**1.8**	**30.1**	-	**572**
2020 Totals	-	**3,407,352**	**6.5**	-	**2,133,261**	**4.1**	-	**205,206**	**0.4**	-	**1,068,885**	**2.0**	**29.3**	-	**543**
Project Summary Totals	-	**50,373,076**	**8.1**	-	**32,471,043**	**5.2**	-	**5,023,270**	**0.8**	-	**12,863,561**	**2.1**	**27.5**	-	**745.9**

Notes:

1. 2009 Totals include data between 12/8/2008 and 12/11/2009.
2. Existing air stripper taken offline on 11/29/10 and temporary air stripper in operation through end of 2010 while system upgrades were being implemented. Current air stripper operated intermittently in January 2011 on the dates of 1/13, 1/14, 1/17, 1/18 and 1/20. Current air stripper brought online permanently in February 2011.
3. Prior to 2011, vapor phase flowrate calculated using the Air Velocity Measurement formula as provided in the Dwyer Instruments catalog. Differential pressure used in the blower intake pipe, and constants for temperature (70°F) and barometric pressure (29.92 in.Hg.) were assumed. Following the beginning of 2011, the vapor phase flowrate has been obtained from flow transmitter FT-106.
4. Manhole MH-2 offline for pump replacement from 3/22/11 to 4/20/11.
5. Data for Permanent Flow (gallons) retrieved from EOS Research ProView Totalizer Data File on PLC.
6. MH-3 April 14, 2017 Permanent flow was calculated using FT-102, FT-102 and FT-105 daily Totalizer data from ProView daily reports, due to a malfuctioning flow transmitter.

Definitions:

gpm - gallons per minute
In. W.C. - Inches of Water Column
cfm - cubic feet per minute
NA - Not applicable

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Table B-6. Vapor Phase Analytical Sampling Results
Former Lockheed Martin French Road Facility, Utica, NY.

| Volatile Organic[1] Compounds (µg/m³) | Pre-Carbon | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Post-Carbon | | | | | | | | | | | | | | | | | | |

Table B-6. Vapor Phase Analytical Sampling Results
Former Lockheed Martin French Road Facility, Utica, NY.

| Volatile Organics[1] Compounds (µg/m³) | Mid-Cotton | | |

Table B-6. Vapor Phase Analytical Sampling Results
Former Lockheed Martin French Road Facility, Utica, NY.

| Volatile Organics[1] Compounds (µg/m³) | Influent | | |

Table B-7. Summary of Estimated Air Stripper Emissions
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic Compounds[1]	AGC[2] (µg/m^3)	SGC[2] (µg/m^3)	Maximum Effluent Concentration (µg/m^3)[3]	1/28/2011 Result (µg/m3)	2/23/2011 Result (µg/m3)	4/4/2011 Result (µg/m3)	7/7/2011 Result (µg/m3)	10/12/2011 Result (µg/m3)	1/26/2012 Result (µg/m3)	4/5/2012 Result (µg/m3)	7/12/2012 Result (µg/m3)	10/17/2012 Result (µg/m3)	1/15/2013 Result (µg/m3)	4/24/2013 Result (µg/m3)	7/11/2013 Result (µg/m3)	10/23/2013 Result (µg/m3)
1,1,1-Trichloroethane	5,000	9,000	0.72	ND	ND	ND	ND	ND	ND	ND	ND	**0.72**	ND	ND	ND	ND
1,1-Dichloroethane	0.63	-	52	ND	ND	ND	ND	**17**	**2.4**	**0.82**	**12**	**35**	**4.6**	**1.7**	ND	**7.8**
1,1-Dichloroethene	200	-	0.85	ND	ND	ND	ND	ND	ND	ND	**0.64**	**0.69**	ND	ND	ND	ND
1,2,4-Trimethylbenzene	6	-	3.7	**1.5**	**3.7**	**1.3**	**3.3**	ND	ND	ND	**2.1**	**1.2**	**0.7**	**0.53**	ND	ND
1,3,5-Trimethylbenzene	6	-	1.4	**0.65 J**	**1.4**	**0.65 J**	**1.3**	ND	ND	ND	**0.95**	**0.75**	ND	ND	ND	ND
1,4-Dioxane	0.2	3,000	1.6	**1.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.5**
2,2,4-trimethylpentane	3,300	-	0.81	ND	**0.81**	ND	ND	ND	ND	ND	ND	ND	ND	**0.3**	ND	**0.23**
4-ethyltoluene	-	-	0.95	ND	**0.95**	**0.8**	**0.95**	ND	ND	ND	**0.6**	ND	ND	ND	ND	ND
Acetone	30,000	180,000	140	**100**	**27**	**8.5**	**6.2**	**4.4**	**5**	**3.9**	ND	**140**	**4**	**18**	ND	**15**
Benzene	0.13	1,300	2.1	**1.1**	**1.2**	ND	ND	ND	ND	ND	**0.49**	**0.36**	ND	**0.57**	ND	**0.33**
Carbon disulfide	700	6,200	18.5	ND	ND	ND	**0.47**	ND	ND	ND	**1.1**	**1.6**	ND	ND	ND	**0.41**
Chloroform	14.7	150	6	ND	ND	ND	ND	ND	ND	ND	**2.9**	**6**	ND	**0.26**	ND	**0.16**
Chloromethane	90	22,000	1.9	**1.3**	**0.8**	**0.94**	**1.2**	**0.92**	ND	**0.76**	ND	ND	ND	1.4	ND	**1.2**
cis-1,2-Dichloroethene	63	-	290	**9.7 J**	ND	ND	ND	**32**	**12**	**5**	**54**	**290**	**34**	**23**	ND	**1.8**
Cyclohexane	6,000	-	2.1	ND	ND	ND	**0.66**	ND	ND	ND	ND	ND	ND	**2.1**	ND	**0.17**
Ethylbenzene	1,000	-	2.4	**0.97**	**2.4**	**1.5**	**1.8**	ND	ND	ND	**1.3**	ND	ND	**0.67**	ND	**0.18**
Freon 11	5,000	9,000	12	ND	ND	ND	ND	ND	**1.4**	**0.63 J**	**12**	**3.2**	ND	**0.5**	ND	**2.5**
Freon 113	180,000	960,000	83	ND	ND	ND	ND	ND	**22**	ND	**9.7**	**83**	**1**	**0.63**	ND	**13**
Freon 12	12,000	-	4.3	**4.3**	**2.9**	**2.5**	**3.7**	**4.3**	**3.7**	**1.6**	ND	**3.2**	**2.7**	**3.1**	**2.4**	**2.3**
Freon 22	50,000	-	4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**4**	ND	**1.9**
Heptane	3,900	210,000	6.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.99**	ND	**0.52**
Hexane	700	-	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.95**	ND	**0.58**
Isopropyl alcohol	7,000	98,000	59.4	ND	**6.7**	**4.2**	ND	ND	ND	**1.3**	ND	**20**	**1.5**	**7.2**	ND	**6.7**
m&p-Xylene	100	22,000	9.9	**2.7**	**9.9**	**7.2**	**8.4**	ND	**1.3**	ND	**6**	**0.71**	**0.44**	**2.1**	ND	**0.57**
Methyl Butyl Ketone	30	4,000	0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.23**	ND	ND
Methyl Ethyl Ketone	5,000	13,000	22	**22**	ND	**2**	**1.9**	**1.5**	ND	ND	**0.99**	**0.72**	**0.63**	ND	ND	**7.4**
Methylene chloride	60	14,000	19.8	ND	**0.64**	**1.2**	**2.4**	**0.95**	**0.74**	**3.5**	**4.2**	**16**	**0.81**	**2.1**	**3.2**	ND
n-Butane	238,000	-	4.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**4.6**	ND	ND
o-Xylene	100	22,000	3.8	**0.88**	**3.8**	**1.8**	**2.5**	ND	ND	ND	**2.2**	ND	ND	**0.63**	ND	**0.21**
Styrene	1,000	17,000	0.65	**0.65**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.45**	ND	ND
Tetrachloroethylene	4	300	12.9	**1.9**	**0.83 J**	ND	ND	1.2	ND	**1**	ND	ND	ND	ND	ND	**0.16**
Tetrahydrofuran	350	30,000	110	**110**	**6.3**	**6**	**3.7**	**9.7**	**2.8**	**2.9**	**12**	**16**	**1.7**	**1.7**	ND	**6**
Toluene	5,000	37,000	13.9	**2.1**	**8.1**	**1.4**	**2.5**	**0.69**	**0.73**	**0.57**	**6.9**	**2.4**	ND	**4.1**	ND	**1.8**
trans-1,2-Dichloroethene	63	-	1.3	ND	ND	ND	ND	ND	ND	ND	ND	**1.3**	ND	**0.16**	ND	ND
Trichloroethene	0.2	20	21	**21**	ND	ND	ND	ND	ND	**1.4**	ND	**3.7**	ND	ND	ND	**0.35**
Vinyl chloride	0.11	180,000	3.7	ND	**2.1**	**1**	**3.2**	**3.7**	**2.7**	**1.1**	**3.5**	**2.2**	**1.6**	**1.1**	ND	**1.8**

Notes:

1. Volatile organic compounds shown are only those detected in effluent samples during 2011 through 2020.
2. AGC and SGC ambient exposure values obtained from NYSDEC DAR-1 AGC/SGC Tables, dated 7/14/2016.
3. Concentrations shown for each volatile organic compound are the maximum concentrations detected from 2011 through 2020.
4. Maximum emission rate calculated using the maximum vapor phase concentrations for each volatile organic compound and the average instantaneous vapor phase effluent flow rate (756 scfm) during 2012. Note that the system is not operated continuously, so the actual annual impact estimated in this table is calculated using a significantly higher volume of air than in actually emitted by the system.
5. Actual annual impact calculated by following procedures described in NYSDEC DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants (NYSDEC 1991). Note effective stack height of 28 feet.

Definitions:

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AGC - Annual Guideline Concentration (average based)
J - Indicates concentration is estimated
lb/day - pounds per day
ND - non-detect
Q - data qualifier
SGC - Short-term Guideline Concentration
µg/m^3 - micrograms per cubic meter

Table B-7. Summary of Estimated Air Stripper Emissions
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic Compounds[1]	AGC[2] (µg/m^3)	SGC[2] (µg/m^3)	Maximum Effluent Concentration (µg/m^3)[3]	2/7/2014 Result (µg/m3)	4/4/2014 Result (µg/m3)	7/10/2014 Result (µg/m3)	10/9/2014 Result (µg/m3)	1/8/2015 Result (µg/m3)	4/15/2015 Result (µg/m3)	7/8/2015 Result (µg/m3)	10/6/2015 Result (µg/m3)	1/7/2016 Result (µg/m3)	4/6/2016 Result (µg/m3)	7/13/2016 Result (µg/m3)	10/12/2016 Result (µg/m3)	1/11/2017 Result (µg/m3)	4/13/2017 Result (µg/m3)	7/20/2017 Result (µg/m3)	10/4/2017 Result (µg/m3)
1,1,1-Trichloroethane	5,000	9,000	0.72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.63	-	52	**1.6**	**1.3**	**17**	**52**	**3.5**	**2.6**	ND	ND	ND	**0.28 J**	**1.2**	**47**	ND	ND	ND	ND
1,1-Dichloroethene	200	-	0.85	ND	ND	**0.57 J**	**0.70 J**	ND	ND	ND	ND	ND	ND	ND	**0.85**	ND	ND	ND	ND
1,2,4-Trimethylbenzene	6	-	3.7	ND	ND	**0.37 J**	**0.37 J**	ND	**0.84 J**	**0.27 J**	**1.1**	ND	ND	ND	ND	ND	**2**	ND	ND
1,3,5-Trimethylbenzene	6	-	1.4	ND	ND	**0.11 J**	ND	ND	**0.35 J**	ND	**0.28 J**	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	0.2	3,000	1.6	ND	ND	ND	ND	ND	**1.4 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2,4-trimethylpentane	3,300	-	0.81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-ethyltoluene	-	-	0.95	ND	ND	**0.094 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	30,000	180,000	140	ND	**4.9 J**	**4.4 J**	ND	ND	**15**	**5.8 J**	**9.7 J**	ND	ND	**3.7 J**	**12**	**6.4**	**12.2**	**12.7**	**24.1**
Benzene	0.13	1,300	2.1	ND	ND	**0.094 J**	**0.13 J**	ND	**0.26 J**	ND	ND	ND	ND	ND	ND	ND	**1.6**	**1.4**	ND
Carbon disulfide	700	6,200	18.5	**18**	**0.32 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.3 J**	**18.5**	ND	**2.4**	ND
Chloroform	14.7	150	6	ND	ND	**0.47 J**	**1.4**	ND	ND	ND	ND	ND	ND	ND	**0.74 J**	ND	ND	ND	ND
Chloromethane	90	22,000	1.9	**1.4**	**1.2**	**1.2**	ND	ND	**1.3**	**1.2**	**1.1**	**1.2**	**1.1**	**0.80 J**	**1.3**	**0.72**	ND	**1.1**	**0.8**
cis-1,2-Dichloroethene	63	-	290	**5.5**	**2.0**	**30**	**130**	**31**	**23**	**0.30 J**	ND	ND	**0.76 J**	ND	**15**	ND	ND	ND	ND
Cyclohexane	6,000	-	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1,000	-	2.4	ND	**0.47 J**	**0.11 J**	ND	ND	**0.23 J**	**0.14 J**	**0.18 J**	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	5,000	9,000	12	**0.72 J**	**0.48 J**	**7.9**	**1.8**	ND	**0.48 J**	ND	**4.6**	ND	**0.45 J**	**2.0**	ND	ND	ND	ND	**4.4**
Freon 113	180,000	960,000	83	**0.45 J**	**0.36 J**	**42**	**59**	**0.94 J**	**0.75 J**	ND	**0.88 J**	ND	ND	ND	**71**	ND	ND	ND	ND
Freon 12	12,000	-	4.3	**2.8**	**2.7**	**2.7**	**3.3**	**2.9**	**2.6**	**2.4 J**	**2.8**	**2.0 J**	**2.5**	**1.7 J**	**2.6**	**2.2**	**3.2**	ND	**1.9**
Freon 22	50,000	-	4	**1.4 J**	**1.3 J**	**1.2 J**	**1.2 J**	**1.1 J**	**1.5 J**	**2.3**	**1.8**	**1.2 J**	**1.1 J**	**1.2 J**	**1.5 J**	ND	ND	ND	ND
Heptane	3,900	210,000	6.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.19 J**	ND	ND	ND	ND
Hexane	700	-	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.9**	**2.0**
Isopropyl alcohol	7,000	98,000	59.4	ND	**0.64 J**	**0.6 J**	ND	ND	**3.0 J**	**0.43 J**	ND	ND	ND	ND	ND	ND	**7.4**	ND	ND
m&p-Xylene	100	22,000	9.9	ND	**1.6 J**	**0.38 J**	**0.36 J**	ND	**0.81 J**	**0.50 J**	**0.66 J**	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Butyl Ketone	30	4,000	0.23	ND	ND	ND	ND	ND	ND	ND	**0.68 J**	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	5,000	13,000	22	ND	**0.99 J**	**2.6**	**4.1**	ND	**3.1**	**1.4 J**	**2.5**	ND	ND	**1.7**	**2.4**	ND	ND	ND	**11.6**
Methylene chloride	60	14,000	19.8	**3**	**0.74 J**	**1.4 J**	**1.3 J**	**0.83 J**	**3.2**	**1.9 B**	**1.3 J**	ND	**1.1 J**	**1.4 J**	ND	ND	**12.1**	**11.2**	**15.0**
n-Butane	238,000	-	4.7	**3.1**	**0.90 J**	**4.7**	ND	ND	**1.1 J**	ND	**3.2**	ND	**0.57 J**	**3.9**	**1.2**	ND	NS	NS	NS
o-Xylene	100	22,000	3.8	ND	**0.35 J**	**0.25 J**	**0.39 J**	ND	**0.69 J**	**0.24 J**	**0.46 J**	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	1,000	17,000	0.65	ND	ND	**0.17 J**	**0.22 J**	ND	**0.31 J**	**0.25 J**	**0.71 J**	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	4	300	12.9	ND	**0.20 J**	ND	**0.22 J**	ND	**0.40 J**	**0.63 J**	**0.76 J**	ND	ND	ND	**0.20 J**	**1.3**	ND	ND	ND
Tetrahydrofuran	350	30,000	110	**1.1 J**	ND	ND	**1.3 J**	ND	**1.7 J**	ND	ND	ND	ND	ND	ND	**3.8**	ND	**1.6**	**5.4**
Toluene	5,000	37,000	13.9	ND	**0.13 J**	**0.20 J**	**0.46 J**	ND	**0.44 J**	**0.28 J**	ND	ND	ND	ND	ND	ND	**1.6**	ND	**4.3**
trans-1,2-Dichloroethene	63	-	1.3	ND	ND	**0.32 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.2	20	21	ND	ND	ND	**0.21**	**0.2 J**	**0.53**	**0.43**	**0.79**	ND	**0.33**	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.11	180,000	3.7	**0.8**	**1.4**	**0.77**	**2.7**	**1.2**	**1.3**	**0.96**	**1.8**	**0.89**	**1.0**	**0.87**	**1.7**	**0.87**	ND	**0.75**	**0.62**

Notes:

1. Volatile organic compounds shown are only those detected in effluent samples during 2011 through 2020.
2. AGC and SGC ambient exposure values obtained from NYSDEC DAR-1 AGC/SGC Tables, dated 7/14/2016.
3. Concentrations shown for each volatile organic compound are the maximum concentrations detected from 2011 through 2020.
4. Maximum emission rate calculated using the maximum vapor phase concentrations for each volatile organic compound and the average instantaneous vapor phase effluent flow rate (756 scfm) during 2012. Note that the system is not operated continuously, so the actual annual impact estimated in this table is calculated using a significantly higher volume of air than in actually emitted by the system.
5. Actual annual impact calculated by following procedures described in NYSDEC DAR-1 Guidelines for the Control of Toxic Ambient Air Contaminants (NYSDEC 1991). Note effective stack height of 28 feet.

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SGC - Short-term Guideline Concentration
µg/m^3 - micrograms per cubic meter

Table B-7. Summary of Estimated Air Stripper Emissions
Former Lockheed Martin French Road Facility, Utica, NY.

Volatile Organic Compounds[1]	AGC[2] ($\mu g/m^3$)	SGC[2] ($\mu g/m^3$)	Maximum Effluent Concentration ($\mu g/m^3$)[3]	1/3/2018 Result ($\mu g/m3$)	4/2/2018 Result ($\mu g/m3$)	7/10/2018 Result ($\mu g/m3$)	10/10/2018 Result ($\mu g/m3$)	1/2/2019 Result ($\mu g/m3$)	4/2/2019 Result ($\mu g/m3$)	7/9/2019 Result ($\mu g/m3$)	10/1/2019 Result ($\mu g/m3$)	1/21/2020 Result ($\mu g/m3$)	4/8/2020 Result ($\mu g/m3$)	7/6/2020 Result ($\mu g/m3$)	10/5/2020 Result ($\mu g/m3$)	Maximum Emission Rate (lb/day)[4]	Actual Annual Impact ($\mu g/m^3$)[5]	Actual Annual Impact Percentage of AGC (%)
1,1,1-Trichloroethane	5,000	9,000	0.72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.88E-05	5.70E-05	0.00
1,1-Dichloroethane	0.63	-	52	ND	ND	**4.9**	ND	ND	ND	ND	**31.4**	ND	ND	ND	ND	3.53E-03	4.11E-03	0.65
1,1-Dichloroethene	200	-	0.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.76E-05	6.72E-05	0.00
1,2,4-Trimethylbenzene	6	-	3.7	ND	2.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.51E-04	3.05E-04	0.01
1,3,5-Trimethylbenzene	6	-	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.49E-05	1.15E-04	0.00
1,4-Dioxane	0.2	3,000	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.08E-04	1.32E-04	0.07
2,2,4-trimethylpentane	3,300	-	0.81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.49E-05	6.67E-05	0.00
4-ethyltoluene	-	-	0.95	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.44E-05	7.82E-05	-
Acetone	30,000	180,000	140	**113**	**10.1**	**23.3**	**7.4**	**11.3**	ND	**12.8**	**11.7**	**9.4**	ND	ND	ND	9.49E-03	1.15E-02	0.00
Benzene	0.13	1,300	2.1	ND	**2.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.42E-04	1.73E-04	0.13
Carbon disulfide	700	6,200	18.5	ND	**17.3**	ND	ND	ND	ND	ND	**1.7**	ND	ND	**13.4**	ND	1.25E-03	1.52E-03	0.00
Chloroform	14.7	150	6	ND	ND	ND	ND	ND	ND	ND	**2.5**	ND	ND	**1.3**	ND	4.07E-04	4.94E-04	0.00
Chloromethane	90	22,000	1.9	ND	**1.9**	**0.9**	**1.2**	ND	ND	**0.79**	**1.7**	**0.68 J**	**0.97**	**1.2**	ND	1.29E-04	1.56E-04	0.00
cis-1,2-Dichloroethene	63	-	290	ND	**1.6**	**9.1**	**5.1**	ND	ND	**0.55**	**8.5**	ND	ND	ND	ND	1.97E-02	2.39E-02	0.04
Cyclohexane	6,000	-	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.42E-04	1.73E-04	0.00
Ethylbenzene	1,000	-	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.63E-04	1.98E-04	0.00
Freon 11	5,000	9,000	12	ND	ND	**3**	ND	ND	ND	**2.2**	**6.0**	**1.5 J**	**2.8**	ND	**4.1**	8.14E-04	9.88E-04	0.00
Freon 113	180,000	960,000	83	ND	ND	ND	ND	ND	ND	ND	**63.8**	ND	ND	ND	ND	5.63E-03	6.83E-03	0.00
Freon 12	12,000	-	4.3	ND	**2.4**	**2.8**	**2.5**	**2.7**	**2.4**	**2.3**	**4.8**	**2.2 J**	ND	**4.8**	ND	2.92E-04	3.54E-04	0.00
Freon 22	50,000	-	4	ND	ND	ND	ND	ND	ND	**2.2**	ND	ND	ND	ND	ND	2.71E-04	3.29E-04	0.00
Heptane	3,900	210,000	6.3	**6.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.27E-04	5.19E-04	0.00
Hexane	700	-	2	**1.8**	ND	ND	ND	ND	ND	**0.90**	ND	ND	ND	ND	ND	1.36E-04	1.65E-04	0.00
Isopropyl alcohol	7,000	98,000	59.4	ND	ND	ND	ND	ND	ND	ND	**5.1**	**2.8 J**	**59.4**	ND	ND	4.03E-03	4.89E-03	0.00
m&p-Xylene	100	22,000	9.9	ND	**5.2**	ND	ND	**7**	ND	ND	ND	ND	ND	ND	ND	6.71E-04	8.15E-04	0.00
Methyl Butyl Ketone	30	4,000	0.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.56E-05	1.89E-05	0.00
Methyl Ethyl Ketone	5,000	13,000	22	ND	ND	ND	ND	ND	ND	**3.7**	ND	ND	ND	ND	ND	1.49E-03	1.81E-03	0.00
Methylene chloride	60	14,000	19.8	**9.6**	ND	ND	**8.5**	ND	ND	**19.8**	ND	ND	ND	ND	ND	1.34E-03	1.63E-03	0.00
n-Butane	238,000	-	4.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3.19E-04	3.87E-04	0.00
o-Xylene	100	22,000	3.8	ND	**1.7**	ND	ND	**2.1**	ND	ND	ND	ND	ND	ND	ND	2.58E-04	3.13E-04	0.00
Styrene	1,000	17,000	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.41E-05	5.35E-05	0.00
Tetrachloroethylene	4	300	12.9	ND	**3.4**	ND	ND	ND	ND	ND	ND	ND	**12.9**	ND	**4.6**	8.75E-04	1.06E-03	0.03
Tetrahydrofuran	350	30,000	110	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.46E-03	9.06E-03	0.00
Toluene	5,000	37,000	13.9	**13.9**	**6**	ND	ND	**7.9**	ND	ND	ND	ND	ND	**2.6**	ND	9.42E-04	1.14E-03	0.00
trans-1,2-Dichloroethene	63	-	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.81E-05	1.07E-04	0.00
Trichloroethene	0.2	20	21	ND	ND	ND	ND	ND	ND	ND	ND	**0.73 J**	ND	ND	ND	1.42E-03	1.73E-03	0.86
Vinyl chloride	0.11	180,000	3.7	ND	**0.83**	**0.79**	**1.3**	ND	**1.9**	ND	**1.9**	ND	**0.66**	**0.89**	ND	2.51E-04	3.05E-04	0.28

Notes:

1. Volatile organic compounds shown are only those detected in effluent samples during 2011 through 2019.
2. AGC and SGC ambient exposure values obtained from NYSDEC DAR-1 AGC/SGC Tables, dated 7/14/2016.
3. Concentrations shown for each volatile organic compound are the maximum concentrations detected from 2011 through 2019.
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SGC - Short-term Guideline Concentration
$\mu g/m^3$ - micrograms per cubic meter

Table B-8. Sequestering Agent Consumption Summary
Former Lockheed Martin French Road Facility, Utica, NY.

Chemical Name - ARIES 2908 ([1-Hydroxy-ethylidene] diphosphonic acid)
Chemical Specific Gravity - 1.04 to 1.09 1.065
Specific Weight of Water @ 60°F 8.3378 (lb/gallon)
Specific Weight of Chemical @ 60°F 8.8798 (lb/gallon)

Date	Drum #	Days	Volume in 30 Gallon Drum (gal.)	% Full	Δ Volume (gal.)	Δ Lbs	Consumption Rate (lbs/day)[1]	MH-1 Total Flow (gallons)	MH-2 Total Flow (gallons)	MH-3 Total Flow (gallons)	∑ Total Flows (gallons)	Δ Total Flow	Dose Rate This Period (ppm)[2]	Notes
4/20/2011	1	-	30	100%	-	-	-	51,271,950	9,102,881	224,649	60,599,480	-	-	Brought sequestering agent online for first time.
5/19/2011	1	29	18.5	62%	11.5	102.1	3.5	51,670,347	9,169,542	455,374	61,295,263	695,783	16.5	
6/2/2011	1	14	14.1	47%	4.4	39.1	2.8	51,837,640	9,189,887	534,242	61,561,769	266,506	16.5	
7/7/2011	1	35	12	40%	2.1	18.6	0.5	52,075,707	9,227,668	672,141	61,975,516	413,747	5.1	Under dosing due to CFP being offline due to noted past alarms.
8/11/2011	1	35	7	23%	5	44.4	1.3	52,243,445	9,265,879	787,928	62,297,252	321,736	15.5	
9/8/2011	1	28	0	0%	7	62.2	2.2	52,508,569	9,342,539	966,290	62,817,398	520,146	13.5	Drum #1 empty.
NEW DRUM ONLINE														
9/9/2011	2	-	30	100%	-	-	-	52,552,901	9,347,402	986,141	62,886,444	-	-	Brought Drum #2 online.
9/26/2011	2	17	26	87%	4	35.5	2.1	52,717,931	9,374,727	1,081,024	63,173,682	287,238	13.9	Low sequestering agent flow alarm occurs due to solidified chemical. See noted 3.
10/6/2011	2	10	26	87%	0	0.0	0.0	52,842,625	9,395,515	1,142,812	63,380,952	207,270	0.0	See Note 3.
NEW DRUM ONLINE														
10/6/2011	3	-	30	100%	-	-	-	52,842,625	9,395,515	1,142,812	63,380,952	-	-	Cleaned and inspected fittings/tubing; brought Drum #3 online.
11/1/2011	3	26	26	87%	4	35.5	1.4	53,071,145	9,435,095	1,258,735	63,764,975	384,023	10.4	Continue using 3rd drum.
12/1/2011	3	30	0	0%	26	230.9	7.7	53,349,688	9,469,794	1,371,989	64,191,471	426,496	61.0	3rd drum empty, reuse 2nd drum that was taken offline on 10/6/11
NEW/OLD DRUM ONLINE														
12/1/2011	2	-	26	87%	-	-	-	53,349,688	9,469,794	1,371,989	64,191,471	-	-	3rd drum empty, reuse 2nd drum that was taken offline on 10/6/11
12/22/2011	2		22	73%	4	35.5	1.7	53,525,286	9,491,900	1,437,180	64,454,366	262,895	15.2	
2011 Total	**-**	**246**	**-**	**-**	**68**	**603.8**	**-**	**-**	**-**	**-**	**-**	**3,854,886**	**17.6**	Through 12/22/2011
1/27/2012	2	36	15	50%	7	62.2	1.7	53,871,038	9,542,467	1,558,697	64,972,202	517,836	13.5	
2/9/2012	2	13	10	33%	5	44.4	3.4	54,009,006	9,573,810	1,612,670	65,195,486	223,284	22.4	
3/1/2012	2	21	7.5	25%	2.5	22.2	1.1	54,180,412	9,596,526	1,671,517	65,448,455	252,969	9.9	
4/5/2012	2	35	0	0%	7.5	66.6	1.9	54,447,552	9,635,004	1,770,699	65,853,255	404,800	18.5	Drum # 2 empty. Unmeasured volume of solidified chemical in bottom of drum; actual volume remaining greater than 0. Calculated dose rate assumes volume remaining of 0.
NEW DRUM OLINE														
4/5/2012	4	-	30	100%	-	-	-	54,447,552	9,635,004	1,770,699	65,853,255	-	-	Brought Drum #4 online.
5/1/2012	4	26	27.5	92%	2.5	22.2	0.9	54,595,683	9,661,648	1,833,036	66,090,367	237,112	10.5	Drum noted to be under vacuum due to changes in temperatures and not properly vented.
6/7/2012	4	37	18	60%	9.5	84.4	2.3	54,904,479	9,710,985	1,975,634	66,591,098	500,731	19.0	
7/12/2012	4	35	13.7	46%	4.3	38.2	1.1	55,041,035	9,738,010	2,049,067	66,828,112	237,014	18.1	
8/15/2012	4	34	9	30%	4.7	41.7	1.2	55,163,445	9,766,492	2,138,534	67,068,471	240,359	19.6	
9/11/2012	4	27	6	20%	3	26.6	1.0	55,259,345	9,790,891	2,208,922	67,259,158	190,687	15.7	
10/17/2012	4	36	0.5	2%	5.5	48.8	1.4	55,424,161	9,830,240	2,314,556	67,568,957	309,799	17.8	
10/19/2012	4	2	0	0%	0.5	4.4	2.2	55,441,907	9,832,600	2,326,244	67,600,751	31,794	15.7	
NEW DRUM ONLINE														
10/19/2012	5	-	30	100%	-	-	-	55,441,907	9,832,600	2,326,244	67,600,751	-	-	Brought Drum #5 online.
11/8/2012	5	20	27	90%	3	26.6	1.3	55,542,079	9,852,388	2,383,045	67,777,512	176,761	17.0	
12/6/2012	5	28	23	77%	4	35.5	1.3	55,665,689	9,874,745	2,438,585	67,979,019	201,507	19.9	
2012 Total	**-**	**350**	**-**	**-**	**59**	**523.9**	**-**	**-**	**-**	**-**	**-**	**3,524,653**	**16.7**	Through 12/6/2012
1/15/2013	5	40	12.5	42%	10.5	93.2	2.3	56,064,192	9,937,367	2,600,260	68,601,819	622,800	16.9	
2/7/2013	5	23	6	20%	6.5	57.7	2.5	56,285,230	9,972,998	2,675,400	68,933,628	331,809	19.6	Includes flow totals from loaner PLC from 2/6 through 2/11.
3/5/2013	5	26	0	0%	6	53.3	2.0	56,492,292	10,000,253	2,759,940	69,252,485	318,857	18.8	
NEW DRUM ONLINE														
3/5/2013	6	-	29	97%	-	-	-	56,490,599	10,000,253	2,759,940	69,250,792	-	-	Brought Drum #6 online. New drum starting only with 29 gallons. Flow monitoring device in fault mode (FA-200), which turns off the CFP.
3/22/2013	6	17	29	97%	0	0.0	0.0	56,582,710	10,017,495	2,798,316	69,398,521	147,729	0.0	FA-200 fault cleared locally, CFP resumed sequestering agent dosing.
4/24/2013	6	33	18.7	62%	10.3	91.5	2.8	56,960,249	10,083,948	2,946,781	69,990,978	592,457	17.4	
5/9/2013	6	15	15	50%	3.7	32.9	2.2	57,068,038	10,097,769	2,991,283	70,157,090	166,112	22.3	
6/7/2013	6	29	7	23%	8	71.0	2.4	57,299,819	10,144,690	3,098,532	70,543,041	385,951	20.7	Stroke length on CFP reduced from 100% to 85%
6/12/2013	6	5	5	17%	2	17.8	3.6	57,352,931	10,154,228	3,126,877	70,634,036	90,995	22.0	
6/25/2013	6	13	0	0%	5	44.4	3.4	57,552,196	10,187,599	3,219,750	70,959,545	325,509	15.4	
NEW DRUM ONLINE														
6/26/2013	7	-	29	97%	-	-	-	57,584,303	10,192,884	3,234,698	71,011,885	-	-	Drum #7 (29 gallons) put into service.
7/11/2013	7	15	20.9	70%	8.1	72.0	4.8	57,900,710	10,241,119	3,380,560	71,522,389	510,504	15.9	
8/8/2013	7	28	15.5	52%	5.4	47.6	1.7	58,109,657	10,279,795	3,485,922	71,875,374	352,985	15.2	
9/10/2013	7	33	9.6	32%	5.9	52.3	1.6	58,313,137	10,332,018	3,592,395	72,237,550	362,176	16.3	
10/22/2013	7	42	3.2	11%	6.4	57.1	1.4	58,574,976	10,387,447	3,720,796	72,683,219	445,669	14.4	
11/5/2013	7	14	1.6	5%	1.6	14.3	1.0	58,651,023	10,402,542	3,756,290	72,809,855	126,636	12.7	
11/14/2013	7	9	0.0	0%	1.6	14.3	1.6	58,715,549	10,412,625	3,785,392	72,913,566	103,711	15.5	
NEW DRUM ONLINE														
11/14/2013	8	-	30	100%	-	-	-	58,715,549	10,412,625	3,785,392	72,913,566	-	-	Drum #8 (30 gallons) put into service.
12/3/2013	8	19	27.1	90%	2.9	25.5	1.3	58,855,332	10,439,113	3,845,245	73,139,690	226,124	12.7	
2013 Total	**-**	**362**	**-**	**-**	**83.875**	**540.6**	**-**	**-**	**-**	**-**	**-**	**5,160,671**	**16.3**	Through 12/3/2013
1/23/2014	8	51	23.5	78%	3.6	32.2	0.6	59,358,620	10,527,204	4,037,521	73,923,345	783,655	4.6	It should be noted that the chemical feed pump's return 3-way valve was partially open to the return feed position, thereby allowing a portion of the sequestering agent to be returned to the drum, and not into the AS influent manifold. The 3-way valve was adjusted so that all of the flow would be redirected to the AS influent manifold
2/6/2014	8	-	30	100%	-	-	-	59,433,504	10,535,270	4,061,231	74,030,005	-	-	Product recovered from partially empty drum.
3/4/2014	8	26	25.8	86%	4.20	37.3	1.4	59,644,595	10,556,036	4,122,938	74,323,569	293,564	14.3	
4/1/2014	8	28	16	53%	9.80	87.0	3.1	59,967,227	10,598,933	4,251,279	74,817,439	493,870	19.8	
5/5/2014	8	34	4	13%	12.00	106.6	3.1	60,390,981	10,663,846	4,447,296	75,502,123	684,684	17.5	
NEW DRUM ONLINE														
5/5/2014	9	-	32	107%	-	-	-	60,390,981	10,663,846	4,447,296	75,502,123	-	-	
6/13/2014	9	39	21	70%	11.00	97.7	2.5	60,788,558	10,724,198	4,600,238	76,112,994	610,871	18.0	
7/7/2014	9	24	13.5	45%	7.50	66.6	2.8	61,011,389	10,760,338	4,714,103	76,485,830	372,836	20.1	
7/8/2014	9	1	19	63%	-	-	-	61,018,320	10,762,606	4,718,074	76,499,000	-	-	Recovered 5.5 gallons of sequesturing agent from previous drums.
8/7/2014	9	30	19	63%	0.00	0.0	0.0	61,236,646	10,792,351	4,825,060	76,854,057	355,057	0.0	Low sequestering agent flow alarm occurred on 8/2/14. See alarm log.
9/3/2014	9	27	13	43%	6.00	53.3	2.0	61,421,404	10,822,990	4,925,062	77,169,456	315,399	19.0	
10/7/2014	9	34	8	27%	5.00	44.4	1.3	61,596,858	10,850,636	5,010,988	77,458,482	289,026	17.3	
11/5/2014	9	29	1.5	5%	6.50	57.7	2.0	61,802,713	10,885,790	5,108,098	77,796,601	338,119	19.2	
NEW DRUM ONLINE														
11/5/2014	10	-	30.0	100%	-	-	-	61,802,713	10,885,790	5,108,098	77,796,601	-	-	
12/3/2014	10	28	24.5	82%	5.5	48.8	1.7	62,013,010	10,915,655	5,209,552	78,138,217	341,616	16.1	
2014 Total	**-**	**337**	**-**	**-**	**65.63**	**631.6**	**-**	**-**	**-**	**-**	**-**	**4,998,527**	**13.1**	Through 12/3/2014
1/8/2015	10	36	17.3	58%	7.20	63.9	1.8	62,453,076	10,976,435	5,396,953	78,826,464	688,247	10.5	
2/6/2015	10	29	14	47%	3.30	29.3	1.0	62,573,015	10,992,124	5,454,096	79,019,235	192,771	17.1	
3/4/2015	10	26	12	40%	2.00	17.8	0.7	62,634,843	10,998,307	5,474,130	79,107,280	88,045	22.7	
4/15/2015	10	42	1	3%	11.00	97.7	2.3	63,030,148	11,064,065	5,651,582	79,745,795	638,515	17.2	
NEW DRUM ONLINE														
4/15/2015	11	0	30	100%	-	-	-	63,030,148	11,064,065	5,651,582	79,745,795	-	-	
5/7/2015	11	22	25	83%	5.00	44.4	2.0	63,181,925	11,081,175	5,731,724	79,994,824	249,029	20.1	
6/17/2015	11	41	17	57%	8.00	71.0	1.7	63,434,676	11,117,190	5,873,633	80,425,499	430,675	18.6	
7/6/2015	11	19	12	40%	5.00	44.4	2.3	63,587,536	11,137,505	5,964,684	80,689,725	264,226	18.9	
8/5/2015	11	30	9	30%	4.00	35.5	1.2	63,701,711	11,155,507	6,042,602	80,899,820	210,095	19.0	
9/8/2015	11	34	9	30%	0.00	0.0	0.0	63,807,588	11,177,326	6,128,930	81,113,844	214,024	0.0	Sequestering agent pump malfunction during Aug/Sept. Normal operation was restored on Sep. 18.
10/5/2015	11	27	7	23%	2.00	17.8	0.7	63,895,238	11,195,462	6,205,788	81,296,488	182,644	11.0	
NEW DRUM ONLINE														
10/5/2015	12	0	30	100%	-	-	-	63,895,238	11,195,462	6,205,788	81,296,488	-	-	
11/4/2015	12	30	27	90%	3.00	26.6	0.9	64,032,554	11,220,155	6,303,988	81,556,697	260,209	11.5	
12/2/2015	12	28	23.5	78%	3.50	31.1	1.1	64,125,208	11,236,147	6,359,450	81,720,805	164,108	21.3	
2015 Total	**-**	**364**	**-**	**-**	**54.00**	**479.5**	**-**	**-**	**-**	**-**	**-**	**3,582,588**	**15.1**	Through 12/2/2015

Notes on page 2

Table B-8. Sequestering Agent Consumption Summary
Former Lockheed Martin French Road Facility, Utica, NY.

Chemical Name - ARIES 2908 ([1-Hydroxy-ethylidene] diphosphonic acid)
Chemical Specific Gravity - 1.04 to 1.09 1.065
Specific Weight of Water @ 60°F 8.3378 (lb/gallon)
Specific Weight of Chemical @ 60°F 8.8798 (lb/gallon)

Date	Drum #	Days	Volume in 30 Gallon Drum (gal.)	% Full	Δ Volume (gal.)	Δ Lbs	Consumption Rate (lbs/day)[1]	MH-1 Total Flow (gallons)	MH-2 Total Flow (gallons)	MH-3 Total Flow (gallons)	∑ Total Flows (gallons)	Δ Total Flow	Dose Rate This Period (ppm)[2]	Notes
1/7/2016	12	36	16	53%	7.50	66.6	1.8	64,383,362	11,274,369	6,505,798	82,163,529	442,724	16.9	
1/8/2016	12	1	22.5	75%	-	-	-	64,395,289	11,274,523	6,512,693	82,182,505	-	-	Recovered 6.5 gallons of sequestering agent from Drum #11.
2/3/2016	12	26	18	60%	4.50	40.0	1.5	64,548,755	11,294,801	6,593,035	82,436,591	254,086	17.7	
3/1/2016	12	27	11	37%	7.00	62.2	2.3	64,780,947	11,329,895	6,705,829	82,816,671	380,080	18.4	
4/5/2016	12	35	4	13%	7.00	62.2	1.8	65,019,475	11,359,312	6,831,918	83,210,705	394,034	17.8	
NEW DRUM ONLINE														
4/5/2016	13	0	30	100%	-	-	-	65,019,475	11,359,312	6,831,918	83,210,705	-	-	
5/5/2016	13	30	24	80%	6.00	53.3	1.8	65,236,163	11,382,881	6,956,223	83,575,267	364,562	16.5	
6/2/2016	13	28	20.5	68%	3.50	31.1	1.1	65,358,429	11,395,227	7,022,175	83,775,831	200,564	17.5	
6/2/2016	13	0	24	80%	-	-	-	65,358,429	11,395,227	7,022,175	83,775,831	-	-	Recovered 3.5 gallons of sequestering agent from Drum #12.
7/11/2016	13	39	19	63%	5.00	44.4	1.1	65,513,983	11,418,877	7,125,451	84,058,311	282,480	17.7	
8/4/2016	13	24	17	57%	2.00	17.8	0.7	65,594,475	11,432,336	7,187,724	84,214,535	156,224	12.8	
9/8/2016	13	35	12	40%	5.00	44.4	1.3	65,723,058	11,454,652	7,292,420	84,470,130	255,595	19.6	
10/12/2016	13	34	9	30%	3.00	26.6	0.8	65,799,367	11,468,981	7,353,425	84,621,773	151,643	19.8	
11/2/2016	13	21	5	17%	4.00	35.5		65,923,713	11,488,791	7,445,290	84,857,794	236,021	16.9	
NEW DRUM ONLINE														
12/1/2016	13	28	0	0%	5.00	44.4	1.6	66,089,975	11,512,331	7,558,653	85,160,959	303,165	16.5	
12/8/2016	14	7	29	97%	1.00	8.9	1.3	66,141,675	11,519,080	7,586,789	85,247,544	86,585	11.5	
2016 Total	**-**	**372**	**-**	**-**	**60.50**	**537.2**	**-**	**-**	**-**	**-**	**-**	**3,526,739**	**17.2**	Through 12/8/2016
1/10/2017	14	34	22.5	75%	6.50	57.7	1.7	66,400,414	11,548,086	7,708,717	85,657,217	409,673	15.9	Recovered 1 gallon of sequestering agent from Drum #13.
2/3/2017	14	24	15	50%	7.50	66.6	2.8	66,630,567	11,576,533	7,824,995	86,032,095	374,878	20.0	
3/8/2017	14	33	8	27%	7.00	62.2	1.9	66,922,839	11,611,576	7,963,821	86,498,236	466,141	15.0	
NEW DRUM ONLINE														
4/13/2017	15	36	25	83%	17.00	151.0	4.2	67,377,757	11,662,978	8,268,828	87,309,563	811,327	21.0	Drum 14 was changed out on 4/1/2017, recovered 1 gallon
5/20/2017	15	37	17	57%	8.00	71.0	1.9	67,684,058	11,694,307	8,423,135	87,801,500	491,937	16.3	
6/14/2017	15	25	12	40%	5.00	44.4	1.8	67,919,666	11,720,778	8,534,433	88,174,877	373,377	13.4	
NEW DRUM ONLINE														
7/20/2017	16	36	28	93%	14.00	124.3	3.5	68,290,036	11,762,845	8,724,994	88,777,875	602,998	23.2	Drum 15 was changed out on 7/11/2017
8/16/2017	16	27	25	83%	3.00	26.6	1.0	68,418,933	11,775,955	8,806,331	89,001,219	223,344	13.4	
9/10/2017	16	25	24	73%	3.00	26.6	1.1	68,528,919	11,789,472	8,885,839	89,204,230	203,011	14.8	Recovered 2 gallons of sequestering agent from Drum #15. Volume measurement was taken after the 2 recovered gallons was added to Drum #16.
10/2/2017	16	22	22.5	75%	1.50	13.3	0.6	68,588,663	11,796,455	8,930,508	89,315,626	111,396	13.5	
11/7/2017	16	36	18	60%	4.50	40.0	1.1	68,761,889	11,821,262	9,047,215	89,630,366	314,740	14.3	
12/5/2017	16	28	13	43%	5.00	44.4	1.6	68,922,424	11,836,464	9,145,139	89,904,027	273,661	18.3	
2017 Total	**-**	**362**	**-**	**-**	**82.00**	**728.1**	**-**	**-**	**-**	**-**	**-**	**4,656,483**	**17.6**	
1/3/2018	16	29	9	30%	4.00	35.5	1.2	69,060,744	11,846,329	9,212,602	90,119,675	215,648	18.5	
2/1/2018	16	29	3	10%	6.00	53.3	1.8	69,274,746	11,870,653	9,310,880	90,456,279	336,604	17.8	Drum 16 was changed out on 2/1/2018. 3 gallons remain in Drum 16
NEW DRUM ONLINE														
3/1/2018	17	28	21	70%	9.00	79.9	2.9	69,527,915	11,908,487	9,450,684	90,887,086	430,807	20.9	
4/2/2018	17	32	11	37%	10.00	88.8	2.8	69,850,454	11,946,018	9,628,151	91,424,623	537,537	18.6	
5/5/2018	17	33	6.5	22%	4.50	40.0	1.2	70,114,793	11,969,659	9,769,582	91,854,034	429,411	10.5	
6/3/2018	17	29	2	7%	4.50	40.0	1.4	70,269,992	11,981,054	9,851,896	92,102,942	248,908	18.1	Drum 17 was changed out on 6/3/2018. Approximately 1.5 gallons remain in Drum 17
NEW DRUM ONLINE														
7/10/2018	18	37	26	87%	4.00	35.5	1.0	70,391,431	11,990,769	9,931,402	92,313,602	210,660	19.0	
8/6/2018	18	27	24	80%	2.00	17.8	0.7	70,463,155	11,999,014	9,992,913	92,455,082	141,480	14.1	
9/5/2018	18	30	12.5	42%	13.00	115.4	3.8	70,559,880	12,011,835	10,076,518	92,648,233	193,151	67.3	Approximately 1.5 gallons from Drum 17 added to Drum 18 before measurements taken
10/10/2018	18	35	7.5	25%	5.00	44.4	1.3	70,716,026	12,034,306	10,205,354	92,955,686	307,453	16.3	Changed drum after measurements taken. 7.5 gallons remain in Drum 18
NEW DRUM ONLINE														
11/7/2018	19	28	23.5	78%	6.50	57.7	2.1	70,902,324	12,095,011	10,329,715	93,327,050	371,364	17.5	
12/6/2018	19	29	14	47%	9.50	84.4	2.9	71,214,951	12,162,491	10,510,713	93,888,155	561,105	16.9	
2018 Total	**-**	**366**	**-**	**-**	**78.00**	**692.6**	**-**	**-**	**-**	**-**	**-**	**3,984,128**	**19.6**	
1/3/2019	19	28	15	50%	6.50	57.7	2.1	71,420,478	12,210,696	10,617,616	94,248,790	360,635	18.0	7.5 gallons from Drum 18 added before measurements taken
2/4/2019	19	32	7.5	25%	7.50	66.6	2.1	71,649,864	12,262,191	10,728,551	94,640,606	391,816	19.1	Changed drum after measurements taken. 7.5 gallons remain in Drum 19
NEW DRUM ONLINE														
3/5/2019	20	29	27	90%	3.00	26.6	0.9	71,878,784	12,305,489	10,847,339	95,031,612	391,006	7.7	7.5 gallons remain in Drum 19.
4/1/2019	20	27	25	83%	2.00	17.8	0.7	71,967,813	12,328,795	10,891,842	95,188,450	156,838	12.8	7.5 gallons remain in Drum 19.
5/1/2019	20	30	15	50%	10.00	88.8	3.0	72,246,695	12,368,605	11,022,215	95,637,515	449,065	22.3	7.5 gallons remain in Drum 19.
6/4/2019	20	34	7	23%	8.00	71.0	2.1	72,587,630	12,404,202	11,173,828	96,165,660	528,145	15.1	Transferred 7.5 gallons from Drum 19 to Drum 20 after measurement taken. New drum (Drum 21) on-site.
NEW DRUM ONLINE														
7/9/2019	21	35	30	100%	7.00	62.2	1.8	72,808,655	12,428,866	11,267,583	96,505,104	339,444	20.6	Changed drum after measurements taken. 7.5 gallons remaining in Drum 20.
8/5/2019	21	27	24	80%	6.00	53.3	2.0	72,938,275	12,445,140	11,360,548	96,743,963	238,859	25.1	7.5 gallons remaining in Drum 20.
9/10/2019	21	36	18	60%	4.00	35.5	1.0	73,109,779	12,468,348	11,473,999	97,052,126	308,163	13.0	7.5 gallons remaining in Drum 20.
10/1/2019	21	21	15	50%	3.00	26.6	1.3	73,175,229	12,476,285	11,514,011	97,165,525	113,399	26.5	7.5 gallons remaining in Drum 20.
11/1/2019	21	31	14	47%	8.50	75.5	2.4	73,438,751	12,501,168	11,674,814	97,614,733	449,208	18.9	Transferred 7.5 gallons from Drum 20 to Drum 21 after measurement taken.
12/3/2019	21	32	8	27%	6.00	53.3	1.7	73,726,655	12,523,842	11,809,878	98,060,375	445,642	13.5	Changed drums after measurement taken; new Drum 22 on-line. 8 gallons remaining in Drum 21.
2019 Total	**-**	**362**	**-**	**-**	**71.50**	**634.9**	**-**	**-**	**-**	**-**	**-**	**4,172,220**	**17.1**	
NEW DRUM ONLINE														
1/20/2020	22	48	17	57%	13.00	115.4	2.4	74,129,440	12,562,214	11,986,370	98,678,024	617,649	21.0	8 gallons remaining in Drum 21.
2/5/2020	22	16	14	47%	3.00	26.6	1.7	74,224,613	12,569,144	12,024,928	98,818,685	140,661	21.3	8 gallons remaining in Drum 21.
3/4/2020	22	28	10	33%	4.00	35.5	1.3	74,477,149	12,588,618	12,129,002	99,194,769	376,084	10.6	Transferred 8 gallons remaining in Drum 21 to Drum 22 after measurment taken. 0 gallons in Drum 21.
NEW DRUM ONLINE														
4/6/2020	23	33	30	100%	8.00	71.0	2.2	74,747,061	12,615,778	12,247,777	99,610,616	415,847	19.2	Changed drums after measurement taken; new Drum 23 on-line. 10 gallons remaining in Drum 22.
5/5/2020	23	29	24	80%	6.00	53.3	1.8	74,958,600	12,628,657	12,299,651	99,886,908	276,292	21.7	10 gallons remaining in Drum 22.
6/1/2020	23	27	19	63%	5.00	44.4	1.6	75,113,578	12,637,342	12,366,548	100,117,468	230,560	21.7	10 gallons remaining in Drum 22.
7/6/2020	23	62	15	50%	4.00	35.5	0.6	75,222,126	12,650,787	12,422,099	100,295,012	177,544	22.5	10 gallons remaining in Drum 22.
8/3/2020	23	63	20	67%	5.00	44.4	0.7	75,375,191	12,673,699	12,539,667	100,588,557	293,545	17.0	Transferred 10 gallons remaining in Drum 22 to Drum 23 after measurment taken.
9/2/2020	23	58	14	47%	6.00	53.3	0.9	75,519,456	12,691,864	12,639,142	100,850,462	261,905	22.9	14 gallons remaining in Drum 23.
10/5/2020	23	63	12.5	42%	1.50	13.3	0.2	75,607,265	12,704,919	12,711,150	101,023,334	172,872	8.7	12.5 gallons remaining in Drum 23.
11/3/2020	23	62	9	30%	3.50	31.1	0.5	75,713,066	12,709,041	12,791,094	101,213,201	189,867	18.4	9 gallons remaining in Drum 23.
NEW DRUM ONLINE														
12/2/2020	24	58	30	100%	3.00	26.6	0.5	75,859,916	12,729,048	12,878,763	101,467,727	254,526	11.8	Changed drums after measurement taken; new Drum 24 on-line. 6 gallons remaining in Drum 23.
2020 Total	**-**	**365**	**-**	**-**	**62.00**	**550.5**	**-**	**-**	**-**	**-**	**-**	**3,407,352**	**18.2**	

Notes:

1) Maximum allowable daily loading rate of 12.5 lbs/day per WTC Usage Form dated 4/11/11.

2) Sequestering agent dosing rate is setup to be proportional to the aggregate flow transmitter value (not shown). However, this table utilizes the sum of the three individual pumping manhole flow transmitter values to calculate dose rate.

3) Sequestering agent low flow alarm occurred on 9/26/11 due to partial solidification of chemical within suction/injection fittings and tubing. Inspection not conducted until 10/6/11, during which time the fittings and tubing were cleaned. Drum #2 was taken offline until vendor could troubleshoot observation, in the interim Drum #3 was brought online.

4) Due to an inaccurate measurement on 10/2/2017, the volume of sequestering agent in the 30 gallon drum was estimated by calculating a unit volume of sequestering agent used per measured flow between September 2017 and November 2017 (i.e., 1.068×10^{-5} g/g).

The unit volume was then multiplied to the volume of flow measured between September 10, 2017 and October 2, 2017.

FIGURES

WATER TANK
GROUNDWATER COLLECTION TREATMENT BUILDING
MH-22
CONNECTION TO 30" RCP STORM SEWER
24" HDPE
CB-3
MH-7A
MH-7
8" PERF.HDPE
MH-1
2"HDPE
FM
4" PVC
DISCHARGE
SUB STATION
BOILER HOUSE
GROUNDWATER UNDER DRAIN
MAINT BLDG
STORAGE BLDG
FORMER POLE BARN CONCRETE SLAB
TANK BLDG
WASTE WATER TREATMENT BLDG
FORMER GUARD HOUSE
FORMER
LOADING DOCK
MH-2
6" PERF. HDPE
2"HDPE
42" RCP
MH-3
CB-1
6" PERF.HDPE
CB-2
GROUNDWATER UNDER DRAIN
FORMER HAZARDOUS WASTE STORAGE BLDG
PAVED PARKING AREA
MAIN MANUFACTURING BUILDING (CONMED)
30" RCP
42" RCP
24"
36"
12"
MH-3
6"
MH-4
15"
48"
6"
12"
MH-5
6"
48"
MH-6
48"
M-9
CHENANGO ROAD
FRENCH ROAD

0 60' 120'
SCALE IN FEET

LEGEND:

- STORM SEWER LINE WITH FLOW DIRECTION
- FENCE LINE
- MH-2 GCTS MANHOLE LOCATION
- CB-2 CATCH BASIN W. INLET GRATE LOCATION
- FM GROUNDWATER PIPING TO TREATMENT SYSTEM WITH FLOW DIRECTION (FM = FORCEMAIN)
- GROUNDWATER COLLECTION TRENCH WITH FLOW DIRECTION

2020 ANNUAL SITE MANAGEMENT REPORT

APPENDIX B: Groundwater Collection & Treatment System Operation, Maintenance, and Monitoring Performance Report

FORMER LOCKHEED MARTIN FRENCH ROAD FACILITY, UTICA, NY

GROUNDWATER COLLECTION AND TREATMENT SYSTEM LAYOUT

TETRA TECH

CHECKED	MRN
DRAFTED	HJW
PROJECT	117-0507677
DATE	1/12/21

FIGURE: B-1

S:\CAD\LOCKHEED MARTIN\UTICA\1-9-18\FIGURE B-1.DWG

APPENDICES

Appendix B-1

GCTS OM&M Log Sheets

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	01/21/2020	Time	9:00 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(•) Auto ( ) Manual
System currently cycling?	( ) Yes (•) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	10
Electrical Meter Reading (kWh)	26951

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	32	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(•) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(•) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	1/20/2020 2:56
Instantaneous Flowrate (gpm)	0.0
"Total" Flow (resettable, gal)	18980334
"Perm" Flow (gal)	37285503
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	1/20/2020 2:57
Instantaneous Flowrate (gpm)	0.0
"Total" Flow (resettable, gal)	2572453
"Perm" Flow (gal)	5667053
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	1/20/2020 2:59
Instantaneous Flowrate (gpm)	0.0
"Total" Flow (resettable, gal)	4121366
"Perm" Flow (gal)	12139504
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	1/21/2020 3:00
Instantaneous Flowrate (gpm)	0.0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	1/21/2020 3:02
Instantaneous Flowrate (gpm)	0.0
"Total" Flow (resettable, gal)	28367679
"Perm" Flow (gal)	40203814

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	90	(°F)	
Pre-carbon Temperature	TI-400	80	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	14	(in. W.C.)	
Mid-Carbon Pressure	PI-402	6	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	33.15	(in. W.C.)	
Vapor Flow Rate	FT-106	650.2	(cfm)	
Pre-Carbon Temperature	TT-400	88.2	(°F)	
Pre-Carbon Pressure	PT-400	12.	(in. W.C.)	
Building Temperature	TT-100	61.4	(°F)	
Air Stripper Water Elevation	LT-100	15	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 4.9 — spm value: 4

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 17 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0 There is 9 gallons in spare drum.

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	9:30 am 1/21/2020
pH of effluent sample	7.1
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	◉ Yes ○ No
Notes:	Cleaned and inspected MH-3 flow meter.

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Quarterly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 1/21/2020 Time: 8:30 am

Technician: S. McCarthy and S. Schultz

QUARTERLY OM&M TASKS

Quarterly liquid influent samples collected for MH-1, MH-2 and MH-3? (●) Yes ( ) No

MH-1 influent pH: 7.70

Date: 1/21/2020 Time: 09:30

MH-2 influent pH: 7.00

Date: 1/21/2020 Time: 9:27

MH-3 influent pH: 7.01

Date: 1/21/2020 Time: 9:50

NOTE: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Quarterly vapor samples collected pre-carbon, mid-carbon and effluent? (●) Yes ( ) No

Are MH-2 or MH-3 online in auto during sampling collection? ( ) Yes (●) No

Treatment system valves exercised? (●) Yes ( ) No

Pre-Carbon

Sample date: 1/21/2020 Time: 9:20 am

PID Tag: SP-401 Canister #: 2465

Vapor sample collected? (●) Yes ( ) No

Condensate present in sample? ( ) Yes (●) No

Canister Vacuum at Start (in. Hg): 27

Canister Vacuum at Finish (in. Hg): 7

Mid-Carbon	Sample date	1/21/2020	Time	9:25
	PID Tag	SP-402	Canister #	2617
	Vapor samples collected?	(•) Yes ( ) No		
	Condensate present in sample?	( ) Yes (•) No		
	Canister Vacuum at Start (in. Hg)	18		
	Canister Vacuum at Finish (in. Hg)	7		
Post-Carbon	Sample date	1/21/2020	Time	9:27
	PID Tag	SP-403	Canister #	2855
	Vapor samples collected?	(•) Yes ( ) No		
	Condensate present in sample?	( ) Yes (•) No		
	Canister Vacuum at Start (in. Hg)	18		
	Canister Vacuum at Finish (in. Hg)	7		
	Quarterly catch basin (CB) samples collected for CB-1, CB-2 and CB-3?	☑ Yes ☐ No ☑ Date 1/22/20		
	CB-1 sample time	11:00		
	CB-2 sample time	11:20		
	CB-3 sample time	11:37		
	Quarterly groundwater elevation levels collected?	( ) Yes (•) No		
	Blower bearings greased?	(•) Yes ( ) No		
	Indicate air velocity measurement collected from 8" effluent pipe (located on wall side of vertical portion ofeffluent pipe, 1 fpm = 0.317 cfm	1880 (fpm)	595.96 (cfm)	

QUARTERLY CRITICAL DEVICE/ALARM TESTING

Liquid flow transmitter FT-101, FT-102, FT-103 and FT-105 calibrated? (should be done after sensor cleaning) ◯ Yes ◉ No

FT-101		Date	1/23/20	Test Type	Pump down
		MH in. Start	10.5	MH in. End	11.02
		MH in. Δ	0.52	Δ Gal.	109.82
		Sensor Start	2603	Sensor End	2704
		Δ Sensor	101	% Diff.	7.33
	FT-105:	Sensor Start	1853	Sensor End	1961
		Δ Sensor	108	% Diff.	.917
FT-102		Date	1/23/20	Test Type	Pump down
		MH in. Start	14.61	MH in. End	15.32
		MH in. Δ	.72	Δ Gal.	152
		Sensor Start	8073	Sensor End	8173
		Δ Sensor	100	% Diff.	34.2
	FT-105:	Sensor Start	1961	Sensor End	2096
		Δ Sensor	135	% Diff.	11.18
FT-103		Date	1/22/20	Test Type	Pump down
		MH in. Start	12.53	MH in. End	12.96
		MH in. Δ	0.43	Δ Gal.	90.81
		Sensor Start	5819	Sensor End	5919
		Δ Sensor	100	% Diff.	9.18
	FT-105:	Sensor Start	2096	Sensor End	2188
		Δ Sensor	92	% Diff.	1.29
FT-105		Date	1/22/20	Test Type	Pump down

MH-1 % Diff.	MH-2 % Diff.	MH-3 % Diff.	Average % Diff.	Original K Factor	
7.33	34.2	9.18	16.9	New K Factor	

Manhole Floats Tested? ◉ Yes ◯ No

K Factor Notes

NOTES*: % Difference is calculated by the following formula: (MH-S/0.5(MH+S)) x 100
Manholes are 6' diameter. 1" manhole depth = 17.624 gallons
If % difference is negative, increase K factor by that percentage to reach zero.
If % difference is positive, decrease K factor by that percentage to reach zero.

Test the following critical alarms *(note that the system must be in AUTO to observe proper alarm response)*:

Air Stripper Sump High Pressure

Corresponding Transmitter/Sensor: *PT-106*
PLC Alarm Output Name: *PA_106*
Alarm Type: (•) Fatal ( ) Other

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? (•) Yes ( ) No
Passed? (•) Yes ( ) No
Notes: Changed set point to trigger alarm.

Air Stripper Sump Low Pressure

Corresponding Transmitter/Sensor: *PT-106*
PLC Alarm Output Name: *PA_106*
Alarm Type: ( ) Fatal (•) Other

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? ( ) Yes (•) No
Passed? (•) Yes ( ) No
Notes: Moved set point to trigger alarm.

Air Stripper High Liquid Level

Corresponding Transmitter/Sensor: *LT-100*
PLC Alarm Output Name: *LA_100*
Alarm Type: (•) Fatal ( ) Other

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? (•) Yes ( ) No
Passed? (•) Yes ( ) No
Notes: Changed the set point to trigger alarm.

High Air Flow Rate

Corresponding Transmitter/Sensor: *FT-106*

PLC Alarm Output Name: *FA_106*

Alarm Type ○ Fatal ◉ Other

Caused PLC Alarm Output State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed? ◉ Yes ○ No

Notes: Moved the set point to set off the alarm.

Low Air Flow Rate

Corresponding Transmitter/Sensor: *FT-106*

PLC Alarm Output Name: *FA_106*

Alarm Type ○ Fatal ◉ Other

Caused PLC Alarm Output State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed? ◉ Yes ○ No

Notes:

Moved the set point to trigger the alarm.

Pre-Carbon High Temperature

Corresponding Transmitter/Sensor: *TT-400*

PLC Alarm Output Name: *TAH400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Changed the Hi-Temp set point to trip the alarm.

Pre-Carbon Low Temperature

Corresponding Transmitter/Sensor: *TT-400*

PLC Alarm Output Name: *TAL400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point to trigger the alarm.

Pre-Carbon High Pressure

Corresponding Transmitter/Sensor: *PT-400*

PLC Alarm Output Name: *PA_400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the set point, alarm triggered.

Pre-Carbon Low Pressure

Corresponding Transmitter/Sensor: *PT-400*

PLC Alarm Output Name: *PA_400*

Alarm Type: (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point, which triggered the alarm.

MH-1 Low Flowrate

Corresponding Transmitter/Sensor: *FT-101*

PLC Alarm Output Name: *FA_101*

Alarm Type: (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

MH-2 Low Flowrate

Corresponding Transmitter/Sensor: *FT-102*

PLC Alarm Output Name: *FA_102*

Alarm Type: (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

MH-3 Low Flowrate

Corresponding Transmitter/Sensor: *FT-103*

PLC Alarm Output Name: *FA_103*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

Aggregate Low Flowrate

Corresponding Transmitter/Sensor: *FT-105*

PLC Alarm Output Name: *FA_105*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Moved BFV-401 to trigger alarm.

Building Wet Floor Sensor Alarm

Corresponding Transmitter/Sensor: *WFS-106*

PLC Alarm Output Name: *WFS106*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Added water to sensor.

Building Sump High Level

Corresponding Transmitter/Sensor: *LSH-106*

PLC Alarm Output Name: *LSH106*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the float to trigger alarm.

Sequestering Agent Low Flow

Corresponding Transmitter/Sensor: *FT-200*

PLC Alarm Output Name: *FA_200*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Removed the hose from the drum.

Spill Pallet Wet Sensor Alarm

Corresponding Transmitter/Sensor: *LSH-200*

PLC Alarm Output Name: *LSH200*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Added water to the sensor to trigger the alarm.

MH-1 High Level

Corresponding Transmitter/Sensor: *LSHH-103*

PLC Alarm Output Name: *LA_MH1*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-1 Low Level

Corresponding Transmitter/Sensor: *LSLL-103*

PLC Alarm Output Name: *LA_MH1*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-2 High Level

Corresponding Transmitter/Sensor: *LSHH-104*

PLC Alarm Output Name: *LA_MH2*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-2 Low Level

Corresponding Transmitter/Sensor: *LSLL-104*

PLC Alarm Output Name: *LA_MH2*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-3 High Level

Corresponding Transmitter/Sensor: *LSHH-105*

PLC Alarm Output Name: *LA_MH3*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-3 Low Level

Corresponding Transmitter/Sensor: *LSLL-105*

PLC Alarm Output Name: *LA_MH3*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

Building High Temperature

Corresponding Transmitter/Sensor: *TT-100*

PLC Alarm Output Name: *TA_400*

Alarm Type (●) Shutdown ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the set point to trigger alarm.

Building Low Temperature

Corresponding Transmitter/Sensor: *TT-100*

PLC Alarm Output Name: *TA_400*

Alarm Type (●) Shutdown ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point to trigger alarm.

Notes:

Replaced bulb on air stripper control panel. All lights work.

CRITICAL DEVICE CORRECTIVE ACTION LOG SHEET

Date 1/22/20 Time 10:00 am

Critical Device Failure:

NONE

Device Failure:

NONE

Corrective Action:

NONE

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	02/05/2020	Time	12:30 pm
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(●) Auto ( ) Manual
System currently cycling?	(●) Yes ( ) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	31
Electrical Meter Reading (kWh)	30097

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	26	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(●) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(●) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	2/5/2020 12:48 pm
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	19096305
"Perm" Flow (gal)	37401474
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	2/5/2020 12:49 pm
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2580500
"Perm" Flow (gal)	5675100
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	2/5/2020 12:50 pm
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4161780
"Perm" Flow (gal)	12179918
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	2/5/2020 12:52 pm
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	2/5/2020 12:52 pm
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	30379316
"Perm" Flow (gal)	42215452

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	74	(°F)	
Pre-carbon Temperature	TI-400	82	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	84	(°F)	
Pre-Carbon Pressure	PI-401	14	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	31.88	(in. W.C.)	
Vapor Flow Rate	FT-106	575	(cfm)	
Pre-Carbon Temperature	TT-400	83.4	(°F)	
Pre-Carbon Pressure	PT-400	10.6	(in. W.C.)	
Building Temperature	TT-100	55.1	(°F)	
Air Stripper Water Elevation	LT-100	14	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 4.9 — spm value: 5

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 14 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0 — 8 gallons in back-up drum.

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	2:12
pH of effluent sample	7.21
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	○ Yes ◉ No
Notes:	

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	03/04/2020	Time	8:40 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(•) Auto ( ) Manual
System currently cycling?	(•) Yes ( ) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	34
Electrical Meter Reading (kWh)	38117

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	29	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(•) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(•) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	3/4/2020 9:00 am
Instantaneous Flowrate (gpm)	25.45
"Total" Flow (resettable, gal)	19410437
"Perm" Flow (gal)	37715599
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	(●) Yes ( ) No

MH-2 [FT-102]

Date/Time	3/4/2020 9:02 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2604098
"Perm" Flow (gal)	5698698
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	3/4/2020 9:05 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4265877
"Perm" Flow (gal)	12284015
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	3/4/2020 9:08 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	3/4/2020 9:09 am
Instantaneous Flowrate (gpm)	31.9
"Total" Flow (resettable, gal)	30837755
"Perm" Flow (gal)	42673895

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit?
(located on duct heater control panel door) ◉ Yes ○ No

Is duct heater "HI TEMP" alarm light on?
(located on duct heater control panel door) ○ Yes ◉ No

Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	60	(°F)	
Pre-carbon Temperature	TI-400	80	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	13	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	30.95	(in. W.C.)	
Vapor Flow Rate	FT-106	572	(cfm)	
Pre-Carbon Temperature	TT-400	78.3	(°F)	
Pre-Carbon Pressure	PT-400	10.4	(in. W.C.)	
Building Temperature	TT-100	55.1	(°F)	
Air Stripper Water Elevation	LT-100	15	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 4.8 — spm value: 4

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 18 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0 — 0 gallons in back-up drum.

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	8:55
pH of effluent sample	7.10
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	◉ Yes ○ No
Notes:	Inspected/cleaned MH-1, MH-2 and MH-3 flow sensors.

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	04/06/2020	Time	10:00 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(•) Auto ( ) Manual
System currently cycling?	(•) Yes ( ) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	39
Electrical Meter Reading (kWh)	45604

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	30	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(•) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(•) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	4/6/2020 9:40 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	19738190
"Perm" Flow (gal)	38043359
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	4/6/2020 9:43 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2637816
"Perm" Flow (gal)	5732416
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	4/6/2020 9:45 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4385617
"Perm" Flow (gal)	12403755
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	4/6/2020 9:48 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	4/6/2020 9:50 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	43164166
"Perm" Flow (gal)	31328030

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	64	(°F)	
Pre-carbon Temperature	TI-400	84	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	14	(in. W.C.)	
Mid-Carbon Pressure	PI-402	6	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	30.37	(in. W.C.)	
Vapor Flow Rate	FT-106	502.0	(cfm)	
Pre-Carbon Temperature	TT-400	83.1	(°F)	
Pre-Carbon Pressure	PT-400	9.6	(in. W.C.)	
Building Temperature	TT-100	64.0	(°F)	
Air Stripper Water Elevation	LT-100	15	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 5.5 — spm value: 8

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 30 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0 New drum on-line;10 gallons in back-up drum.

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): No leaks.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	(●) Yes ( ) No
Time	8:55
pH of effluent sample	7.04
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ( ) Yes (●) No
	MH-3? ( ) Yes (●) No
Liquid flow sensors cleaned? (only as needed)	(●) Yes ( ) No
Notes:	Inspected/cleaned MH-1, MH-2 and MH-3 flow sensors.

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Quarterly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 4/7/2020 Time: 8:00 am

Technician: S. McCarthy

QUARTERLY OM&M TASKS

Quarterly liquid influent samples collected for MH-1, MH-2 and MH-3? (●) Yes ( ) No

MH-1 influent pH: 7.27

Date: 4/7/2020 Time: 08:50

MH-2 influent pH: 7.21

Date: 4/7/2020 Time: 12:59

MH-3 influent pH: 7.11

Date: 4/7/2020 Time: 10:57

NOTE: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Quarterly vapor samples collected pre-carbon, mid-carbon and effluent? (●) Yes ( ) No

Are MH-2 or MH-3 online in auto during sampling collection? ( ) Yes (●) No

Treatment system valves exercised? (●) Yes ( ) No

Pre-Carbon

Sample date: 4/8/2020 Time: 1:25 pm

PID Tag: SP-401 Canister #: 3484

Vapor sample collected? (●) Yes ( ) No

Condensate present in sample? ( ) Yes (●) No

Canister Vacuum at Start (in. Hg): 30

Canister Vacuum at Finish (in. Hg): 10

Mid-Carbon

Sample date	4/8/2020	Time	1:26 pm
PID Tag	SP-402	Canister #	276
Vapor samples collected?	(•) Yes ( ) No		
Condensate present in sample?	( ) Yes (•) No		
Canister Vacuum at Start (in. Hg)	30		
Canister Vacuum at Finish (in. Hg)	10		

Post-Carbon

Sample date	4/8/2020	Time	1:30 pm
PID Tag	SP-403	Canister #	2725
Vapor samples collected?	(•) Yes ( ) No		
Condensate present in sample?	( ) Yes (•) No		
Canister Vacuum at Start (in. Hg)	25		
Canister Vacuum at Finish (in. Hg)	10		

Quarterly catch basin (CB) samples collected for CB-1, CB-2 and CB-3?	☑ Yes ☐ No		
	☑ Date	4/7/2020	
CB-1 sample time	9:52 am		
CB-2 sample time	10:00 am		
CB-3 sample time	10:30 am		
Quarterly groundwater elevation levels collected?	( ) Yes (•) No		
Blower bearings greased?	(•) Yes ( ) No		
Indicate air velocity measurement collected from 8" effluent pipe (located on wall side of vertical portion of effluent pipe, 1 fpm = 0.317 cfm	1320 (fpm)	418.44 (cfm)	

QUARTERLY CRITICAL DEVICE/ALARM TESTING

Liquid flow transmitter FT-101, FT-102, FT-103 and FT-105 calibrated? (should be done after sensor cleaning) ◯ Yes ◉ No

FT-101		Date	4/6/2020	Test Type	Pump down
		MH in. Start	10.5	MH in. End	11.00
		MH in. Δ	0.50	Δ Gal.	105.59
		Sensor Start	3359	Sensor End	3456
		Δ Sensor	97	% Diff.	8.13
	FT-105:	Sensor Start	8030	Sensor End	8130
		Δ Sensor	100	% Diff.	3
FT-102		Date	4/6/2020	Test Type	Pump down
		MH in. Start	14.92	MH in. End	15.54
		MH in. Δ	.62	Δ Gal.	130
		Sensor Start	7816	Sensor End	7916
		Δ Sensor	100	% Diff.	23.07
	FT-105:	Sensor Start	8130	Sensor End	8246
		Δ Sensor	116	% Diff.	16
FT-103		Date	4/6/2020	Test Type	Pump down
		MH in. Start	12.06	MH in. End	12.55
		MH in. Δ	0.49	Δ Gal.	103.48
		Sensor Start	5617	Sensor End	5718
		Δ Sensor	101	% Diff.	2.45
	FT-105:	Sensor Start	8246	Sensor End	8331
		Δ Sensor	85	% Diff.	15.84
FT-105		Date	4/6/2020	Test Type	Pump down

MH-1 % Diff.	MH-2 % Diff.	MH-3 % Diff.	Average % Diff.	Original K Factor	
8.13	23.07	2.45	11.21	New K Factor	

Manhole Floats Tested? ◉ Yes ◯ No

K Factor Notes

NOTES*: % Difference is calculated by the following formula: (MH-S/0.5(MH+S)) x 100
Manholes are 6' diameter. 1" manhole depth = 17.624 gallons
If % difference is negative, increase K factor by that percentage to reach zero.
If % difference is positive, decrease K factor by that percentage to reach zero.

Test the following critical alarms *(note that the system must be in AUTO to observe proper alarm response)*:

Air Stripper Sump High Pressure

Corresponding Transmitter/Sensor: *PT-106*
PLC Alarm Output Name: *PA_106*
Alarm Type: (•) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? (•) Yes ( ) No
Passed? (•) Yes ( ) No
Notes: Changed set point to trigger alarm.

Air Stripper Sump Low Pressure

Corresponding Transmitter/Sensor: *PT-106*
PLC Alarm Output Name: *PA_106*
Alarm Type: ( ) Fatal (•) Other [warning]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? ( ) Yes (•) No
Passed? (•) Yes ( ) No
Notes: Moved set point to trigger alarm.

Air Stripper High Liquid Level

Corresponding Transmitter/Sensor: *LT-100*
PLC Alarm Output Name: *LA_100*
Alarm Type: (•) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? (•) Yes ( ) No
Passed? (•) Yes ( ) No
Notes: Changed the set point to trigger alarm.

High Air Flow Rate

Corresponding Transmitter/Sensor: *FT-106*

PLC Alarm Output Name: *FA_106*

Alarm Type ○ Fatal ◉ Other warning

Caused PLC Alarm Output State Change? ◉ Yes ○ No

Caused System Shutdown? ◉ Yes ○ No

Passed? ◉ Yes ○ No

Notes: Moved the set point to set off the alarm.

Low Air Flow Rate

Corresponding Transmitter/Sensor: *FT-106*

PLC Alarm Output Name: *FA_106*

Alarm Type ○ Fatal ◉ Other warning

Caused PLC Alarm Output State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed? ◉ Yes ○ No

Notes:

Moved the set point to trigger the alarm.

Pre-Carbon High Temperature

Corresponding Transmitter/Sensor: *TT-400*

PLC Alarm Output Name: *TAH400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Changed the Hi-Temp set point to trip the alarm.

Pre-Carbon Low Temperature

Corresponding Transmitter/Sensor: *TT-400*

PLC Alarm Output Name: *TAL400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point to trigger the alarm.

Pre-Carbon High Pressure

Corresponding Transmitter/Sensor: *PT-400*

PLC Alarm Output Name: *PA_400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the set point, alarm triggered.

Pre-Carbon Low Pressure

Corresponding Transmitter/Sensor: *PT-400*

PLC Alarm Output Name: *PA_400*

Alarm Type: (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point, which triggered the alarm.

MH-1 Low Flowrate

Corresponding Transmitter/Sensor: *FT-101*

PLC Alarm Output Name: *FA_101*

Alarm Type: (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

MH-2 Low Flowrate

Corresponding Transmitter/Sensor: *FT-102*

PLC Alarm Output Name: *FA_102*

Alarm Type: (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

MH-3 Low Flowrate

Corresponding Transmitter/Sensor: *FT-103*

PLC Alarm Output Name: *FA_103*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

Aggregate Low Flowrate

Corresponding Transmitter/Sensor: *FT-105*

PLC Alarm Output Name: *FA_105*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Moved BFV-401 to trigger alarm.

Building Wet Floor Sensor Alarm

Corresponding Transmitter/Sensor: *WFS-106*

PLC Alarm Output Name: *WFS106*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Added water to sensor.

Building Sump High Level

Corresponding Transmitter/Sensor: *LSH-106*

PLC Alarm Output Name: *LSH106*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the float to trigger alarm.

Sequestering Agent Low Flow

Corresponding Transmitter/Sensor: *FT-200*

PLC Alarm Output Name: *FA_200*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Removed the hose from the drum.

Spill Pallet Wet Sensor Alarm

Corresponding Transmitter/Sensor: *LSH-200*

PLC Alarm Output Name: *LSH200*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Added water to the sensor to trigger the alarm.

MH-1 High Level

Corresponding Transmitter/Sensor: *LSHH-103*

PLC Alarm Output Name: *LA_MH1*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-1 Low Level

Corresponding Transmitter/Sensor: *LSLL-103*

PLC Alarm Output Name: *LA_MH1*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-2 High Level

Corresponding Transmitter/Sensor: *LSHH-104*

PLC Alarm Output Name: *LA_MH2*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-2 Low Level

Corresponding Transmitter/Sensor: *LSLL-104*

PLC Alarm Output Name: *LA_MH2*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-3 High Level

Corresponding Transmitter/Sensor: *LSHH-105*

PLC Alarm Output Name: *LA_MH3*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-3 Low Level

Corresponding Transmitter/Sensor: *LSLL-105*

PLC Alarm Output Name: *LA_MH3*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

Building High Temperature

Corresponding Transmitter/Sensor: *TT-100*

PLC Alarm Output Name: *TA_400*

Alarm Type (●) Shutdown ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the set point to trigger alarm.

Building Low Temperature

Corresponding Transmitter/Sensor: *TT-100*

PLC Alarm Output Name: *TA_400*

Alarm Type (●) Shutdown ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point to trigger alarm.

Notes:

Inspected and cleaned all three manhole flow sensors.

New drum (Drum #23) brought on-line. 10 gallons left in previous drum (Drum #22).

CRITICAL DEVICE CORRECTIVE ACTION LOG SHEET

Date 4/8/2020 Time 12:50 pm

Critical Device Failure:

NONE

Device Failure:

NONE

Corrective Action:

NONE TAKEN

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	05/05/2020	Time	9:00 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(•) Auto ( ) Manual
System currently cycling?	(•) Yes ( ) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	50
Electrical Meter Reading (kWh)	50681

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	29	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(•) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(•) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	5/5/2020 10:28 am
Instantaneous Flowrate (gpm)	25.55
"Total" Flow (resettable, gal)	20000474
"Perm" Flow (gal)	38305637
Pump 1 running?	(●) Yes ( ) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	5/5/2020 10:40 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2654390
"Perm" Flow (gal)	5748990
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	5/5/2020 10:42 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4438040
"Perm" Flow (gal)	12456178
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	5/5/2020
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	5/5/2020 10:34 am
Instantaneous Flowrate (gpm)	34.85
"Total" Flow (resettable, gal)	31719622
"Perm" Flow (gal)	43555767

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	62	(°F)	
Pre-carbon Temperature	TI-400	90	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	13	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	31.04	(in. W.C.)	
Vapor Flow Rate	FT-106	540.9	(cfm)	
Pre-Carbon Temperature	TT-400	96.8	(°F)	
Pre-Carbon Pressure	PT-400	9.9	(in. W.C.)	
Building Temperature	TT-100	57.2	(°F)	
Air Stripper Water Elevation	LT-100	15	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 4.9 — spm value: 5

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 24 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0 — 10 gallons in back-up drum.

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	10:34
pH of effluent sample	7.22
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	◉ Yes ○ No
Notes:	Inspected/cleaned MH-1, MH-2 and MH-3 flow sensors.

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	06/01/2020	Time	8:30 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(•) Auto ( ) Manual
System currently cycling?	(•) Yes ( ) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	60
Electrical Meter Reading (kWh)	54091

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	29	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(•) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(•) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	6/1/2020 8:34am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	20190148
"Perm" Flow (gal)	38495317
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	6/1/2020 8:35 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2665580
"Perm" Flow (gal)	5760180
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	6/1/2020 8:36 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4506088
"Perm" Flow (gal)	12524226
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	6/1/2020 8:37 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	6/1/2020 8:38 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	32000867
"Perm" Flow (gal)	43837003

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	80	(°F)	
Pre-carbon Temperature	TI-400	78	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	87	(°F)	
Pre-Carbon Pressure	PI-401	13	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	30.37	(in. W.C.)	
Vapor Flow Rate	FT-106	490.4	(cfm)	
Pre-Carbon Temperature	TT-400	82.5	(°F)	
Pre-Carbon Pressure	PT-400	9.9	(in. W.C.)	
Building Temperature	TT-100	63.7	(°F)	
Air Stripper Water Elevation	LT-100	15	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values: mA value 4.9; spm value 5

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 19 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0 (10 gallons in back-up drum.)

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	10:55
pH of effluent sample	7.14
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	○ Yes ◉ No
Notes:	

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	07/06/2020	Time	9:00 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(•) Auto ( ) Manual
System currently cycling?	( ) Yes (•) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	80
Electrical Meter Reading (kWh)	56732

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	26	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(•) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(•) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	7/6/2020 11:45 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	20323416
"Perm" Flow (gal)	38628585
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	7/6/2020 11:47 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2678210
"Perm" Flow (gal)	5772810
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	7/6/2020 11:49 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4562087
"Perm" Flow (gal)	12580619
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	7/6/2020 11:51 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	7/6/2020 11:52 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	44053751
"Perm" Flow (gal)	32217615

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	70	(°F)	
Pre-carbon Temperature	TI-400	82	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	13	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	27.84	(in. W.C.)	
Vapor Flow Rate	FT-106	448	(cfm)	
Pre-Carbon Temperature	TT-400	78.1	(°F)	
Pre-Carbon Pressure	PT-400	9.6	(in. W.C.)	
Building Temperature	TT-100	78.5	(°F)	
Air Stripper Water Elevation	LT-100	16	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 5.5 — spm value: 8

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 15 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0 New drum on-line;10 gallons in back-up drum.

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): No leaks.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	11:35 am
pH of effluent sample	7.13
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	○ Yes ◉ No
Notes:	

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Quarterly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 7/6/2020 Time: 9:00 am

Technician: S. McCarthy

QUARTERLY OM&M TASKS

Quarterly liquid influent samples collected for MH-1, MH-2 and MH-3? (●) Yes ( ) No

MH-1 influent pH: 7.11

Date: 7/6/2020 Time: 11:20

MH-2 influent pH: 7.09

Date: 7/6/2020 Time: 2:05

MH-3 influent pH: 7.14

Date: 7/6/2020 Time: 11:15

NOTE: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Quarterly vapor samples collected pre-carbon, mid-carbon and effluent? (●) Yes ( ) No

Are MH-2 or MH-3 online in auto during sampling collection? ( ) Yes (●) No

Treatment system valves exercised? (●) Yes ( ) No

Pre-Carbon

Sample date: 7/6/2020 Time: 11:40 am

PID Tag: SP-401 Canister #: 1421

Vapor sample collected? (●) Yes ( ) No

Condensate present in sample? ( ) Yes (●) No

Canister Vacuum at Start (in. Hg): 17

Canister Vacuum at Finish (in. Hg): 10

Mid-Carbon

Sample date: 7/6/2020 Time: 11:44 am

PID Tag: SP-402 Canister #: 1426

Vapor samples collected? (●) Yes ( ) No

Condensate present in sample? ( ) Yes (●) No

Canister Vacuum at Start (in. Hg): 20

Canister Vacuum at Finish (in. Hg): 10

Post-Carbon

Sample date: 7/6/2020 Time: 11:47 am

PID Tag: SP-403 Canister #: 1440

Vapor samples collected? (●) Yes ( ) No

Condensate present in sample? ( ) Yes (●) No

Canister Vacuum at Start (in. Hg): 20

Canister Vacuum at Finish (in. Hg): 10

Quarterly catch basin (CB) samples collected for CB-1, CB-2 and CB-3? [✓] Yes [ ] No

[✓] Date 7/7/2020

CB-1 sample time: 8:45 am

CB-2 sample time: 8:55 am

CB-3 sample time: 9:00 am

Quarterly groundwater elevation levels collected? (●) Yes ( ) No

Blower bearings greased? (●) Yes ( ) No

Indicate air velocity measurement collected from 8" effluent pipe (located on wall side of vertical portion of effluent pipe, 1 fpm = 0.317 cfm: 1720 (fpm) 545.24 (cfm)

QUARTERLY CRITICAL DEVICE/ALARM TESTING

Liquid flow transmitter FT-101, FT-102, FT-103 and FT-105 calibrated? (should be done after sensor cleaning) ◯ Yes ◉ No

FT-101		Date	7/6/2020	Test Type	Pump down
		MH in. Start	10.32	MH in. End	10.86
		MH in. Δ	0.54	Δ Gal.	95.17
		Sensor Start	7698	Sensor End	7800
		Δ Sensor	102	% Diff.	6.6
	FT-105:	Sensor Start	6220	Sensor End	6325
		Δ Sensor	105	% Diff.	2.85
FT-102		Date		Test Type	
Not enough water to run test.		MH in. Start		MH in. End	
		MH in. Δ		Δ Gal.	
		Sensor Start		Sensor End	
		Δ Sensor		% Diff.	
	FT-105:	Sensor Start		Sensor End	
		Δ Sensor		% Diff.	
FT-103		Date	7/6/2020	Test Type	Pump down
		MH in. Start	12.43	MH in. End	12.99
		MH in. Δ	0.56	Δ Gal.	98.7
		Sensor Start	5562	Sensor End	5668
		Δ Sensor	106	% Diff.	6.8
	FT-105:	Sensor Start	6354	Sensor End	6450
		Δ Sensor	96	% Diff.	10.4
FT-105		Date	7/6/2020	Test Type	Pump down

MH-1 % Diff.	MH-2 % Diff.	MH-3 % Diff.	Average % Diff.	Original K Factor	
6.6	--	6.8	6.7	New K Factor	

Manhole Floats Tested? ◉ Yes ◯ No

K Factor Notes

NOTES*: % Difference is calculated by the following formula: (MH-S/0.5(MH+S)) x 100
Manholes are 6' diameter. 1" manhole depth = 17.624 gallons
If % difference is negative, increase K factor by that percentage to reach zero.
If % difference is positive, decrease K factor by that percentage to reach zero.

Test the following critical alarms *(note that the system must be in AUTO to observe proper alarm response)*:

Air Stripper Sump High Pressure

Corresponding Transmitter/Sensor: *PT-106*
PLC Alarm Output Name: *PA_106*
Alarm Type: (•) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? (•) Yes ( ) No
Passed? (•) Yes ( ) No
Notes: Changed set point to trigger alarm.

Air Stripper Sump Low Pressure

Corresponding Transmitter/Sensor: *PT-106*
PLC Alarm Output Name: *PA_106*
Alarm Type: ( ) Fatal (•) Other [warning]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? ( ) Yes (•) No
Passed? (•) Yes ( ) No
Notes: Moved set point to trigger alarm.

Air Stripper High Liquid Level

Corresponding Transmitter/Sensor: *LT-100*
PLC Alarm Output Name: *LA_100*
Alarm Type: (•) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? (•) Yes ( ) No
Passed? (•) Yes ( ) No
Notes: Changed the set point to trigger alarm.

High Air Flow Rate

Corresponding Transmitter/Sensor: *FT-106*

PLC Alarm Output Name: *FA_106*

Alarm Type ○ Fatal ◉ Other warning

Caused PLC Alarm Output State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed? ◉ Yes ○ No

Notes: Moved the set point to set off the alarm.

Low Air Flow Rate

Corresponding Transmitter/Sensor: *FT-106*

PLC Alarm Output Name: *FA_106*

Alarm Type ○ Fatal ◉ Other warning

Caused PLC Alarm Output State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed? ◉ Yes ○ No

Notes:

Moved the set point to trigger the alarm.

Pre-Carbon High Temperature

Corresponding Transmitter/Sensor: *TT-400*

PLC Alarm Output Name: *TAH400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Changed the Hi-Temp set point to trip the alarm.

Pre-Carbon Low Temperature

Corresponding Transmitter/Sensor: *TT-400*

PLC Alarm Output Name: *TAL400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point to trigger the alarm.

Pre-Carbon High Pressure

Corresponding Transmitter/Sensor: *PT-400*

PLC Alarm Output Name: *PA_400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the set point, alarm triggered.

Pre-Carbon Low Pressure

Corresponding Transmitter/Sensor: *PT-400*

PLC Alarm Output Name: *PA_400*

Alarm Type: (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point, which triggered the alarm.

MH-1 Low Flowrate

Corresponding Transmitter/Sensor: *FT-101*

PLC Alarm Output Name: *FA_101*

Alarm Type: (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

MH-2 Low Flowrate

Corresponding Transmitter/Sensor: *FT-102*

PLC Alarm Output Name: *FA_102*

Alarm Type: (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

MH-3 Low Flowrate

Corresponding Transmitter/Sensor: *FT-103*

PLC Alarm Output Name: *FA_103*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

Aggregate Low Flowrate

Corresponding Transmitter/Sensor: *FT-105*

PLC Alarm Output Name: *FA_105*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Moved BFV-401 to trigger alarm.

Building Wet Floor Sensor Alarm

Corresponding Transmitter/Sensor: *WFS-106*

PLC Alarm Output Name: *WFS106*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Added water to sensor.

Building Sump High Level

Corresponding Transmitter/Sensor: *LSH-106*

PLC Alarm Output Name: *LSH106*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the float to trigger alarm.

Sequestering Agent Low Flow

Corresponding Transmitter/Sensor: *FT-200*

PLC Alarm Output Name: *FA_200*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Removed the hose from the drum.

Spill Pallet Wet Sensor Alarm

Corresponding Transmitter/Sensor: *LSH-200*

PLC Alarm Output Name: *LSH200*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Added water to the sensor to trigger the alarm.

MH-1 High Level

Corresponding Transmitter/Sensor: *LSHH-103*

PLC Alarm Output Name: *LA_MH1*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-1 Low Level

Corresponding Transmitter/Sensor: *LSLL-103*

PLC Alarm Output Name: *LA_MH1*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-2 High Level

Corresponding Transmitter/Sensor: *LSHH-104*

PLC Alarm Output Name: *LA_MH2*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-2 Low Level

Corresponding Transmitter/Sensor: *LSLL-104*

PLC Alarm Output Name: *LA_MH2*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-3 High Level

Corresponding Transmitter/Sensor: *LSHH-105*

PLC Alarm Output Name: *LA_MH3*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-3 Low Level

Corresponding Transmitter/Sensor: *LSLL-105*

PLC Alarm Output Name: *LA_MH3*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

Building High Temperature

Corresponding Transmitter/Sensor: *TT-100*

PLC Alarm Output Name: *TA_400*

Alarm Type (●) Shutdown ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the set point to trigger alarm.

Building Low Temperature

Corresponding Transmitter/Sensor: *TT-100*

PLC Alarm Output Name: *TA_400*

Alarm Type (●) Shutdown ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point to trigger alarm.

Notes:

CRITICAL DEVICE CORRECTIVE ACTION LOG SHEET

Date 7/7/2020 Time 10:00 am

Critical Device Failure:

NONE

Device Failure:

NONE

Corrective Action:

NONE TAKEN

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 08/03/2020 Time: 10:00 am

Technician: Steve McCarthy

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*: (●) Auto ( ) Manual

System currently cycling?: (●) Yes ( ) No

Alarms? (list): None

Ambient Outdoor Temperature (°F): 70

Electrical Meter Reading (kWh): 59968

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	26	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?: (●) Yes ( ) No

Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position: (●) Yes ( ) No

Note scaling inside liquid effluent pipe from access port: Minimal

Note scaling observed inside air stripper via clear tray access door: Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	8/3/2020 10:08am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	205512279
"Perm" Flow (gal)	38817448
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	8/3/2020 10:10 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2699687
"Perm" Flow (gal)	5991087
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	8/3/2020 10:12 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4681082
"Perm" Flow (gal)	12699614
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	8/3/2020 10:14 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	8/3/2020 10:15 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	32613549
"Perm" Flow (gal)	44449657

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	74	(°F)	
Pre-carbon Temperature	TI-400	80	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	14	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	27.59	(in. W.C.)	
Vapor Flow Rate	FT-106	490.5	(cfm)	
Pre-Carbon Temperature	TT-400	76.8	(°F)	
Pre-Carbon Pressure	PT-400	10.5	(in. W.C.)	
Building Temperature	TT-100	75.4	(°F)	
Air Stripper Water Elevation	LT-100	16.9	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values: mA value 4.9 spm value 5

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 20 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0 Added 10 gallons from Drum 22 to Drum 23.

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	12:21
pH of effluent sample	7.4
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	○ Yes ◉ No
Notes:	

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	09/02/2020	Time	10:00 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(•) Auto ( ) Manual
System currently cycling?	(•) Yes ( ) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	70
Electrical Meter Reading (kWh)	62714

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	26	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(•) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(•) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	9/2/2020 10:08am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	20688807
"Perm" Flow (gal)	38993976
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	9/2/2020 10:10 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2711589
"Perm" Flow (gal)	5806189
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	9/2/2020 10:13 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4780592
"Perm" Flow (gal)	12799132
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	9/2/2020 10:15 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	9/2/2020 10:17 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	32924541
"Perm" Flow (gal)	44760680

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	72	(°F)	
Pre-carbon Temperature	TI-400	80	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	13	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	28.05	(in. W.C.)	
Vapor Flow Rate	FT-106	482.2	(cfm)	
Pre-Carbon Temperature	TT-400	78.1	(°F)	
Pre-Carbon Pressure	PT-400	10.4	(in. W.C.)	
Building Temperature	TT-100	72.9	(°F)	
Air Stripper Water Elevation	LT-100	16	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 4.4 — spm value: 1

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 14 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	12:15
pH of effluent sample	7.11
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	○ Yes ◉ No
Notes:	

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	10/05/2020	Time	8:00 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	◉ Auto ○ Manual
System currently cycling?	○ Yes ◉ No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	58
Electrical Meter Reading (kWh)	64861

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	26	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	◉ Yes ○ No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	◉ Yes ○ No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	10/5/2020 8:54 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	207969928
"Perm" Flow (gal)	39102097
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	10/5/2020 8:55 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2721612
"Perm" Flow (gal)	5817212
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	10/5/2020 8:57 am
Instantaneous Flowrate (gpm)	14.96
"Total" Flow (resettable, gal)	4853343
"Perm" Flow (gal)	12871880
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	(●) Yes ( ) No

Sump [FT-104]

Date/Time	10/5/2020 9:00 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	10/5/2020 8:59 am
Instantaneous Flowrate (gpm)	13.27
"Total" Flow (resettable, gal)	44959656
"Perm" Flow (gal)	33123515

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit?
(located on duct heater control panel door) ◉ Yes ○ No

Is duct heater "HI TEMP" alarm light on?
(located on duct heater control panel door) ○ Yes ◉ No

Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	68	(°F)	
Pre-carbon Temperature	TI-400	80	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	15	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	29.3	(in. W.C.)	
Vapor Flow Rate	FT-106	545.1	(cfm)	
Pre-Carbon Temperature	TT-400	77.7	(°F)	
Pre-Carbon Pressure	PT-400	12.2	(in. W.C.)	
Building Temperature	TT-100	62.1	(°F)	
Air Stripper Water Elevation	LT-100	15.5	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 5.5 — spm value: 8

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 12.5 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 0

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): No leaks.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	9:10 am
pH of effluent sample	7.27
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	○ Yes ◉ No
Notes:	

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Quarterly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date: 10/5/2020 Time: 8:00 am

Technician: S. McCarthy

QUARTERLY OM&M TASKS

Quarterly liquid influent samples collected for MH-1, MH-2 and MH-3? (●) Yes ( ) No

MH-1 influent pH: 7.14

Date: 10/5/2020 Time: 9:00 am

MH-2 influent pH: 7.07

Date: 10/5/2020 Time: 9:28

MH-3 influent pH: 7.21

Date: 10/5/2020 Time: 8:37

NOTE: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Quarterly vapor samples collected pre-carbon, mid-carbon and effluent? (●) Yes ( ) No

Are MH-2 or MH-3 online in auto during sampling collection? ( ) Yes (●) No

Treatment system valves exercised? (●) Yes ( ) No

Pre-Carbon

Sample date: 10/5/2020 Time: 10:08 am

PID Tag: SP-401 Canister #: 2489

Vapor sample collected? (●) Yes ( ) No

Condensate present in sample? ( ) Yes (●) No

Canister Vacuum at Start (in. Hg): 28

Canister Vacuum at Finish (in. Hg): 7

Mid-Carbon	Sample date	10/5/2020	Time	10:10 am
	PID Tag	SP-402	Canister #	2604
	Vapor samples collected?	(●) Yes ( ) No		
	Condensate present in sample?	( ) Yes (●) No		
	Canister Vacuum at Start (in. Hg)	25		
	Canister Vacuum at Finish (in. Hg)	7		
Post-Carbon	Sample date	10/5/2020	Time	10:12am
	PID Tag	SP-403	Canister #	3282
	Vapor samples collected?	(●) Yes ( ) No		
	Condensate present in sample?	( ) Yes (●) No		
	Canister Vacuum at Start (in. Hg)	27		
	Canister Vacuum at Finish (in. Hg)	7		
	Quarterly catch basin (CB) samples collected for CB-1, CB-2 and CB-3?	☑ Yes ☐ No ☑ Date 10/5/2020		
	CB-1 sample time	1:05 pm		
	CB-2 sample time	1:09 pm		
	CB-3 sample time	1:30 pm		
	Quarterly groundwater elevation levels collected?	(●) Yes ( ) No		
	Blower bearings greased?	(●) Yes ( ) No		
	Indicate air velocity measurement collected from 8" effluent pipe (located on wall side of vertical portion of effluent pipe, 1 fpm = 0.317 cfm	1841 (fpm)	583.6 (cfm)	

QUARTERLY CRITICAL DEVICE/ALARM TESTING

Liquid flow transmitter FT-101, FT-102, FT-103 and FT-105 calibrated? (should be done after sensor cleaning) ◯ Yes ◉ No

FT-101		Date	10/5/2020	Test Type	Pump down
		MH in. Start	10.65	MH in. End	11.17
		MH in. Δ	0.52	Δ Gal.	109.9
		Sensor Start	2097	Sensor End	2197
		Δ Sensor	100	% Diff.	8.2
	FT-105:	Sensor Start	3570	Sensor End	3687
		Δ Sensor	117	% Diff.	6
FT-102		Date	10/5/20	Test Type	Pump down
Not enough water to run test.		MH in. Start	15.28	MH in. End	16.00
		MH in. Δ	0.72	Δ Gal.	152
		Sensor Start	2612	Sensor End	2712
		Δ Sensor	100	% Diff.	34.2
	FT-105:	Sensor Start	3686	Sensor End	3849
		Δ Sensor	163	% Diff.	5.5
FT-103		Date	10/5/2020	Test Type	Pump down
		MH in. Start	13.84	MH in. End	12.99
		MH in. Δ	0.48	Δ Gal.	98.7
		Sensor Start	7343	Sensor End	7443
		Δ Sensor	100	% Diff.	1.47
	FT-105:	Sensor Start	3849	Sensor End	3939
		Δ Sensor	90	% Diff.	10.8
FT-105		Date	10/5/2020	Test Type	Pump down

MH-1 % Diff.	MH-2 % Diff.	MH-3 % Diff.	Average % Diff.	Original K Factor	
8.2	34.2	1.47	14.6	New K Factor	

Manhole Floats Tested? ◉ Yes ◯ No

K Factor Notes

NOTES*: % Difference is calculated by the following formula: (MH-S/0.5(MH+S)) x 100
Manholes are 6' diameter. 1" manhole depth = 17.624 gallons
If % difference is negative, increase K factor by that percentage to reach zero.
If % difference is positive, decrease K factor by that percentage to reach zero.

Test the following critical alarms *(note that the system must be in AUTO to observe proper alarm response)*:

Air Stripper Sump High Pressure

Corresponding Transmitter/Sensor: *PT-106*
PLC Alarm Output Name: *PA_106*
Alarm Type: (•) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? (•) Yes ( ) No
Passed? (•) Yes ( ) No
Notes: Changed set point to trigger alarm.

Air Stripper Sump Low Pressure

Corresponding Transmitter/Sensor: *PT-106*
PLC Alarm Output Name: *PA_106*
Alarm Type: ( ) Fatal (•) Other [warning]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? ( ) Yes (•) No
Passed? (•) Yes ( ) No
Notes: Moved set point to trigger alarm.

Air Stripper High Liquid Level

Corresponding Transmitter/Sensor: *LT-100*
PLC Alarm Output Name: *LA_100*
Alarm Type: (•) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No
Caused System Shutdown? (•) Yes ( ) No
Passed? (•) Yes ( ) No
Notes: Changed the set point to trigger alarm.

High Air Flow Rate

Corresponding Transmitter/Sensor: *FT-106*

PLC Alarm Output Name: *FA_106*

Alarm Type ○ Fatal ◉ Other warning

Caused PLC Alarm Output State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed? ◉ Yes ○ No

Notes: Moved the set point to set off the alarm.

Low Air Flow Rate

Corresponding Transmitter/Sensor: *FT-106*

PLC Alarm Output Name: *FA_106*

Alarm Type ○ Fatal ◉ Other warning

Caused PLC Alarm Output State Change? ◉ Yes ○ No

Caused System Shutdown? ○ Yes ◉ No

Passed? ◉ Yes ○ No

Notes:

Moved the set point to trigger the alarm.

Pre-Carbon High Temperature

Corresponding Transmitter/Sensor: *TT-400*

PLC Alarm Output Name: *TAH400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Changed the Hi-Temp set point to trip the alarm.

Pre-Carbon Low Temperature

Corresponding Transmitter/Sensor: *TT-400*

PLC Alarm Output Name: *TAL400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point to trigger the alarm.

Pre-Carbon High Pressure

Corresponding Transmitter/Sensor: *PT-400*

PLC Alarm Output Name: *PA_400*

Alarm Type (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the set point, alarm triggered.

Pre-Carbon Low Pressure

Corresponding Transmitter/Sensor: *PT-400*

PLC Alarm Output Name: *PA_400*

Alarm Type: (●) Fatal ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point, which triggered the alarm.

MH-1 Low Flowrate

Corresponding Transmitter/Sensor: *FT-101*

PLC Alarm Output Name: *FA_101*

Alarm Type: (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

MH-2 Low Flowrate

Corresponding Transmitter/Sensor: *FT-102*

PLC Alarm Output Name: *FA_102*

Alarm Type: (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

MH-3 Low Flowrate

Corresponding Transmitter/Sensor: *FT-103*

PLC Alarm Output Name: *FA_103*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Played with the floats and pump switches to trigger alarm.

Aggregate Low Flowrate

Corresponding Transmitter/Sensor: *FT-105*

PLC Alarm Output Name: *FA_105*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Moved BFV-401 to trigger alarm.

Building Wet Floor Sensor Alarm

Corresponding Transmitter/Sensor: *WFS-106*

PLC Alarm Output Name: *WFS106*

Alarm Type: (•) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (•) Yes ( ) No

Caused System Shutdown? ( ) Yes (•) No

Passed? (•) Yes ( ) No

Notes: Added water to sensor.

Building Sump High Level

Corresponding Transmitter/Sensor: *LSH-106*

PLC Alarm Output Name: *LSH106*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the float to trigger alarm.

Sequestering Agent Low Flow

Corresponding Transmitter/Sensor: *FT-200*

PLC Alarm Output Name: *FA_200*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Removed the hose from the drum.

Spill Pallet Wet Sensor Alarm

Corresponding Transmitter/Sensor: *LSH-200*

PLC Alarm Output Name: *LSH200*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Added water to the sensor to trigger the alarm.

MH-1 High Level

Corresponding Transmitter/Sensor: *LSHH-103*

PLC Alarm Output Name: *LA_MH1*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-1 Low Level

Corresponding Transmitter/Sensor: *LSLL-103*

PLC Alarm Output Name: *LA_MH1*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-2 High Level

Corresponding Transmitter/Sensor: *LSHH-104*

PLC Alarm Output Name: *LA_MH2*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-2 Low Level

Corresponding Transmitter/Sensor: *LSLL-104*

PLC Alarm Output Name: *LA_MH2*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-3 High Level

Corresponding Transmitter/Sensor: *LSHH-105*

PLC Alarm Output Name: *LA_MH3*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

MH-3 Low Level

Corresponding Transmitter/Sensor: *LSLL-105*

PLC Alarm Output Name: *LA_MH3*

Alarm Type (●) Warning ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? ( ) Yes (●) No

Passed? (●) Yes ( ) No

Notes: Flipped the floats to trigger alarm.

Building High Temperature

Corresponding Transmitter/Sensor: *TT-100*

PLC Alarm Output Name: *TA_400*

Alarm Type (●) Shutdown ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the set point to trigger alarm.

Building Low Temperature

Corresponding Transmitter/Sensor: *TT-100*

PLC Alarm Output Name: *TA_400*

Alarm Type (●) Shutdown ( ) Other [ ]

Caused PLC Alarm Output State Change? (●) Yes ( ) No

Caused System Shutdown? (●) Yes ( ) No

Passed? (●) Yes ( ) No

Notes: Moved the low set point to trigger alarm.

Notes:

CRITICAL DEVICE CORRECTIVE ACTION LOG SHEET

Date 10/5/2020 Time 9:00 am

Critical Device Failure:

NONE

Device Failure:

NONE

Corrective Action:

NONE TAKEN

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	11/03/2020	Time	8:45 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(•) Auto ( ) Manual
System currently cycling?	(•) Yes ( ) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	50
Electrical Meter Reading (kWh)	67823

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	29	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(•) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(•) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? ◉ Yes ○ No

MH-2? ◉ Yes ○ No

MH-3? ◉ Yes ○ No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? ◉ Yes ○ No

MH-1 [FT-101]

Date/time	11/3/2020 9:45 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	20930787
"Perm" Flow (gal)	39235956
Pump 1 running?	○ Yes ◉ No
Pump 2 running?	○ Yes ◉ No

MH-2 [FT-102]

Date/Time	11/3/2020 9:48 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2726095
"Perm" Flow (gal)	5820695
Pump 1 running?	○ Yes ◉ No
Pump 2 running?	○ Yes ◉ No

MH-3 [FT-103]

Date/Time	11/3/2020 9:50 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	4936328
"Perm" Flow (gal)	12954860
Pump 1 running?	○ Yes ◉ No
Pump 2 running?	○ Yes ◉ No

Sump [FT-104]

Date/Time	11/3/2020 10:00 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	11/3/2020 10:05 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	33352489
"Perm" Flow (gal)	45188627

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	45 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	90 degrees

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	60	(°F)	
Pre-carbon Temperature	TI-400	76	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	15	(in. W.C.)	
Mid-Carbon Pressure	PI-402	3	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	31.62	(in. W.C.)	
Vapor Flow Rate	FT-106	542	(cfm)	
Pre-Carbon Temperature	TT-400	77.8	(°F)	
Pre-Carbon Pressure	PT-400	12	(in. W.C.)	
Building Temperature	TT-100	62.5	(°F)	
Air Stripper Water Elevation	LT-100	16	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 4.8 — spm value: 1

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 9 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 1

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	10:05
pH of effluent sample	7.11
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	○ Yes ◉ No
Notes:	

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Monthly OM&M Log Sheet, Groundwater Collection and Treatment System, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York

Date	12/02/2020	Time	9:00 am
Technician	Steve McCarthy		

SYSTEM STATUS

System Operational? *(PLC screen indicating system in "AUTO" or "MANUAL")*	(●) Auto ( ) Manual
System currently cycling?	(●) Yes ( ) No
Alarms? (list)	None
Ambient Outdoor Temperature (°F)	38
Electrical Meter Reading (kWh)	72570

AIR STRIPPER PARAMETERS (record while air stripper is running)

Air stripper sump pressure [PI-106]	27	(in. W.C.)
Blower intake line vacuum [PI-100]	4	(in. W.C)
Main damper position *(record distance from center wingnut to outside of blower housing)*	0.3	(inches)
Interior dilution damper position	2	(inches)

Is white "POWER ON" light on air stripper control panel lit?	(●) Yes ( ) No
Is air stripper hand-off-auto switch [HS-100B] in "AUTO" position	(●) Yes ( ) No
Note scaling inside liquid effluent pipe from access port	Minimal
Note scaling observed inside air stripper via clear tray access door	Minimal

FLOWMETER/PUMP PARAMETERS

Are white power lights lit on MH-1, MH-2 and MH-3 control panels?

MH-1? (●) Yes ( ) No

MH-2? (●) Yes ( ) No

MH-3? (●) Yes ( ) No

Are pump hand-off-auto switches [HS-101A, HS-101B, HS-102A, HS-102B, HS-103A, and HS-103B] in "AUTO" position? (●) Yes ( ) No

MH-1 [FT-101]

Date/time	12/2/2020 9:10 am
Instantaneous Flowrate (gpm)	20
"Total" Flow (resettable, gal)	21109767
"Perm" Flow (gal)	39414932
Pump 1 running?	(●) Yes ( ) No
Pump 2 running?	( ) Yes (●) No

MH-2 [FT-102]

Date/Time	12/2/2020 10:20 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	2743192
"Perm" Flow (gal)	5837792
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

MH-3 [FT-103]

Date/Time	12/2/2020 10:27 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	51748100
"Perm" Flow (gal)	13042101
Pump 1 running?	( ) Yes (●) No
Pump 2 running?	( ) Yes (●) No

Sump [FT-104]

Date/Time	12/2/2020 10:30 am
Instantaneous Flowrate (gpm)	0
"Total" Flow (resettable, gal)	557
"Perm" Flow (gal)	2396
Pump 1 running?	○ Yes ◉ No

Cumulative [FT-105]

Date/Time	12/2/2020 9:10 am
Instantaneous Flowrate (gpm)	24.4
"Total" Flow (resettable, gal)	33613381
"Perm" Flow (gal)	45448518

VAPOR PHASE PARAMETERS (record while air stripper is running)

Is duct heater "HEAT ON/OFF" light lit? (located on duct heater control panel door)	◉ Yes ○ No
Is duct heater "HI TEMP" alarm light on? (located on duct heater control panel door)	○ Yes ◉ No
Note the orientation of BFV-401 (0 deg. = open; 90 deg. = closed)	60 degrees
Note the orientation of BFV-402 (0 deg. = open; 90 deg. = closed)	60 degrees

The VPGAC treatment units were bypassed by opening all valves on manifold except for the valves needed to create back pressure for air stripper blower.

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Pre-Duct Heater Temperature	TI-300	62	(°F)	
Pre-carbon Temperature	TI-400	65	(°F)	
Duct Heater Temperature Setpoint	-----	85	(°F)	
Duct Heater Temperature Transmitter	-----	85	(°F)	
Pre-Carbon Pressure	PI-401	10	(in. W.C.)	
Mid-Carbon Pressure	PI-402	5	(in. W.C.)	
Effluent Pressure	PI-403	1	(in. W.C.)	

TRANSMITTER READINGS (record from ProControl)

PARAMETER	PID TAG	VALUE	UNITS	NOTES
Air Stripper Sump Pressure	PT-106	29.43	(in. W.C.)	
Vapor Flow Rate	FT-106	613	(cfm)	
Pre-Carbon Temperature	TT-400	79.1	(°F)	
Pre-Carbon Pressure	PT-400	13.6	(in. W.C.)	
Building Temperature	TT-100	67.6	(°F)	
Air Stripper Water Elevation	LT-100	15	(inches)	

-Press the "I/O" up/down arrows on the ProControl screen until the desired transmitter value is displayed

SEQUESTERING AGENT (record while air stripper is running)

Is pump operating? ☑ Yes ☐ No
☐ Notes

Is low flow alarm present? ☐ Yes ☑ No
☐ Notes

Is pump in external mode? ☑ Yes ☐ No
☐ Notes

If in external mode, record one set of mA and stroke speed values — mA value: 5.4 — spm value: 4

(display screen should automatically be switching back and forth between mA and stroke speed)

Stroke length: 85 (record from local stroke length knob on pump)

Sequestering agent drum level [LI-200] (gallons): 30 (1 gallon tick marks hand written in marker on drum based on plastic molded gallon marks)

Quantity of additional full drums: 1 New drum brought on-line; 6 gallons remaining in back-up drum.

Inspect sequestering agent components for signs of leaking or wear (tubing [suction, injection, bleed return], injection check valve fitting, spill pallet, etc): None.

MONTHLY OM&M TASKS

Note: MH-1 must be online during sample collection, if necessary wait for MH-1 Pump 1 or 2 to turn on automatically (MH-1 typically batches every 1.5 hours)

Monthly liquid effluent sample collected	◉ Yes ○ No
Time	9:10 am
pH of effluent sample	7.04
Model of pH meter	Hanna Piccolo
Calibration notes/method used	Cal with buffer 7 and 10
Are MH-2 or MH-3 online in auto during sample collection?	MH-2? ○ Yes ◉ No
	MH-3? ○ Yes ◉ No
Liquid flow sensors cleaned? (only as needed)	○ Yes ◉ No
Notes:	

	MH-1	MH-2	MH-3
Monthly manhole inspections conducted? (Y/N)	Yes	Yes	Yes
Leaking/dripping of water observed from double-walled HDPE discharge pipe located inside the manhole? (Y/N)	No	No	No
Do floats appear to be in good condition and hanging freely? (Y/N)	Yes	Yes	Yes
Observe groundwater inside each manhole and note odor and appearance	No odor No sheen	No odor No sheen	No odor No sheen
Is confined space entry signage present at each manhole? (Y/N)	Yes	Yes	Yes
With pump(s) running, visually inspect discharge piping, pipe fittings, and pressure relief valve for leaks	No leaks	No leaks	No leaks
With pump(s) running, are any unusual sounds present? (Y/N)	No	No	No
If yes, please explain			
Inspect and note condition of collection line gate valve protection flush-mount covers for each manhole	All good	All good	All good

With system running, visually inspect all piping within the treatment system for leaks, signs of distress, or any other notable observations: No leaks

List any notable observations: None

Are both building heaters working properly? ◉ Yes ○ No

(adjust respective wall-mounted thermostats for both heaters and confirm proper heater response)

HEALTH AND SAFETY

Is fire extinguisher charged, unobstructed, and possessing an inspection tag? ◉ Yes ○ No

Is eyewash/shower station operational and unobstructed? ◉ Yes ○ No

Is interior emergency lighting operational? ◉ Yes ○ No

Is first aid kit present and in good condition? ◉ Yes ○ No

Is lockout/tagout equipment available? ◉ Yes ○ No

Have electrical GFIs been tested and reset? ◉ Yes ○ No

Do all electrical panels have 36" of open floor space in front of them? ◉ Yes ○ No

Are both the OM&M Manual and HASP on site?

OM&M Manual on site? ☑ Yes ☐ No

☑ Date: September 2018

HASP on site? ☑ Yes ☐ No

☑ Date: November 28, 2016

Is emergency spill kit available? ◉ Yes ○ No

Is H&S signage including emergency contact list, eye protection, hearing protection, and automatic equipment present? ◉ Yes ○ No

Is current SPDES permit on site? (note date) ☑ Yes ☐ No

☑ Date: 7/31/24

Appendix B-2

GCTS Alarm Response Log

GCTS Alarm Response Tracking Table
Former Lockheed Martin French Road Facility, Utica, NY

Alarm Date/Time	Process Code	Type	Alarm Description	Input	Output	Response Date/Time	Response Time (hours)	Response Type	System Restarted Date/Time	Downtime (days)	Site Visit Date	Time Onsite (hours)	Cause Type	Cause Description	Corrective Action Description
1/1/2020 17:30	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	1/1/2020 20:00	2.5	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally, turned off FA-102. System was operating during a MH-2 pump-down cycle; flow rate was being registered by FT-102.
1/12/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	1/12/2020 10:45	5.6	Remote Monitoring		NA			Maintenance/Adjustment	The January 12, 2020 Daily Status Report email was not received.	Tetra Tech logged into Proview and confirmed the system was operating normally.
1/16/2020 1:18	31	non-fatal/warning	MH-3 Low Flowrate	FT-103	FA_103	1/16/2020 7:10	5.9	Remote Monitoring		NA			Maintenance/Adjustment	FT-103 did not register flow during a pump-down cycle and triggered FA-103.	Tetra Tech logged into ProView and confirmed the system was operating normally.
2/11/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	2/11/2020 7:00	1.8	Remote Monitoring		NA			Maintenance/Adjustment	The February 11, 2020 Daily Status Report email was not received.	Tetra Tech logged into Proview and confirmed the system was operating normally.
2/15/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	2/15/2020 19:00	13.8	Site Visit		NA	2/15/2020	< 2 hours	Maintenance/Adjustment	The February 15, 2020 Daily Status Report email was not received.	Tetra Tech could not log into Proview. Site visit was performed on 2-15-2020 to manually reset the Proview control unit and confirmed that the system was operating normally.
2/18/2020 15:06	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	2/18/2020 15:15	0.1	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally, turned off FA-102.
2/24/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	2/24/2020 7:50	2.7	Remote Monitoring		NA			Maintenance/Adjustment	The February 24, 2020 Daily Status Report email was not received.	Tetra Tech logged into Proview and confirmed the system was operating normally.
2/27/2020 9:49	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	2/27/2020 10:00	0.2	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally, turned off FA-102.
2/27/2020 10:03	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	2/27/2020 10:10	0.1	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally, turned off FA-102.
2/28/2020 1:50	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	2/28/2020 8:00	6.2	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally, turned off FA-102.
2/29/2020 11:54	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	2/29/2020 15:15	3.3	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally, turned off FA-102.
3/2/2020 14:28	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	3/2/2020 14:53	0.4	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally, turned off FA-102.
3/4/2020 4:19	31	non-fatal/warning	MH-3 Low Flowrate	FT-103	FA_103	3/4/2020 7:15	2.9	Remote Monitoring		NA			Maintenance/Adjustment	FT-103 did not register flow during a pump-down cycle and triggered FA-103.	Tetra Tech logged into ProView and confirmed the system was operating normally.
3/6/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	3/6/2020 8:30	3.3	Site Visit		NA	3/6/2020	< 2 hours	Maintenance/Adjustment	The March 6, 2020 Daily Status Report email was not received.	Tetra Tech could not log into Proview. Site visit was performed on 3-6-2020 to manually reset the Proview control unit and confirmed that the system was operating normally.
3/27/2020 1:02	31	non-fatal/warning	MH-3 Low Flowrate	FT-103	FA_103	3/27/2020 7:15	6.2	Remote Monitoring		NA			Maintenance/Adjustment	FT-103 did not register flow during a pump-down cycle and triggered FA-103.	Tetra Tech logged into ProView and confirmed the system was operating normally.
3/29/2020 11:20	47	fatal/shutdown	Pre-Carbon Low Temperature	TT-400	TAL400	3/29/2020 15:00	3.7	Site Visit	3/29/2020 15:15	0.16	3/29/2020	< 2 hours	Maintenance/Adjustment	Low pre-carbon temperature went below alarm setpoint of 60 degrees.	Checked system and duct heater; everything looked fine and re-started system. The system is operating normally.
4/3/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	4/3/2020 7:15	2.1	Remote Monitoring		NA			Maintenance/Adjustment	The April 3, 2020 Daily Status Report email was not received.	Tetra Tech logged into Proview and confirmed the system was operating normally.
4/21/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	4/21/2020 7:15	2.1	Remote Monitoring		NA			Maintenance/Adjustment	The April 21, 2020 Daily Status Report email was not received.	Tetra Tech logged into Proview and confirmed the system was operating normally.
4/22/2020 20:07	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	4/22/2020 20:43	0.6	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally.
4/25/2020 7:20	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	4/25/2020 11:15	3.9	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into Proview and confirmed the system was operating normally.
5/6/2020 14:15	30	non-fatal/warning	MH-2 Low Flowrate	FT-102	FA_102	5/6/2020 16:30	2.3	Remote Monitoring		NA			Maintenance/Adjustment	FT-102 did not register flow during a pump-down cycle and triggered FA-102.	Tetra Tech logged into ProView and confirmed the system was operating normally.
5/7/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	5/7/2020 7:30	2.3	Remote Monitoring		NA			Maintenance/Adjustment	The May 7, 2020 Daily Status Report email was not received.	Tetra Tech logged into Proview and confirmed the system was operating normally.
5/12/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	5/12/2020 6:30	1.3	Remote Monitoring		NA			Maintenance/Adjustment	The May 12, 2020 Daily Status Report email was not received.	Tetra Tech logged into Proview and confirmed the system was operating normally.
5/14/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	5/14/2020 7:50	2.7	Remote Monitoring		NA			Maintenance/Adjustment	The May 14, 2020 Daily Status Report email was not received.	Tetra Tech logged into Proview and confirmed the system was operating normally.
6/1/2020 15:06	32	non-fatal/warning	Air Stripper High Liquid Level	LSL-100	LA_100	6/1/2020 15:15	0.1	Site Visit		NA			Maintenance/Adjustment	High water level in air stripper sump.	Operator already on-site performing OM&M inspection. No observed issues and alarm was cleared and system operating normally.
6/15/2020 23:21	40	non-fatal/warning	MH-3 Low Level(5)	LSLL-105	LA_MH3	6/16/2020 11:00	11.7	Site Visit		NA			Maintenance/Adjustment	Low-low level in MH-3.	Tetra Tech on-site and visually observed no issues with MH-3.
6/18/2020 7:06	55, 56, 57	non-fatal/warning	Aggregate Low Flowrate	FT-105	FA_105	6/18/2020 16:15	9.2	Site Visit		NA			Maintenance/Adjustment	FT-105 did not register flow during a pump-down cycle and triggered FA-105.	Tetra Tech logged into ProView and confirmed the system was operating normally. Site visit on 6-18-20 to inspect and clean flow meter FT-103; no issues noted.
6/18/2020 7:04	31	non-fatal/warning	MH-3 Low Flowrate	FT-103	FA_103	6/18/2020 16:15	9.2	Site Visit		NA			Maintenance/Adjustment	FT-103 did not register flow during a pump-down cycle and triggered FA-103.	Tetra Tech logged into ProView and confirmed the system was operating normally. Site visit on 6-18-20 to inspect flow meter FT-105; no issues noted.
6/20/2020 23:39	55, 56, 57	non-fatal/warning	Aggregate Low Flowrate	FT-105	FA_105	6/21/2020 11:00	11.3	Remote Monitoring		NA			Maintenance/Adjustment	FT-105 did not register flow during a pump-down cycle and triggered FA-105.	Tetra Tech logged into Proview and confirmed the system was operating normally.
7/1/2020 19:45	40	non-fatal/warning	MH-3 Low Level(5)	LSLL-105	LA_MH3	7/1/2020 19:50	0.1	Remote Monitoring		NA			Maintenance/Adjustment	Low-low level in MH-3.	Tetra Tech logged into Proview and confirmed the system was operating normally.
7/5/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	7/5/2020 13:15	8.1	Remote Monitoring		NA			Maintenance/Adjustment	The July 5, 2020 Daily Status Report email was not received.	Tetra Tech logged into ProView and confirmed the system was operating normally.
7/12/2020 13:25	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	7/12/2020 13:30	0.1	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally.
7/15/2020 22:05	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	7/16/2020 7:00	8.9	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally.
7/18/2020 13:14	40	non-fatal/warning	MH-3 Low Level(5)	LSLL-105	LA_MH3	7/18/2020 13:30	0.3	Remote Monitoring		NA			Maintenance/Adjustment	Low-low level in MH-3.	Tetra Tech logged into Proview and confirmed the system was operating normally.
8/8/2020 17:50	31	non-fatal/warning	MH-3 Low Flowrate	FT-103	FA_103	8/8/2020 18:50	1.0	Remote Monitoring		NA			Maintenance/Adjustment	FT-103 did not register flow during a pump-down cycle and triggered FA-103.	Tetra Tech logged into ProView and confirmed the system was operating normally.

GCTS Alarm Response Tracking Table
Former Lockheed Martin French Road Facility, Utica, NY

8/16/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	8/16/2020 10:45	5.6	Remote Monitoring		NA			Maintenance/Adjustment	The August 16, 2020 Daily Status Report email was not received.	Tetra Tech logged into ProView and confirmed the system was operating normally.
8/23/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	8/23/2020 10:15	5.1	Remote Monitoring		NA			Maintenance/Adjustment	The August 23, 2020 Daily Status Report email was not received.	Tetra Tech logged into ProView and confirmed the system was operating normally.
9/4/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	9/4/2020 7:15	2.1	Remote Monitoring		NA			Maintenance/Adjustment	The September 4, 2020 Daily Status Report email was not received.	Tetra Tech logged into ProView and confirmed the system was operating normally.
11/5/2020 20:35	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	11/5/2020 21:00	0.4	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally.
11/6/2020 0:30	55, 56, 57	non-fatal/warning	Aggregate Low Flowrate	FT-105	FA_105	11/6/2020 9:00	8.5	Remote Monitoring		NA			Maintenance/Adjustment	FT-105 did not register flow during a pump-down cycle and triggered FA-105.	Tetra Tech logged into ProView and confirmed the system was operating normally.
11/6/2020 16:33	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	11/6/2020 16:40	0.1	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally.
11/6/2020 16:36	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	11/6/2020 16:40	0.1	Site Visit	11/6/2020 16:40	NA	11/6/2020	< 2 hours	Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally. Site visit on 11-6-20 to inspect and clean flow meter FT-101; no issues noted.
11/9/2020 16:44	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	11/9/2020 16:50	0.1	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally.
11/10/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	11/10/2020 7:15	2.1	Remote Monitoring		NA			Maintenance/Adjustment	The November 10, 2020 Daily Status Report email was not received.	Tetra Tech logged into ProView and confirmed the system was operating normally.
11/11/2020 10:18	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	11/11/2020 10:30	0.2	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally.
11/12/2020 18:15	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	11/12/2020 19:00	0.8	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally.
11/12/2020 18:34	55, 56, 57	non-fatal/warning	Aggregate Low Flowrate	FT-105	FA_105	11/12/2020 19:00	0.4	Remote Monitoring		NA			Maintenance/Adjustment	FT-105 did not register flow during a pump-down cycle and triggered FA-105.	Tetra Tech logged into ProView and confirmed the system was operating normally. Site visit on 11-13-2020 to inspect flow meter and MH-1; no issues noted.
11/19/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	11/19/2020 7:15	2.1	Site Visit		NA	11/19/2020	< 2 hours	Maintenance/Adjustment	The November 19, 2020 Daily Status Report email was not received.	Tetra Tech could not log into Proview. Site visit was performed on 11-19-2020 to manually reset the Proview control unit and confirmed that the system was operating normally.
12/1/2020 22:10	29	non-fatal/warning	MH-1 Low Flowrate	FT-101	FA_101	12/1/2020 22:35	0.4	Remote Monitoring		NA			Maintenance/Adjustment	FT-101 did not register flow during a pump-down cycle and triggered FA-101.	Tetra Tech logged into ProView and confirmed the system was operating normally.
12/2/2020 16:15	32	non-fatal/warning	Air Stripper High Liquid Level	LSL-100	LA_100	12/2/2020 16:30	0.2	Site Visit		NA	12/2/2020	< 2 hours	Maintenance/Adjustment	High water level in air stripper sump.	Operator already on-site performing OM&M inspection. No observed issues and alarm was cleared and system operating normally.
12/11/2020 5:10	MC_SYS ON	non-fatal/warning	Missed ProControl Communication	NA	NA	12/11/2020 7:15	2.1	Remote Monitoring		NA			Maintenance/Adjustment	The December 11, 2020 Daily Status Report email was not received.	Tetra Tech logged into ProView and confirmed the system was operating normally.

Notes
White shading = data entry
Blue shading = dropdown list
Gray shading = calculated

Appendix B-3

GCTS Laboratory Analytical Reports

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

January 31, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Dear Glenn Netuschil:
Enclosed are the analytical results for sample(s) received by the laboratory on January 24, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Jason Drews, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

CERTIFICATIONS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Date: January 31, 2020

Sample collection date and/or times containers does not match COC; client notified. See Sample Condition Upon Receipt Form for details. Sample logged off Chain as per client request

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: January 31, 2020

General Information:
8 samples were analyzed for EPA 8260C/5030C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 147167

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 70119181004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 706006)
  - Benzene
  - Ethylbenzene
  - m&p-Xylene
- MSD (Lab ID: 706007)
  - Benzene
  - Ethylbenzene
  - m&p-Xylene

MS: Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

- MS (Lab ID: 706006)
  - Xylene (Total)
- MSD (Lab ID: 706007)

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: January 31, 2020

QC Batch: 147167

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 70119181004

MS: Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

- Xylene (Total)

Additional Comments:

Analyte Comments:

QC Batch: 147167

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 706006)
  - Benzene
  - Ethylbenzene
- MSD (Lab ID: 706007)
  - Benzene
  - Ethylbenzene

This data package has been reviewed for quality and completeness and is approved for release.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Sample: MH-1 INFLUENT **Lab ID: 70119485001** Collected: 01/21/20 09:30 Received: 01/24/20 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		01/27/20 12:57	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	106-46-7	
1,1-Dichloroethane	**2.3**	ug/L	1.0	1		01/27/20 12:57	75-34-3	
cis-1,2-Dichloroethene	**18.5**	ug/L	1.0	1		01/27/20 12:57	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	100-41-4	
Tetrachloroethene	**13.2**	ug/L	1.0	1		01/27/20 12:57	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 12:57	71-55-6	
Trichloroethene	**19.6**	ug/L	1.0	1		01/27/20 12:57	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		01/27/20 12:57	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		01/27/20 12:57	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		01/27/20 12:57	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		01/27/20 12:57	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	89	%	68-153	1		01/27/20 12:57	17060-07-0	
4-Bromofluorobenzene (S)	91	%	79-124	1		01/27/20 12:57	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		01/27/20 12:57	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Sample: MH-2 INFLUENT **Lab ID: 70119485002** Collected: 01/22/20 09:27 Received: 01/24/20 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		01/27/20 13:20	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	106-46-7	
1,1-Dichloroethane	**1.4**	ug/L	1.0	1		01/27/20 13:20	75-34-3	
cis-1,2-Dichloroethene	**6.0**	ug/L	1.0	1		01/27/20 13:20	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 13:20	71-55-6	
Trichloroethene	**1.8**	ug/L	1.0	1		01/27/20 13:20	79-01-6	
Vinyl chloride	**1.4**	ug/L	1.0	1		01/27/20 13:20	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		01/27/20 13:20	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		01/27/20 13:20	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		01/27/20 13:20	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	88	%	68-153	1		01/27/20 13:20	17060-07-0	
4-Bromofluorobenzene (S)	91	%	79-124	1		01/27/20 13:20	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		01/27/20 13:20	2037-26-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Sample: MH-3 INFLUENT **Lab ID: 70119485003** Collected: 01/21/20 09:50 Received: 01/24/20 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		01/27/20 13:43	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 13:43	75-34-3	
cis-1,2-Dichloroethene	**3.5**	ug/L	1.0	1		01/27/20 13:43	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	100-41-4	
Tetrachloroethene	**34.2**	ug/L	1.0	1		01/27/20 13:43	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 13:43	71-55-6	
Trichloroethene	**10.1**	ug/L	1.0	1		01/27/20 13:43	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		01/27/20 13:43	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		01/27/20 13:43	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		01/27/20 13:43	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		01/27/20 13:43	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	92	%	68-153	1		01/27/20 13:43	17060-07-0	
4-Bromofluorobenzene (S)	89	%	79-124	1		01/27/20 13:43	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		01/27/20 13:43	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Sample: CB-1 **Lab ID: 70119485004** Collected: 01/22/20 11:00 Received: 01/24/20 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:06	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:06	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:06	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		01/27/20 14:06	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		01/27/20 14:06	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		01/27/20 14:06	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		01/27/20 14:06	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	87	%	68-153	1		01/27/20 14:06	17060-07-0	
4-Bromofluorobenzene (S)	91	%	79-124	1		01/27/20 14:06	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		01/27/20 14:06	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Sample: CB-2 **Lab ID: 70119485005** Collected: 01/22/20 11:20 Received: 01/24/20 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:29	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:29	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:29	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		01/27/20 14:29	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		01/27/20 14:29	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		01/27/20 14:29	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		01/27/20 14:29	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	89	%	68-153	1		01/27/20 14:29	17060-07-0	
4-Bromofluorobenzene (S)	90	%	79-124	1		01/27/20 14:29	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		01/27/20 14:29	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Sample: CB-3 **Lab ID: 70119485006** Collected: 01/22/20 11:37 Received: 01/24/20 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:52	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:52	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 14:52	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		01/27/20 14:52	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		01/27/20 14:52	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		01/27/20 14:52	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		01/27/20 14:52	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		01/27/20 14:52	17060-07-0	
4-Bromofluorobenzene (S)	88	%	79-124	1		01/27/20 14:52	460-00-4	
Toluene-d8 (S)	94	%	69-124	1		01/27/20 14:52	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Sample: SP- 106 EFFLUENT **Lab ID: 70119485007** Collected: 01/21/20 09:30 Received: 01/24/20 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		01/27/20 15:15	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 15:15	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 15:15	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		01/27/20 15:15	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		01/27/20 15:15	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		01/27/20 15:15	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		01/27/20 15:15	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	89	%	68-153	1		01/27/20 15:15	17060-07-0	
4-Bromofluorobenzene (S)	89	%	79-124	1		01/27/20 15:15	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		01/27/20 15:15	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Sample: TRIP BLANK **Lab ID: 70119485008** Collected: 01/21/20 00:00 Received: 01/24/20 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		01/27/20 12:35	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 12:35	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		01/27/20 12:35	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		01/27/20 12:35	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		01/27/20 12:35	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		01/27/20 12:35	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		01/27/20 12:35	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	88	%	68-153	1		01/27/20 12:35	17060-07-0	
4-Bromofluorobenzene (S)	89	%	79-124	1		01/27/20 12:35	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		01/27/20 12:35	2037-26-5	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

QC Batch: 147167 Analysis Method: EPA 8260C/5030C
QC Batch Method: EPA 8260C/5030C Analysis Description: 8260 MSV
Associated Lab Samples: 70119485001, 70119485002, 70119485003, 70119485004, 70119485005, 70119485006, 70119485007, 70119485008

METHOD BLANK: 705650 Matrix: Water
Associated Lab Samples: 70119485001, 70119485002, 70119485003, 70119485004, 70119485005, 70119485006, 70119485007, 70119485008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	01/27/20 11:24	
1,1-Dichloroethane	ug/L	<1.0	1.0	01/27/20 11:24	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	01/27/20 11:24	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	01/27/20 11:24	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	01/27/20 11:24	
Benzene	ug/L	<1.0	1.0	01/27/20 11:24	
Chlorobenzene	ug/L	<1.0	1.0	01/27/20 11:24	
Chloroethane	ug/L	<1.0	1.0	01/27/20 11:24	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	01/27/20 11:24	
Ethylbenzene	ug/L	<1.0	1.0	01/27/20 11:24	
m&p-Xylene	ug/L	<2.0	2.0	01/27/20 11:24	
o-Xylene	ug/L	<1.0	1.0	01/27/20 11:24	
Tetrachloroethene	ug/L	<1.0	1.0	01/27/20 11:24	
Toluene	ug/L	<1.0	1.0	01/27/20 11:24	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	01/27/20 11:24	
Trichloroethene	ug/L	<1.0	1.0	01/27/20 11:24	
Vinyl chloride	ug/L	<1.0	1.0	01/27/20 11:24	
Xylene (Total)	ug/L	<3.0	3.0	01/27/20 11:24	
1,2-Dichloroethane-d4 (S)	%	91	68-153	01/27/20 11:24	
4-Bromofluorobenzene (S)	%	89	79-124	01/27/20 11:24	
Toluene-d8 (S)	%	96	69-124	01/27/20 11:24	

LABORATORY CONTROL SAMPLE: 705651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	35.7	71	65-118	
1,1-Dichloroethane	ug/L	50	45.8	92	83-151	
1,2-Dichlorobenzene	ug/L	50	44.7	89	74-113	
1,3-Dichlorobenzene	ug/L	50	43.4	87	71-112	
1,4-Dichlorobenzene	ug/L	50	43.6	87	71-113	
Benzene	ug/L	50	42.2	84	73-119	
Chlorobenzene	ug/L	50	42.8	86	75-113	
Chloroethane	ug/L	50	37.0	74	49-151	
cis-1,2-Dichloroethene	ug/L	50	46.1	92	72-121	
Ethylbenzene	ug/L	50	41.0	82	70-113	
m&p-Xylene	ug/L	100	81.6	82	72-115	
o-Xylene	ug/L	50	41.4	83	73-117	
Tetrachloroethene	ug/L	50	38.3	77	60-128	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

LABORATORY CONTROL SAMPLE: 705651

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	42.2	84	72-119	
trans-1,2-Dichloroethene	ug/L	50	44.3	89	56-142	
Trichloroethene	ug/L	50	40.0	80	69-117	
Vinyl chloride	ug/L	50	32.3	65	43-143	
Xylene (Total)	ug/L	150	123	82	71-109	
1,2-Dichloroethane-d4 (S)	%			89	68-153	
4-Bromofluorobenzene (S)	%			89	79-124	
Toluene-d8 (S)	%			97	69-124	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 706006 706007

Parameter	Units	70119181004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1-Trichloroethane	ug/L	<1.0	50	50	41.5	43.5	83	87	65-118	5	
1,1-Dichloroethane	ug/L	<1.0	50	50	51.0	52.1	102	104	83-151	2	
1,2-Dichlorobenzene	ug/L	<1.0	50	50	46.4	48.1	93	96	74-113	4	
1,3-Dichlorobenzene	ug/L	<1.0	50	50	46.3	48.0	93	96	71-112	4	
1,4-Dichlorobenzene	ug/L	<1.0	50	50	45.5	47.0	91	94	71-113	3	
Benzene	ug/L	212	50	50	272	273	121	123	73-119	0	E,M1
Chlorobenzene	ug/L	<1.0	50	50	43.9	44.8	88	90	75-113	2	
Chloroethane	ug/L	<1.0	50	50	45.1	44.8	90	90	49-151	1	
cis-1,2-Dichloroethene	ug/L	<1.0	50	50	50.9	52.5	102	105	72-121	3	
Ethylbenzene	ug/L	<1.0	50	50	252	253	504	505	70-113	0	E,M1
m&p-Xylene	ug/L	<2.0	100	100	192	195	192	195	72-115	1	M1
o-Xylene	ug/L	<1.0	50	50	48.0	48.7	96	97	73-117	1	
Tetrachloroethene	ug/L	<1.0	50	50	42.3	43.0	85	86	60-128	2	
Toluene	ug/L	<1.0	50	50	57.8	59.5	116	119	72-119	3	
trans-1,2-Dichloroethene	ug/L	<1.0	50	50	50.8	51.1	102	102	56-142	1	
Trichloroethene	ug/L	<1.0	50	50	45.1	47.1	90	94	69-117	4	
Vinyl chloride	ug/L	<1.0	50	50	35.2	35.2	70	70	43-143	0	
Xylene (Total)	ug/L	<3.0	150	150	240	243	160	162	71-109	1	MS
1,2-Dichloroethane-d4 (S)	%						93	91	68-153		
4-Bromofluorobenzene (S)	%						85	85	79-124		
Toluene-d8 (S)	%						92	91	69-124		

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 70119485

[1]	Sample collection date and/or times containers does not match COC; client notified. See Sample Condition Upon Receipt Form for details. Sample logged off Chain as per client request

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN UTICA
Pace Project No.: 70119485

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70119485001	**MH-1 INFLUENT**	EPA 8260C/5030C	147167		
70119485002	**MH-2 INFLUENT**	EPA 8260C/5030C	147167		
70119485003	**MH-3 INFLUENT**	EPA 8260C/5030C	147167		
70119485004	**CB-1**	EPA 8260C/5030C	147167		
70119485005	**CB-2**	EPA 8260C/5030C	147167		
70119485006	**CB-3**	EPA 8260C/5030C	147167		
70119485007	**SP- 106 EFFLUENT**	EPA 8260C/5030C	147167		
70119485008	**TRIP BLANK**	EPA 8260C/5030C	147167		

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CHAIN-OF-CUSTODY / Analytical Reques

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant field

WO# : 70119485

70119485

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tetra Tech Inc.	Report To:	Glenn Netuschil	Attention:	Glen Netuschil
Address:	661 Andersen Drive	Copy To:		Company Name:	Tetra Tech
Pittsburgh, PA 15220				Address:	
Email:	glenn.netuschil@tetratech.com	Purchase Order #:		Pace Quote:	
Phone:	Fax	Project Name:	Lockheed Martin Utica	Pace Project Manager:	devon.fox@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	6261

Regulatory Agency
State / Location
NY

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: 8260	Trip BLANK	8260	Residual Chlorine (Y/N)
1	MH-1 INFluent	WT		1/21/20	9:30				2				X								X	
2	MH-2 INFluent	WT		1/22/20	9:27				2				X								X	
3	MH-3 INFluent	WT		1/21/20	9:53				2				X								X	
4																						
5	CB-1	WT		1/22/20	11:00				2				X								X	
6	CB-2	WT		1/22/20	11:20				2				X								X	
7	CB-3	WT		1/22/20	11:37				2				X								X	
8																						
9	SP-10a EFFluent	WT		1/21/20	9:30				2				X								X	
10																						
11	Trip Blank	WT							2				X								X	
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Steve McCarthy	1/22/20	1530		1/22/20	1530
		1/22/20	0700	SPACE II	1/23/20	1000

SAMPLE CONDITIONS			
4.0	W	N	Y

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	Steve McCarthy
SIGNATURE of SAMPLER:	Steve McCarthy
DATE Signed:	1/22/20

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Sample Condition Upon Receipt

Pace Analytical

Client Name: F

WO#:70119485
PM: DJF Due Date: 02/07/20
CLIENT: TETRA

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 1461 6056 7097

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No Temperature Blank Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ Ziploc ☐ None ☐ Other Type of Ice: (Wet) Blue None

Thermometer Used: TI1091 Correction Factor: +0.2 ☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 4.0 Cooler Temperature Corrected (°C): 4.2 Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample) Date and Initials of person examining contents: IT 11/24/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples orignate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1.
Chain of Custody Filled Out:	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested:	☐Yes	☑No		7.
Sufficient Volume: (Triple volume provided for MS/MSD	☑Yes	☐No		8.
Correct Containers Used:	☐Yes	☑No		9. MISSING SAMPLE MH-3 INFLUENT. RECIEVED SAMPLE SP-103, NOT WRITTEN ON COC. LOGGED OFF BOTTLE
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☑Yes	☐No		12.
-Includes date/time/ID/Analysis Matrix SL (WT) OIL				
All containers needing preservation have been checked	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☑N/A	Sample #
				Initial when completed: / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
KI starch test strips Lot #				
Residual chlorine strips Lot #				Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16.
Trip Blank Custody Seals Present	☑Yes	☐No	☑N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

February 19, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

Dear Glenn Netuschil:
Enclosed are the analytical results for sample(s) received by the laboratory on February 11, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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CERTIFICATIONS

Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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PROJECT NARRATIVE

Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: February 19, 2020

General Information:
2 samples were analyzed for EPA 8260C/5030C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: 149526

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 717105)
  - Vinyl chloride
- LCS (Lab ID: 717106)
  - Vinyl chloride
- MS (Lab ID: 717850)
  - Vinyl chloride
- SP-106 EFFLUENT (Lab ID: 70121278001)
  - Vinyl chloride
- TRIP BLANK (Lab ID: 70121278002)
  - Vinyl chloride

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

Sample: SP-106 EFFLUENT **Lab ID: 70121278001** Collected: 02/05/20 14:12 Received: 02/11/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		02/13/20 22:32	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		02/13/20 22:32	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		02/13/20 22:32	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		02/13/20 22:32	75-01-4	CL
Xylene (Total)	**<3.0**	ug/L	3.0	1		02/13/20 22:32	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		02/13/20 22:32	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		02/13/20 22:32	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%	68-153	1		02/13/20 22:32	17060-07-0	
4-Bromofluorobenzene (S)	97	%	79-124	1		02/13/20 22:32	460-00-4	
Toluene-d8 (S)	90	%	69-124	1		02/13/20 22:32	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

Sample: TRIP BLANK **Lab ID: 70121278002** Collected: 02/05/20 00:00 Received: 02/11/20 10:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		02/13/20 22:13	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		02/13/20 22:13	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		02/13/20 22:13	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		02/13/20 22:13	75-01-4	CL
Xylene (Total)	**<3.0**	ug/L	3.0	1		02/13/20 22:13	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		02/13/20 22:13	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		02/13/20 22:13	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	110	%	68-153	1		02/13/20 22:13	17060-07-0	
4-Bromofluorobenzene (S)	96	%	79-124	1		02/13/20 22:13	460-00-4	
Toluene-d8 (S)	92	%	69-124	1		02/13/20 22:13	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

QC Batch: 149526 Analysis Method: EPA 8260C/5030C
QC Batch Method: EPA 8260C/5030C Analysis Description: 8260 MSV
Associated Lab Samples: 70121278001, 70121278002

METHOD BLANK: 717105 Matrix: Water
Associated Lab Samples: 70121278001, 70121278002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	02/13/20 15:56	
1,1-Dichloroethane	ug/L	<1.0	1.0	02/13/20 15:56	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	02/13/20 15:56	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	02/13/20 15:56	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	02/13/20 15:56	
Benzene	ug/L	<1.0	1.0	02/13/20 15:56	
Chlorobenzene	ug/L	<1.0	1.0	02/13/20 15:56	
Chloroethane	ug/L	<1.0	1.0	02/13/20 15:56	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	02/13/20 15:56	
Ethylbenzene	ug/L	<1.0	1.0	02/13/20 15:56	
m&p-Xylene	ug/L	<2.0	2.0	02/13/20 15:56	
o-Xylene	ug/L	<1.0	1.0	02/13/20 15:56	
Tetrachloroethene	ug/L	<1.0	1.0	02/13/20 15:56	
Toluene	ug/L	<1.0	1.0	02/13/20 15:56	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	02/13/20 15:56	
Trichloroethene	ug/L	<1.0	1.0	02/13/20 15:56	
Vinyl chloride	ug/L	<1.0	1.0	02/13/20 15:56	CL
Xylene (Total)	ug/L	<3.0	3.0	02/13/20 15:56	
1,2-Dichloroethane-d4 (S)	%	106	68-153	02/13/20 15:56	
4-Bromofluorobenzene (S)	%	96	79-124	02/13/20 15:56	
Toluene-d8 (S)	%	92	69-124	02/13/20 15:56	

LABORATORY CONTROL SAMPLE: 717106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	42.0	84	65-118	
1,1-Dichloroethane	ug/L	50	48.0	96	83-151	
1,2-Dichlorobenzene	ug/L	50	43.6	87	74-113	
1,3-Dichlorobenzene	ug/L	50	42.7	85	71-112	
1,4-Dichlorobenzene	ug/L	50	43.3	87	71-113	
Benzene	ug/L	50	45.4	91	73-119	
Chlorobenzene	ug/L	50	44.0	88	75-113	
Chloroethane	ug/L	50	34.8	70	49-151	
cis-1,2-Dichloroethene	ug/L	50	47.8	96	72-121	
Ethylbenzene	ug/L	50	43.3	87	70-113	
m&p-Xylene	ug/L	100	88.2	88	72-115	
o-Xylene	ug/L	50	44.0	88	73-117	
Tetrachloroethene	ug/L	50	37.1	74	60-128	
Toluene	ug/L	50	46.3	93	72-119	
trans-1,2-Dichloroethene	ug/L	50	44.0	88	56-142	

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(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

LABORATORY CONTROL SAMPLE: 717106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	50	43.4	87	69-117	
Vinyl chloride	ug/L	50	29.7	59	43-143	CL
Xylene (Total)	ug/L	150	132	88	71-109	
1,2-Dichloroethane-d4 (S)	%			122	68-153	
4-Bromofluorobenzene (S)	%			113	79-124	
Toluene-d8 (S)	%			92	69-124	

MATRIX SPIKE SAMPLE: 717850

Parameter	Units	30349923002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	50	48.0	96	65-118	
1,1-Dichloroethane	ug/L	ND	50	53.6	107	83-151	
1,2-Dichlorobenzene	ug/L	ND	50	49.9	100	74-113	
1,3-Dichlorobenzene	ug/L	ND	50	50.8	102	71-112	
1,4-Dichlorobenzene	ug/L	ND	50	50.6	101	71-113	
Benzene	ug/L	ND	50	53.4	107	73-119	
Chlorobenzene	ug/L	ND	50	50.3	101	75-113	
Chloroethane	ug/L	ND	50	40.2	80	49-151	
cis-1,2-Dichloroethene	ug/L	ND	50	54.2	108	72-121	
Ethylbenzene	ug/L	ND	50	52.1	104	70-113	
m&p-Xylene	ug/L	ND	100	104	104	72-115	
o-Xylene	ug/L	ND	50	51.6	103	73-117	
Tetrachloroethene	ug/L	ND	50	45.1	90	60-128	
Toluene	ug/L	ND	50	55.1	110	72-119	
trans-1,2-Dichloroethene	ug/L	ND	50	48.2	96	56-142	
Trichloroethene	ug/L	ND	50	52.3	105	69-117	
Vinyl chloride	ug/L	ND	50	35.0	70	43-143	CL
Xylene (Total)	ug/L	ND	150	156	104	71-109	
1,2-Dichloroethane-d4 (S)	%				120	68-153	
4-Bromofluorobenzene (S)	%				112	79-124	
Toluene-d8 (S)	%				91	69-124	

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(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN, UTICA 2/5
Pace Project No.: 70121278

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70121278001	**SP-106 EFFLUENT**	EPA 8260C/5030C	149526		
70121278002	**TRIP BLANK**	EPA 8260C/5030C	149526		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in

WO#:70121278

70121278

USE ONLY

DSF

Company: TETRA TECH	**Billing Information:** Glen Netuschil
Address: 661 Andersen dr	
Report To: Glen Netuschil	**Email To:**
Copy To:	**Site Collection Info/Address:** 525 French Rd Utica
Customer Project Name/Number: Lockheed Martin, Utica	State / County/City / Time Zone Collected PT MT CT ET
Phone: **Email:**	**Site/Facility ID #:** **Compliance Monitoring?** [ ] Yes [ ] No
Collected by (print): Steve McCarthy	**Purchase Order #:** **DW PWS ID #:**
Collected by (signature): Steve McCarthy	**Quote #:** **DW Location Code #:**
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	**Turnaround Date Required:** _____ **RUSH:** Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) **Immediately Packed on Ice?** [ ] Yes [ ] No **Field Filtered (if applicable):** [ ] Yes [ ] No **Analysis:** _____

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: 8260	LAB USE ONLY: Lab Sample # / Comments
SP-106 Effluent	GW		2/5/20	2:12				2	X	
Trip Blank	GW							2	X	

LAB Profile/Line: 5388

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: Bubble

LAB Tracking #: 7777 3003 4824

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: 7401

Cooler 1 Temp Upon Receipt 1.6 oC

Cooler 1 Therm Corr. Factor +0.2 oC

Cooler 1 Corrected Temp 1.8 oC

Comments: _____

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s): YES / NO

Page _____ of _____

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Steve McCarthy NRC	2/10/20 1:17	Pace	2/10/20 1:17
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Pace	2/10/20 1700	Pace LI	2/10/20 10:20
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

March 17, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

Dear Glenn Netuschil:
Enclosed are the analytical results for sample(s) received by the laboratory on March 11, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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CERTIFICATIONS

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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PROJECT NARRATIVE

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: March 17, 2020

General Information:
2 samples were analyzed for EPA 8260C/5030C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

Sample: SP-106 EFFLUENT **Lab ID: 70124710001** Collected: 03/04/20 08:55 Received: 03/11/20 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		03/11/20 22:39	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		03/11/20 22:39	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		03/11/20 22:39	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		03/11/20 22:39	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/11/20 22:39	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		03/11/20 22:39	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		03/11/20 22:39	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	68-153	1		03/11/20 22:39	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-124	1		03/11/20 22:39	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		03/11/20 22:39	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

Sample: TRIP BLANK **Lab ID: 70124710002** Collected: 03/04/20 00:00 Received: 03/11/20 09:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C							
Benzene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		03/11/20 22:19	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		03/11/20 22:19	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		03/11/20 22:19	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		03/11/20 22:19	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		03/11/20 22:19	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		03/11/20 22:19	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		03/11/20 22:19	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	93	%	68-153	1		03/11/20 22:19	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		03/11/20 22:19	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		03/11/20 22:19	2037-26-5	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

QC Batch: 153052 Analysis Method: EPA 8260C/5030C
QC Batch Method: EPA 8260C/5030C Analysis Description: 8260 MSV
Associated Lab Samples: 70124710001, 70124710002

METHOD BLANK: 735699 Matrix: Water
Associated Lab Samples: 70124710001, 70124710002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	03/11/20 15:09	
1,1-Dichloroethane	ug/L	<1.0	1.0	03/11/20 15:09	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	03/11/20 15:09	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	03/11/20 15:09	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	03/11/20 15:09	
Benzene	ug/L	<1.0	1.0	03/11/20 15:09	
Chlorobenzene	ug/L	<1.0	1.0	03/11/20 15:09	
Chloroethane	ug/L	<1.0	1.0	03/11/20 15:09	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	03/11/20 15:09	
Ethylbenzene	ug/L	<1.0	1.0	03/11/20 15:09	
m&p-Xylene	ug/L	<2.0	2.0	03/11/20 15:09	
o-Xylene	ug/L	<1.0	1.0	03/11/20 15:09	
Tetrachloroethene	ug/L	<1.0	1.0	03/11/20 15:09	
Toluene	ug/L	<1.0	1.0	03/11/20 15:09	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	03/11/20 15:09	
Trichloroethene	ug/L	<1.0	1.0	03/11/20 15:09	
Vinyl chloride	ug/L	<1.0	1.0	03/11/20 15:09	
Xylene (Total)	ug/L	<3.0	3.0	03/11/20 15:09	
1,2-Dichloroethane-d4 (S)	%	93	68-153	03/11/20 15:09	
4-Bromofluorobenzene (S)	%	100	79-124	03/11/20 15:09	
Toluene-d8 (S)	%	97	69-124	03/11/20 15:09	

LABORATORY CONTROL SAMPLE: 735700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	49.6	99	65-118	
1,1-Dichloroethane	ug/L	50	50.6	101	83-151	
1,2-Dichlorobenzene	ug/L	50	51.2	102	74-113	
1,3-Dichlorobenzene	ug/L	50	51.6	103	71-112	
1,4-Dichlorobenzene	ug/L	50	51.6	103	71-113	
Benzene	ug/L	50	53.8	108	73-119	
Chlorobenzene	ug/L	50	51.8	104	75-113	
Chloroethane	ug/L	50	50.3	101	49-151	
cis-1,2-Dichloroethene	ug/L	50	51.0	102	72-121	
Ethylbenzene	ug/L	50	51.8	104	70-113	
m&p-Xylene	ug/L	100	107	107	72-115	
o-Xylene	ug/L	50	52.6	105	73-117	
Tetrachloroethene	ug/L	50	49.8	100	60-128	
Toluene	ug/L	50	54.1	108	72-119	
trans-1,2-Dichloroethene	ug/L	50	51.5	103	56-142	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

LABORATORY CONTROL SAMPLE: 735700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Trichloroethene	ug/L	50	53.6	107	69-117	
Vinyl chloride	ug/L	50	48.8	98	43-143	
Xylene (Total)	ug/L	150	160	107	71-109	
1,2-Dichloroethane-d4 (S)	%			94	68-153	
4-Bromofluorobenzene (S)	%			99	79-124	
Toluene-d8 (S)	%			96	69-124	

MATRIX SPIKE SAMPLE: 736731

Parameter	Units	30354102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	50	45.8	92	65-118	
1,1-Dichloroethane	ug/L	ND	50	45.9	92	83-151	
1,2-Dichlorobenzene	ug/L	ND	50	47.8	96	74-113	
1,3-Dichlorobenzene	ug/L	ND	50	48.7	97	71-112	
1,4-Dichlorobenzene	ug/L	ND	50	48.1	96	71-113	
Benzene	ug/L	ND	50	50.6	101	73-119	
Chlorobenzene	ug/L	ND	50	50.2	100	75-113	
Chloroethane	ug/L	ND	50	43.3	87	49-151	
cis-1,2-Dichloroethene	ug/L	ND	50	47.7	95	72-121	
Ethylbenzene	ug/L	ND	50	50.2	100	70-113	
m&p-Xylene	ug/L	ND	100	104	104	72-115	
o-Xylene	ug/L	ND	50	50.6	101	73-117	
Tetrachloroethene	ug/L	ND	50	48.6	97	60-128	
Toluene	ug/L	ND	50	51.2	102	72-119	
trans-1,2-Dichloroethene	ug/L	ND	50	44.0	88	56-142	
Trichloroethene	ug/L	ND	50	50.2	100	69-117	
Vinyl chloride	ug/L	ND	50	41.3	83	43-143	
Xylene (Total)	ug/L	ND	150	154	103	71-109	
1,2-Dichloroethane-d4 (S)	%				90	68-153	
4-Bromofluorobenzene (S)	%				100	79-124	
Toluene-d8 (S)	%				98	69-124	

SAMPLE DUPLICATE: 736730

Parameter	Units	70124430002 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	<1.0		
1,1-Dichloroethane	ug/L	<1.0	<1.0		
1,2-Dichlorobenzene	ug/L	<1.0	<1.0		
1,3-Dichlorobenzene	ug/L	<1.0	<1.0		
1,4-Dichlorobenzene	ug/L	<1.0	<1.0		
Benzene	ug/L	<1.0	<1.0		
Chlorobenzene	ug/L	<1.0	<1.0		
Chloroethane	ug/L	<1.0	<1.0		
cis-1,2-Dichloroethene	ug/L	<1.0	<1.0		

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Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

SAMPLE DUPLICATE: 736730

Parameter	Units	70124430002 Result	Dup Result	RPD	Qualifiers
Ethylbenzene	ug/L	<1.0	<1.0		
m&p-Xylene	ug/L	<2.0	<2.0		
o-Xylene	ug/L	<1.0	<1.0		
Tetrachloroethene	ug/L	<1.0	<1.0		
Toluene	ug/L	<1.0	<1.0		
trans-1,2-Dichloroethene	ug/L	<1.0	<1.0		
Trichloroethene	ug/L	<1.0	<1.0		
Vinyl chloride	ug/L	<1.0	<1.0		
Xylene (Total)	ug/L	<3.0	<3.0		
1,2-Dichloroethane-d4 (S)	%	97	96		
4-Bromofluorobenzene (S)	%	99	99		
Toluene-d8 (S)	%	91	99		

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(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN,UTICA 3/4
Pace Project No.: 70124710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70124710001	**SP-106 EFFLUENT**	EPA 8260C/5030C	153052		
70124710002	**TRIP BLANK**	EPA 8260C/5030C	153052		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

WO# : 70124710

70124710

LAB USE ONLY

Company: TeTra Tech	Billing Information: Glen Netuschil
Address:	
Report To: Glen Netuschil	Email To:
Copy To:	Site Collection Info/Address: 525 French Rd, Utica
Customer Project Name/Number: Lockheed Martin, Utica	State / County/City / Time Zone Collected PT MT CT ET
Phone: Email:	Site/Facility ID #
Collected by (print): Steve McCarthy	Purchase Order #
Collected by (signature): Steve McCarthy	Quote #
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____	Turnaround Date Required: RUSH: Same Day Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [ ] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	Analyses: 8260	LAB Sample # / Comments
SP-106 Effluent	GW		3/4/20	8:55				2	X	001
Trip Blank	GW							2	X	002

LAB Profile/Line:

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N NA

Packing Material Used: Zip

LAB Tracking #: 7779 8134 0320

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: [ ] FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #: _____

ACCT #: _____

Template: _____

Prelogin: _____

PM: _____

PB: _____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: Thm11

Cooler 1 Temp Upon Receipt 4.5 oC

Cooler 1 Therm Corr. Factor 0.2 oC

Cooler 1 Corrected Temp 4.7 oC

Comments: _____

Trip Blank Received: Y N NA

HCL MeOH TSP Other

NonConformance(s): YES / NO

Page 1 of 1

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Steve McCarthy	3/9/20 1600		3.9.20 1600
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
	3.10.20 1700		3/11/20 945
Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:

Page 10 of 11

F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

May 08, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on May 07, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
(631)694-3040

CERTIFICATIONS

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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Melville, NY 11747
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PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: May 08, 2020

General Information:
2 samples were analyzed for EPA 8260C/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 159648

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 769399)
  - 1,1-Dichloroethane

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 159648

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30362002002

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 769969)
  - 1,1-Dichloroethane

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: May 08, 2020

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

Sample: SP-106 EFFLUENT **Lab ID: 70130310001** Collected: 05/05/20 10:34 Received: 05/07/20 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/07/20 17:09	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/07/20 17:09	75-34-3	L2
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/07/20 17:09	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/07/20 17:09	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		05/07/20 17:09	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		05/07/20 17:09	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		05/07/20 17:09	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	81	%	68-153	1		05/07/20 17:09	17060-07-0	
4-Bromofluorobenzene (S)	90	%	79-124	1		05/07/20 17:09	460-00-4	
Toluene-d8 (S)	91	%	69-124	1		05/07/20 17:09	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

Sample: SP-106 EFFLUENT TB **Lab ID: 70130310002** Collected: 05/05/20 00:00 Received: 05/07/20 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		05/07/20 16:46	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		05/07/20 16:46	75-34-3	L2
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		05/07/20 16:46	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		05/07/20 16:46	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		05/07/20 16:46	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		05/07/20 16:46	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		05/07/20 16:46	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		05/07/20 16:46	17060-07-0	
4-Bromofluorobenzene (S)	93	%	79-124	1		05/07/20 16:46	460-00-4	
Toluene-d8 (S)	91	%	69-124	1		05/07/20 16:46	2037-26-5	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

QC Batch: 159648
QC Batch Method: EPA 8260C/5030C
Analysis Method: EPA 8260C/5030C
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70130310001, 70130310002

METHOD BLANK: 769398 Matrix: Water
Associated Lab Samples: 70130310001, 70130310002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	05/07/20 14:31	
1,1-Dichloroethane	ug/L	<1.0	1.0	05/07/20 14:31	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	05/07/20 14:31	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	05/07/20 14:31	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	05/07/20 14:31	
Benzene	ug/L	<1.0	1.0	05/07/20 14:31	
Chlorobenzene	ug/L	<1.0	1.0	05/07/20 14:31	
Chloroethane	ug/L	<1.0	1.0	05/07/20 14:31	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	05/07/20 14:31	
Ethylbenzene	ug/L	<1.0	1.0	05/07/20 14:31	
m&p-Xylene	ug/L	<2.0	2.0	05/07/20 14:31	
o-Xylene	ug/L	<1.0	1.0	05/07/20 14:31	
Tetrachloroethene	ug/L	<1.0	1.0	05/07/20 14:31	
Toluene	ug/L	<1.0	1.0	05/07/20 14:31	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	05/07/20 14:31	
Trichloroethene	ug/L	<1.0	1.0	05/07/20 14:31	
Vinyl chloride	ug/L	<1.0	1.0	05/07/20 14:31	
Xylene (Total)	ug/L	<3.0	3.0	05/07/20 14:31	
1,2-Dichloroethane-d4 (S)	%	81	68-153	05/07/20 14:31	
4-Bromofluorobenzene (S)	%	96	79-124	05/07/20 14:31	
Toluene-d8 (S)	%	90	69-124	05/07/20 14:31	

LABORATORY CONTROL SAMPLE: 769399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	35.4	71	65-118	
1,1-Dichloroethane	ug/L	50	40.3	81	83-151	L2
1,2-Dichlorobenzene	ug/L	50	41.9	84	74-113	
1,3-Dichlorobenzene	ug/L	50	42.4	85	71-112	
1,4-Dichlorobenzene	ug/L	50	42.1	84	71-113	
Benzene	ug/L	50	40.2	80	73-119	
Chlorobenzene	ug/L	50	45.4	91	75-113	
Chloroethane	ug/L	50	37.0	74	49-151	
cis-1,2-Dichloroethene	ug/L	50	41.8	84	72-121	
Ethylbenzene	ug/L	50	45.3	91	70-113	
m&p-Xylene	ug/L	100	94.5	95	72-115	
o-Xylene	ug/L	50	48.1	96	73-117	
Tetrachloroethene	ug/L	50	48.4	97	60-128	
Toluene	ug/L	50	40.7	81	72-119	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

LABORATORY CONTROL SAMPLE: 769399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
trans-1,2-Dichloroethene	ug/L	50	41.7	83	56-142	
Trichloroethene	ug/L	50	39.2	78	69-117	
Vinyl chloride	ug/L	50	36.4	73	43-143	
Xylene (Total)	ug/L	150	143	95	71-109	
1,2-Dichloroethane-d4 (S)	%			89	68-153	
4-Bromofluorobenzene (S)	%			104	79-124	
Toluene-d8 (S)	%			108	69-124	

MATRIX SPIKE SAMPLE: 769969

Parameter	Units	30362002002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	50	40.7	81	65-118	
1,1-Dichloroethane	ug/L	ND	50	39.9	80	83-151	M0
1,2-Dichlorobenzene	ug/L	ND	50	44.7	89	74-113	
1,3-Dichlorobenzene	ug/L	ND	50	42.9	86	71-112	
1,4-Dichlorobenzene	ug/L	ND	50	43.1	86	71-113	
Benzene	ug/L	ND	50	43.5	87	73-119	
Chlorobenzene	ug/L	ND	50	48.2	96	75-113	
Chloroethane	ug/L	ND	50	43.0	86	49-151	
cis-1,2-Dichloroethene	ug/L	ND	50	42.4	85	72-121	
Ethylbenzene	ug/L	ND	50	47.6	95	70-113	
m&p-Xylene	ug/L	ND	100	94.4	94	72-115	
o-Xylene	ug/L	ND	50	46.3	93	73-117	
Tetrachloroethene	ug/L	ND	50	49.7	99	60-128	
Toluene	ug/L	ND	50	44.1	88	72-119	
trans-1,2-Dichloroethene	ug/L	ND	50	42.8	86	56-142	
Trichloroethene	ug/L	ND	50	40.6	81	69-117	
Vinyl chloride	ug/L	ND	50	39.5	79	43-143	
Xylene (Total)	ug/L	ND	150	141	94	71-109	
1,2-Dichloroethane-d4 (S)	%				83	68-153	
4-Bromofluorobenzene (S)	%				95	79-124	
Toluene-d8 (S)	%				100	69-124	

SAMPLE DUPLICATE: 769968

Parameter	Units	30362002001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	<1.0		
1,1-Dichloroethane	ug/L	ND	<1.0		
1,2-Dichlorobenzene	ug/L	ND	<1.0		
1,3-Dichlorobenzene	ug/L	ND	<1.0		
1,4-Dichlorobenzene	ug/L	ND	<1.0		
Benzene	ug/L	11.7	12.1	4	
Chlorobenzene	ug/L	ND	<1.0		
Chloroethane	ug/L	ND	<1.0		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

SAMPLE DUPLICATE: 769968

Parameter	Units	30362002001 Result	Dup Result	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/L	ND	<1.0		
Ethylbenzene	ug/L	5.4	5.8	6	
m&p-Xylene	ug/L	42.4	42.3	0	
o-Xylene	ug/L	24.7	24.7	0	
Tetrachloroethene	ug/L	ND	<1.0		
Toluene	ug/L	44.7	46.6	4	
trans-1,2-Dichloroethene	ug/L	ND	<1.0		
Trichloroethene	ug/L	ND	<1.0		
Vinyl chloride	ug/L	ND	<1.0		
Xylene (Total)	ug/L	67.1	67.0	0	
1,2-Dichloroethane-d4 (S)	%	86	86		
4-Bromofluorobenzene (S)	%	88	89		
Toluene-d8 (S)	%	97	98		

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Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN UTICA 5/5
Pace Project No.: 70130310

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70130310001	**SP-106 EFFLUENT**	EPA 8260C/5030C	159648		
70130310002	**SP-106 EFFLUENT TB**	EPA 8260C/5030C	159648		

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Pace Analytical
WWW.PACELABS.COM

CHAIN-OF-CUSTODY / Analytical Reques

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields

WO# : 70130310

70130310

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company	Tetra Tech Inc	Report To	Glenn Netuschil	Attention	
Address	661 Andersen Drive	Copy To		Company Name	
	Pittsburgh, PA 15220			Address	
Email	glenn.netuschil@tetratech.com	Purchase Order #		Pace Quote	
Phone	(631)987-3206 Fax	Project Name	Lockheed Martin Utica	Pace Project Manager	devon.fox@pacelabs.com,
Requested Due Date		Project #		Pace Profile #	6261

Regulatory Agency	
State / Location	NY

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX	CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test: Y/N	Analyses Test: 8260	Residual Chlorine (Y/N)
1	SP-106 Effluent	Drinking Water	DW	WT	G	5/5/20	10:34				2				X						X	
2		Water	WT																			
3		Waste Water	WW																			
4		Product	P																			
5		Soil/Solid	SL																			
6		Oil	OL																			
7		Wipe	WP																			
8		Air	AR																			
9		Other	OT																			
10		Tissue	TS																			
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
					5.6.20	0800				
		5.6.20	1700	Pace	5/7/20	1010	2.6	W	N	Y

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Steve McCarthy					
SIGNATURE of SAMPLER:	Steve McCarthy	DATE Signed: 5/5/20				

Pace Analytical

Sample Condition Upon R

WO#: 70130310
PM: DJF
CLIENT: TETRA
Due Date: 05/21/20

Client Name: Pr

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 7703 9743 4944

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☑ Yes ☐ No

Temperature Blank Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: Wet Blue None

Thermometer Used: TH091 Correction Factor: +0.2

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 3.6 Cooler Temperature Corrected (°C): 3.8

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample)

Date and Initials of person examining contents: 5/7/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1.
Chain of Custody Filled Out:	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested:	☐Yes	☑No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☑Yes	☐No		8.
Correct Containers Used:	☑Yes	☐No		9.
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix SL WT OIL	☑Yes	☐No		12.
All containers needing preservation have been checked pH paper Lot #	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☑N/A	Initial when completed: / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination: KI starch test strips Lot # Residual chlorine strips Lot #	☐Yes	☐No	☑N/A	14. Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16. Trip blank provided NA indicated on SCUR
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

F-LI-C-002-rev.02

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

June 12, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
(631)694-3040

CERTIFICATIONS

Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: June 12, 2020

General Information:
2 samples were analyzed for EPA 8260C/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Melville, NY 11747
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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

Sample: SP-106 EFFLUENT **Lab ID: 70133558001** Collected: 06/01/20 10:55 Received: 06/06/20 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		06/09/20 09:35	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		06/09/20 09:35	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		06/09/20 09:35	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		06/09/20 09:35	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		06/09/20 09:35	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		06/09/20 09:35	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		06/09/20 09:35	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	68-153	1		06/09/20 09:35	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-124	1		06/09/20 09:35	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		06/09/20 09:35	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

Sample: TRIP BLANK **Lab ID: 70133558002** Collected: 06/01/20 10:55 Received: 06/06/20 10:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		06/09/20 09:16	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		06/09/20 09:16	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		06/09/20 09:16	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		06/09/20 09:16	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		06/09/20 09:16	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		06/09/20 09:16	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		06/09/20 09:16	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	94	%	68-153	1		06/09/20 09:16	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		06/09/20 09:16	460-00-4	
Toluene-d8 (S)	102	%	69-124	1		06/09/20 09:16	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

QC Batch: 163780
QC Batch Method: EPA 8260C/5030C
Analysis Method: EPA 8260C/5030C
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70133558001, 70133558002

METHOD BLANK: 789984 Matrix: Water
Associated Lab Samples: 70133558001, 70133558002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	06/09/20 06:59	
1,1-Dichloroethane	ug/L	<1.0	1.0	06/09/20 06:59	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	06/09/20 06:59	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	06/09/20 06:59	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	06/09/20 06:59	
Benzene	ug/L	<1.0	1.0	06/09/20 06:59	
Chlorobenzene	ug/L	<1.0	1.0	06/09/20 06:59	
Chloroethane	ug/L	<1.0	1.0	06/09/20 06:59	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	06/09/20 06:59	
Ethylbenzene	ug/L	<1.0	1.0	06/09/20 06:59	
m&p-Xylene	ug/L	<2.0	2.0	06/09/20 06:59	
o-Xylene	ug/L	<1.0	1.0	06/09/20 06:59	
Tetrachloroethene	ug/L	<1.0	1.0	06/09/20 06:59	
Toluene	ug/L	<1.0	1.0	06/09/20 06:59	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	06/09/20 06:59	
Trichloroethene	ug/L	<1.0	1.0	06/09/20 06:59	
Vinyl chloride	ug/L	<1.0	1.0	06/09/20 06:59	
Xylene (Total)	ug/L	<3.0	3.0	06/09/20 06:59	
1,2-Dichloroethane-d4 (S)	%	99	68-153	06/09/20 06:59	
4-Bromofluorobenzene (S)	%	105	79-124	06/09/20 06:59	
Toluene-d8 (S)	%	95	69-124	06/09/20 06:59	

LABORATORY CONTROL SAMPLE: 789985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	42.5	85	65-118	
1,1-Dichloroethane	ug/L	50	47.4	95	83-151	
1,2-Dichlorobenzene	ug/L	50	48.5	97	74-113	
1,3-Dichlorobenzene	ug/L	50	49.7	99	71-112	
1,4-Dichlorobenzene	ug/L	50	50.2	100	71-113	
Benzene	ug/L	50	47.6	95	73-119	
Chlorobenzene	ug/L	50	50.3	101	75-113	
Chloroethane	ug/L	50	47.2	94	49-151	
cis-1,2-Dichloroethene	ug/L	50	46.6	93	72-121	
Ethylbenzene	ug/L	50	47.5	95	70-113	
m&p-Xylene	ug/L	100	99.5	99	72-115	
o-Xylene	ug/L	50	49.2	98	73-117	
Tetrachloroethene	ug/L	50	42.5	85	60-128	
Toluene	ug/L	50	50.9	102	72-119	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

LABORATORY CONTROL SAMPLE: 789985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
trans-1,2-Dichloroethene	ug/L	50	45.6	91	56-142	
Trichloroethene	ug/L	50	46.4	93	69-117	
Vinyl chloride	ug/L	50	47.9	96	43-143	
Xylene (Total)	ug/L	150	149	99	71-109	
1,2-Dichloroethane-d4 (S)	%			95	68-153	
4-Bromofluorobenzene (S)	%			102	79-124	
Toluene-d8 (S)	%			93	69-124	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 790094 790095

Parameter	Units	70133503009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1-Trichloroethane	ug/L	<1.0	50	50	45.0	44.1	90	88	65-118	2	
1,1-Dichloroethane	ug/L	<1.0	50	50	46.1	46.2	92	92	83-151	0	
1,2-Dichlorobenzene	ug/L	<1.0	50	50	46.3	47.0	93	94	74-113	1	
1,3-Dichlorobenzene	ug/L	<1.0	50	50	48.1	48.2	96	96	71-112	0	
1,4-Dichlorobenzene	ug/L	<1.0	50	50	48.0	48.4	96	97	71-113	1	
Benzene	ug/L	<1.0	50	50	47.3	47.2	95	94	73-119	0	
Chlorobenzene	ug/L	<1.0	50	50	49.4	49.8	99	100	75-113	1	
Chloroethane	ug/L	<1.0	50	50	45.4	46.0	91	92	49-151	1	
cis-1,2-Dichloroethene	ug/L	<1.0	50	50	45.3	45.5	91	91	72-121	0	
Ethylbenzene	ug/L	<1.0	50	50	47.3	47.9	95	96	70-113	1	
m&p-Xylene	ug/L	<2.0	100	100	99.6	101	100	101	72-115	1	
o-Xylene	ug/L	<1.0	50	50	48.2	48.9	96	98	73-117	1	
Tetrachloroethene	ug/L	<1.0	50	50	46.6	47.1	93	94	60-128	1	
Toluene	ug/L	<1.0	50	50	47.5	48.4	95	97	72-119	2	
trans-1,2-Dichloroethene	ug/L	<1.0	50	50	45.8	46.3	92	93	56-142	1	
Trichloroethene	ug/L	<1.0	50	50	46.6	48.1	93	96	69-117	3	
Vinyl chloride	ug/L	<1.0	50	50	46.0	44.3	92	89	43-143	4	
Xylene (Total)	ug/L	<3.0	150	150	148	149	99	100	71-109	1	
1,2-Dichloroethane-d4 (S)	%						97	94	68-153		
4-Bromofluorobenzene (S)	%						104	103	79-124		
Toluene-d8 (S)	%						101	101	69-124		

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REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN UTICA 6/6
Pace Project No.: 70133558

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70133558001	**SP-106 EFFLUENT**	EPA 8260C/5030C	163780		
70133558002	**TRIP BLANK**	EPA 8260C/5030C	163780		

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WO#: 70133558

70133558

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section C Invoice Information:	
Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	devon.fox@pacelabs.com,
Pace Profile #:	6261

Company:	Tetra Tech Inc	Project Information: Report To:	Glenn Netuschil
Address:	661 Andersen Drive	Copy To:	
	Pittsburgh, PA 15220		
Email:	glenn.netuschil@tetratech.com	Purchase Order #:	
Phone:	(631)987-3206 Fax	Project Name:	Lockheed Martin Utica
Requested Due Date:		Project #:	

Regulatory Agency	
State / Location	NY

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Analyses Test: 8260	Residual Chlorine (Y/N)
1	SP-106 Effluent	WT	G	6/1/20	1055				2				X						X 8260	
2																				
3	Trip Blank																			
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Steve McCarthy	6/3/20	8:00	RBurg	6/3	800	10 1 10 5.1 Y@4 4
	RBurg	6/3	1700	Pace LT	6/4	0800	

SAMPLER NAME AND SIGNATURE: Steve McCarthy

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: Steve McCarthy DATE Signed: 6/1/20

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Sample Condition Upon Receipt

Pace Analytical

WO#: 70133558

PM: DJF **Due Date: 06/22/20**

CLIENT: TETRA

Client Name: Pro

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 7706 3805 9339

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No

Temperature Blank Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: Wet Blue None

Thermometer Used: TH091 Correction Factor: +0.2

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 5.1 Cooler Temperature Corrected (°C): 5.3

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

Date and Initials of person examining contents: RCH 6/19/20

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☐Yes	☐No		1.
Chain of Custody Filled Out:	☐Yes	☐No		2.
Chain of Custody Relinquished:	☐Yes	☐No		3.
Sampler Name & Signature on COC:	☐Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☐Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☐No		6.
Rush Turn Around Time Requested:	☐Yes	☐No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☐Yes	☐No		8.
Correct Containers Used:	☐Yes	☐No		9.
-Pace Containers Used:	☐Yes	☐No		
Containers Intact:	☐Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☐N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix SL WT OIL	☐Yes	☐No		12.
All containers needing preservation have been checked	☐Yes	☐No	☐N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☐N/A	Initial when completed: / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination:	☐Yes	☐No	☐N/A	14.
KI starch test strips Lot #				Positive for Res. Chlorine? Y N
Residual chlorine strips Lot #				
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☐N/A	15.
Trip Blank Present:	☐Yes	☐No	☐N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

* PM (Project Manager) review is documented electronically in LIMS.

F-LI-C-002-rev.02

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

July 23, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on July 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
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CERTIFICATIONS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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PROJECT NARRATIVE

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: July 23, 2020

General Information:
8 samples were analyzed for EPA 8260C/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: MH-1 INFLUENT **Lab ID: 70137739001** Collected: 07/06/20 11:20 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 10:03	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	106-46-7	
1,1-Dichloroethane	**2.5**	ug/L	1.0	1		07/15/20 10:03	75-34-3	
cis-1,2-Dichloroethene	**23.0**	ug/L	1.0	1		07/15/20 10:03	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	100-41-4	
Tetrachloroethene	**14.3**	ug/L	1.0	1		07/15/20 10:03	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 10:03	71-55-6	
Trichloroethene	**24.3**	ug/L	1.0	1		07/15/20 10:03	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 10:03	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 10:03	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 10:03	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 10:03	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	68-153	1		07/15/20 10:03	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-124	1		07/15/20 10:03	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/15/20 10:03	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: MH-2 INFLUENT **Lab ID: 70137739002** Collected: 07/08/20 14:05 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 10:31	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 10:31	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 10:31	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 10:31	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 10:31	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 10:31	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 10:31	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	68-153	1		07/15/20 10:31	17060-07-0	
4-Bromofluorobenzene (S)	100	%	79-124	1		07/15/20 10:31	460-00-4	
Toluene-d8 (S)	99	%	69-124	1		07/15/20 10:31	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: MH-3 INFLUENT **Lab ID: 70137739003** Collected: 07/06/20 11:15 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 10:54	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 10:54	75-34-3	
cis-1,2-Dichloroethene	**4.3**	ug/L	1.0	1		07/15/20 10:54	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	100-41-4	
Tetrachloroethene	**37.6**	ug/L	1.0	1		07/15/20 10:54	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 10:54	71-55-6	
Trichloroethene	**18.1**	ug/L	1.0	1		07/15/20 10:54	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 10:54	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 10:54	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 10:54	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 10:54	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	68-153	1		07/15/20 10:54	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-124	1		07/15/20 10:54	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		07/15/20 10:54	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: SP-106 EFFLUENT **Lab ID: 70137739004** Collected: 07/06/20 11:35 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:17	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:17	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:17	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 11:17	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 11:17	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 11:17	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	68-153	1		07/15/20 11:17	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-124	1		07/15/20 11:17	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/15/20 11:17	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: CB-1 **Lab ID: 70137739005** Collected: 07/07/20 08:45 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:40	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:40	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:40	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 11:40	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 11:40	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 11:40	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 11:40	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	68-153	1		07/15/20 11:40	17060-07-0	
4-Bromofluorobenzene (S)	100	%	79-124	1		07/15/20 11:40	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		07/15/20 11:40	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: CB-2 **Lab ID: 70137739006** Collected: 07/07/20 08:55 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 12:03	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 12:03	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 12:03	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 12:03	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 12:03	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 12:03	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 12:03	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	68-153	1		07/15/20 12:03	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/15/20 12:03	460-00-4	
Toluene-d8 (S)	99	%	69-124	1		07/15/20 12:03	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: CB-3 **Lab ID: 70137739007** Collected: 07/07/20 09:00 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 12:26	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 12:26	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 12:26	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 12:26	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 12:26	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 12:26	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 12:26	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	103	%	68-153	1		07/15/20 12:26	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/15/20 12:26	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/15/20 12:26	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: TRIP BLANK **Lab ID: 70137739008** Collected: 07/07/20 00:00 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 09:40	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 09:40	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 09:40	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 09:40	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 09:40	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 09:40	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	68-153	1		07/15/20 09:40	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/15/20 09:40	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/15/20 09:40	2037-26-5	

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QUALITY CONTROL DATA

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

QC Batch: 168978
QC Batch Method: EPA 8260C/5030C
Analysis Method: EPA 8260C/5030C
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70137739001, 70137739002, 70137739003, 70137739004, 70137739005, 70137739006, 70137739007, 70137739008

METHOD BLANK: 816990 Matrix: Water
Associated Lab Samples: 70137739001, 70137739002, 70137739003, 70137739004, 70137739005, 70137739006, 70137739007, 70137739008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	07/15/20 08:15	
1,1-Dichloroethane	ug/L	<1.0	1.0	07/15/20 08:15	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	07/15/20 08:15	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	07/15/20 08:15	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	07/15/20 08:15	
Benzene	ug/L	<1.0	1.0	07/15/20 08:15	
Chlorobenzene	ug/L	<1.0	1.0	07/15/20 08:15	
Chloroethane	ug/L	<1.0	1.0	07/15/20 08:15	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	07/15/20 08:15	
Ethylbenzene	ug/L	<1.0	1.0	07/15/20 08:15	
m&p-Xylene	ug/L	<2.0	2.0	07/15/20 08:15	
o-Xylene	ug/L	<1.0	1.0	07/15/20 08:15	
Tetrachloroethene	ug/L	<1.0	1.0	07/15/20 08:15	
Toluene	ug/L	<1.0	1.0	07/15/20 08:15	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	07/15/20 08:15	
Trichloroethene	ug/L	<1.0	1.0	07/15/20 08:15	
Vinyl chloride	ug/L	<1.0	1.0	07/15/20 08:15	
Xylene (Total)	ug/L	<3.0	3.0	07/15/20 08:15	
1,2-Dichloroethane-d4 (S)	%	102	68-153	07/15/20 08:15	
4-Bromofluorobenzene (S)	%	99	79-124	07/15/20 08:15	
Toluene-d8 (S)	%	98	69-124	07/15/20 08:15	

LABORATORY CONTROL SAMPLE: 816991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	43.5	87	65-118	
1,1-Dichloroethane	ug/L	50	53.7	107	83-151	
1,2-Dichlorobenzene	ug/L	50	48.7	97	74-113	
1,3-Dichlorobenzene	ug/L	50	48.1	96	71-112	
1,4-Dichlorobenzene	ug/L	50	48.0	96	71-113	
Benzene	ug/L	50	48.1	96	73-119	
Chlorobenzene	ug/L	50	46.7	93	75-113	
Chloroethane	ug/L	50	53.2	106	49-151	
cis-1,2-Dichloroethene	ug/L	50	54.4	109	72-121	
Ethylbenzene	ug/L	50	46.2	92	70-113	
m&p-Xylene	ug/L	100	93.4	93	72-115	
o-Xylene	ug/L	50	46.4	93	73-117	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

LABORATORY CONTROL SAMPLE: 816991

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	50	42.3	85	60-128	
Toluene	ug/L	50	48.6	97	72-119	
trans-1,2-Dichloroethene	ug/L	50	52.3	105	56-142	
Trichloroethene	ug/L	50	47.0	94	69-117	
Vinyl chloride	ug/L	50	50.4	101	43-143	
Xylene (Total)	ug/L	150	140	93	71-109	
1,2-Dichloroethane-d4 (S)	%			101	68-153	
4-Bromofluorobenzene (S)	%			100	79-124	
Toluene-d8 (S)	%			98	69-124	

MATRIX SPIKE SAMPLE: 817402

Parameter	Units	70137739002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	50	42.5	85	65-118	
1,1-Dichloroethane	ug/L	<1.0	50	54.1	108	83-151	
1,2-Dichlorobenzene	ug/L	<1.0	50	45.5	91	74-113	
1,3-Dichlorobenzene	ug/L	<1.0	50	45.7	91	71-112	
1,4-Dichlorobenzene	ug/L	<1.0	50	45.4	91	71-113	
Benzene	ug/L	<1.0	50	47.5	95	73-119	
Chlorobenzene	ug/L	<1.0	50	43.7	87	75-113	
Chloroethane	ug/L	<1.0	50	54.2	108	49-151	
cis-1,2-Dichloroethene	ug/L	<1.0	50	53.0	106	72-121	
Ethylbenzene	ug/L	<1.0	50	44.5	89	70-113	
m&p-Xylene	ug/L	<2.0	100	89.0	89	72-115	
o-Xylene	ug/L	<1.0	50	43.8	88	73-117	
Tetrachloroethene	ug/L	<1.0	50	40.5	81	60-128	
Toluene	ug/L	<1.0	50	47.6	95	72-119	
trans-1,2-Dichloroethene	ug/L	<1.0	50	53.2	106	56-142	
Trichloroethene	ug/L	<1.0	50	46.1	92	69-117	
Vinyl chloride	ug/L	<1.0	50	51.8	104	43-143	
Xylene (Total)	ug/L	<3.0	150	133	89	71-109	
1,2-Dichloroethane-d4 (S)	%				103	68-153	
4-Bromofluorobenzene (S)	%				99	79-124	
Toluene-d8 (S)	%				98	69-124	

SAMPLE DUPLICATE: 817401

Parameter	Units	70137739001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	<1.0		
1,1-Dichloroethane	ug/L	2.5	2.6	0	
1,2-Dichlorobenzene	ug/L	<1.0	<1.0		
1,3-Dichlorobenzene	ug/L	<1.0	<1.0		
1,4-Dichlorobenzene	ug/L	<1.0	<1.0		
Benzene	ug/L	<1.0	<1.0		

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(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

SAMPLE DUPLICATE: 817401

Parameter	Units	70137739001 Result	Dup Result	RPD	Qualifiers
Chlorobenzene	ug/L	<1.0	<1.0		
Chloroethane	ug/L	<1.0	<1.0		
cis-1,2-Dichloroethene	ug/L	23.0	23.2	1	
Ethylbenzene	ug/L	<1.0	<1.0		
m&p-Xylene	ug/L	<2.0	<2.0		
o-Xylene	ug/L	<1.0	<1.0		
Tetrachloroethene	ug/L	14.3	13.8	3	
Toluene	ug/L	<1.0	<1.0		
trans-1,2-Dichloroethene	ug/L	<1.0	<1.0		
Trichloroethene	ug/L	24.3	24.2	1	
Vinyl chloride	ug/L	<1.0	<1.0		
Xylene (Total)	ug/L	<3.0	<3.0		
1,2-Dichloroethane-d4 (S)	%	102	104		
4-Bromofluorobenzene (S)	%	99	99		
Toluene-d8 (S)	%	97	97		

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(631)694-3040

QUALIFIERS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70137739001	**MH-1 INFLUENT**	EPA 8260C/5030C	168978		
70137739002	**MH-2 INFLUENT**	EPA 8260C/5030C	168978		
70137739003	**MH-3 INFLUENT**	EPA 8260C/5030C	168978		
70137739004	**SP-106 EFFLUENT**	EPA 8260C/5030C	168978		
70137739005	**CB-1**	EPA 8260C/5030C	168978		
70137739006	**CB-2**	EPA 8260C/5030C	168978		
70137739007	**CB-3**	EPA 8260C/5030C	168978		
70137739008	**TRIP BLANK**	EPA 8260C/5030C	168978		

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CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL

WO#: 70137739

70137739

Page: 1 / 1 / Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tetra Tech Inc.	Report To:	Glenn Netuschil	Attention:	
Address:	661 Andersen Drive	Copy To:		Company Name:	
Pittsburgh, PA 15220				Address:	
Email:	glenn.netuschil@tetratech.com	Purchase Order #:		Pace Quote:	
Phone:	(631)987-3206 Fax:	Project Name:	Lockheed Martin Utica	Pace Project Manager:	devon.fox@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	6261

Regulatory Agency
State / Location
NY

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	8260	Residual Chlorine (Y/N)
1	MH-1 influent	WT	G	7/6/20	11:20				2				X							
2	MH-2 influent	WT	G	7/8/20	2:05				2				X							
3	MH-3 influent	WT	G	7/6/20	11:15				2				X							
4																				
5	SP-106 Effluent	WT	G	7/6/20	11:35				2				X							
6																				
7	CB-1	WT	G	7/7/20	8:45				2				X							
8	CB-2	WT	G	7/7/20	8:55				2				X							
9	CB-3	WT	G	7/7/20	9:00				2				X							
10																				
11	Trip Blank	WT	G						2				X							
12																				

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Steve McCarthy	7/8/20	15:10	[signature]	7-8-20	1630				
	[signature]	7-9	1200	[signature] Pace LI	7/10/20	10:55	4.0	4.0	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/8/20

Sample Condition Upon Receipt

Pace Analytical

WO#: 70137739

PM: KMM **Due Date: 07/24/20**

CLIENT: TETRA

Client Name: Proje

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 7709 1623 3163

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No

Temperature Blank Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: Wet Blue None

Thermometer Used: TH091 Correction Factor: +0.4

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 4.0 Cooler Temperature Corrected (°C): 4.4

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample) Date and Initials of person examining contents: HQR 7/10/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples orignate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1.
Chain of Custody Filled Out:	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested:	☐Yes	☑No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☑Yes	☐No		8.
Correct Containers Used:	☑Yes	☐No		9.
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☑Yes	☐No		12.
-Includes date/time/ID/Analysis Matrix SL WT OIL				
All containers needing preservation have been checked	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☑N/A	Sample #
				Initial when completed: / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
KI starch test strips Lot #				
Residual chlorine strips Lot #				Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

*** PM (Project Manager) review is documented electronically in LIMS.**

F-LI-C-002-rev.02

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

October 16, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on October 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
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CERTIFICATIONS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: October 16, 2020

General Information:
8 samples were analyzed for EPA 8260C/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: 180987

IH: This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.

- LCS (Lab ID: 882769)
  - Vinyl chloride
- MH-2 SP-102 (Lab ID: 70149135002)
  - Vinyl chloride
- MS (Lab ID: 884227)
  - Vinyl chloride
- MSD (Lab ID: 884228)
  - Vinyl chloride

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Sample: MH-1 SP-101 **Lab ID: 70149135001** Collected: 10/05/20 09:00 Received: 10/10/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/12/20 18:11	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	106-46-7	
1,1-Dichloroethane	**1.9**	ug/L	1.0	1		10/12/20 18:11	75-34-3	
cis-1,2-Dichloroethene	**18.2**	ug/L	1.0	1		10/12/20 18:11	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	100-41-4	
Tetrachloroethene	**16.9**	ug/L	1.0	1		10/12/20 18:11	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 18:11	71-55-6	
Trichloroethene	**19.8**	ug/L	1.0	1		10/12/20 18:11	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		10/12/20 18:11	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		10/12/20 18:11	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		10/12/20 18:11	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		10/12/20 18:11	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		10/12/20 18:11	17060-07-0	
4-Bromofluorobenzene (S)	90	%	79-124	1		10/12/20 18:11	460-00-4	
Toluene-d8 (S)	93	%	69-124	1		10/12/20 18:11	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Sample: MH-2 SP-102 **Lab ID: 70149135002** Collected: 10/05/20 09:28 Received: 10/10/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/12/20 18:30	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	106-46-7	
1,1-Dichloroethane	**1.9**	ug/L	1.0	1		10/12/20 18:30	75-34-3	
cis-1,2-Dichloroethene	**8.7**	ug/L	1.0	1		10/12/20 18:30	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 18:30	71-55-6	
Trichloroethene	**2.1**	ug/L	1.0	1		10/12/20 18:30	79-01-6	
Vinyl chloride	**2.7**	ug/L	1.0	1		10/12/20 18:30	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		10/12/20 18:30	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		10/12/20 18:30	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		10/12/20 18:30	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	89	%	68-153	1		10/12/20 18:30	17060-07-0	
4-Bromofluorobenzene (S)	91	%	79-124	1		10/12/20 18:30	460-00-4	
Toluene-d8 (S)	94	%	69-124	1		10/12/20 18:30	2037-26-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Sample: MH-3 SP-103 **Lab ID: 70149135003** Collected: 10/05/20 08:37 Received: 10/10/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/12/20 18:49	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 18:49	75-34-3	
cis-1,2-Dichloroethene	**2.9**	ug/L	1.0	1		10/12/20 18:49	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	100-41-4	
Tetrachloroethene	**34.4**	ug/L	1.0	1		10/12/20 18:49	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 18:49	71-55-6	
Trichloroethene	**13.5**	ug/L	1.0	1		10/12/20 18:49	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		10/12/20 18:49	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		10/12/20 18:49	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		10/12/20 18:49	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		10/12/20 18:49	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		10/12/20 18:49	17060-07-0	
4-Bromofluorobenzene (S)	90	%	79-124	1		10/12/20 18:49	460-00-4	
Toluene-d8 (S)	93	%	69-124	1		10/12/20 18:49	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Sample: EFFLUENT SP-106 **Lab ID: 70149135004** Collected: 10/05/20 09:10 Received: 10/10/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:08	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:08	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:08	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		10/12/20 19:08	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		10/12/20 19:08	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		10/12/20 19:08	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		10/12/20 19:08	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		10/12/20 19:08	17060-07-0	
4-Bromofluorobenzene (S)	90	%	79-124	1		10/12/20 19:08	460-00-4	
Toluene-d8 (S)	94	%	69-124	1		10/12/20 19:08	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Sample: CB-1 **Lab ID: 70149135005** Collected: 10/05/20 13:15 Received: 10/10/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:27	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:27	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:27	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		10/12/20 19:27	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		10/12/20 19:27	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		10/12/20 19:27	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		10/12/20 19:27	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		10/12/20 19:27	17060-07-0	
4-Bromofluorobenzene (S)	90	%	79-124	1		10/12/20 19:27	460-00-4	
Toluene-d8 (S)	94	%	69-124	1		10/12/20 19:27	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Sample: CB-2 **Lab ID: 70149135006** Collected: 10/05/20 13:09 Received: 10/10/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:47	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:47	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 19:47	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		10/12/20 19:47	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		10/12/20 19:47	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		10/12/20 19:47	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		10/12/20 19:47	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		10/12/20 19:47	17060-07-0	
4-Bromofluorobenzene (S)	90	%	79-124	1		10/12/20 19:47	460-00-4	
Toluene-d8 (S)	94	%	69-124	1		10/12/20 19:47	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Sample: CB-3 **Lab ID: 70149135007** Collected: 10/05/20 13:30 Received: 10/10/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/12/20 20:06	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 20:06	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 20:06	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		10/12/20 20:06	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		10/12/20 20:06	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		10/12/20 20:06	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		10/12/20 20:06	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		10/12/20 20:06	17060-07-0	
4-Bromofluorobenzene (S)	90	%	79-124	1		10/12/20 20:06	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		10/12/20 20:06	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Sample: TRIP BLANK **Lab ID: 70149135008** Collected: 10/05/20 00:00 Received: 10/10/20 10:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		10/12/20 15:18	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 15:18	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		10/12/20 15:18	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		10/12/20 15:18	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		10/12/20 15:18	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		10/12/20 15:18	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		10/12/20 15:18	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%	68-153	1		10/12/20 15:18	17060-07-0	
4-Bromofluorobenzene (S)	95	%	79-124	1		10/12/20 15:18	460-00-4	
Toluene-d8 (S)	92	%	69-124	1		10/12/20 15:18	2037-26-5	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

QC Batch: 180987
QC Batch Method: EPA 8260C/5030C
Analysis Method: EPA 8260C/5030C
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70149135001, 70149135002, 70149135003, 70149135004, 70149135005, 70149135006, 70149135007, 70149135008

METHOD BLANK: 882768 Matrix: Water
Associated Lab Samples: 70149135001, 70149135002, 70149135003, 70149135004, 70149135005, 70149135006, 70149135007, 70149135008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	10/12/20 13:42	
1,1-Dichloroethane	ug/L	<1.0	1.0	10/12/20 13:42	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	10/12/20 13:42	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	10/12/20 13:42	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	10/12/20 13:42	
Benzene	ug/L	<1.0	1.0	10/12/20 13:42	
Chlorobenzene	ug/L	<1.0	1.0	10/12/20 13:42	
Chloroethane	ug/L	<1.0	1.0	10/12/20 13:42	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	10/12/20 13:42	
Ethylbenzene	ug/L	<1.0	1.0	10/12/20 13:42	
m&p-Xylene	ug/L	<2.0	2.0	10/12/20 13:42	
o-Xylene	ug/L	<1.0	1.0	10/12/20 13:42	
Tetrachloroethene	ug/L	<1.0	1.0	10/12/20 13:42	
Toluene	ug/L	<1.0	1.0	10/12/20 13:42	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	10/12/20 13:42	
Trichloroethene	ug/L	<1.0	1.0	10/12/20 13:42	
Vinyl chloride	ug/L	<1.0	1.0	10/12/20 13:42	
Xylene (Total)	ug/L	<3.0	3.0	10/12/20 13:42	
1,2-Dichloroethane-d4 (S)	%	90	68-153	10/12/20 13:42	
4-Bromofluorobenzene (S)	%	94	79-124	10/12/20 13:42	
Toluene-d8 (S)	%	90	69-124	10/12/20 13:42	

LABORATORY CONTROL SAMPLE: 882769

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	44.3	89	65-118	
1,1-Dichloroethane	ug/L	50	48.4	97	83-151	
1,2-Dichlorobenzene	ug/L	50	48.1	96	74-113	
1,3-Dichlorobenzene	ug/L	50	47.8	96	71-112	
1,4-Dichlorobenzene	ug/L	50	47.8	96	71-113	
Benzene	ug/L	50	51.6	103	73-119	
Chlorobenzene	ug/L	50	50.3	101	75-113	
Chloroethane	ug/L	50	55.8	112	49-151	
cis-1,2-Dichloroethene	ug/L	50	50.2	100	72-121	
Ethylbenzene	ug/L	50	50.0	100	70-113	
m&p-Xylene	ug/L	100	101	101	72-115	
o-Xylene	ug/L	50	50.7	101	73-117	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

LABORATORY CONTROL SAMPLE: 882769

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	50	52.3	105	60-128	
Toluene	ug/L	50	52.7	105	72-119	
trans-1,2-Dichloroethene	ug/L	50	49.1	98	56-142	
Trichloroethene	ug/L	50	50.5	101	69-117	
Vinyl chloride	ug/L	50	51.2	102	43-143	IH
Xylene (Total)	ug/L	150	152	101	71-109	
1,2-Dichloroethane-d4 (S)	%			90	68-153	
4-Bromofluorobenzene (S)	%			96	79-124	
Toluene-d8 (S)	%			92	69-124	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 884227 884228

Parameter	Units	70148482003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1-Trichloroethane	ug/L	<1.0	50	50	41.3	44.8	83	90	65-118	8	
1,1-Dichloroethane	ug/L	12.1	50	50	57.6	60.3	91	96	83-151	5	
1,2-Dichlorobenzene	ug/L	<1.0	50	50	48.4	53.7	97	107	74-113	10	
1,3-Dichlorobenzene	ug/L	<1.0	50	50	48.9	53.3	98	107	71-112	9	
1,4-Dichlorobenzene	ug/L	<1.0	50	50	48.0	53.3	96	107	71-113	11	
Benzene	ug/L	1.5	50	50	53.1	56.2	103	109	73-119	6	
Chlorobenzene	ug/L	1.0	50	50	51.1	55.1	100	108	75-113	8	
Chloroethane	ug/L	<1.0	50	50	53.2	54.8	106	110	49-151	3	
cis-1,2-Dichloroethene	ug/L	38.2	50	50	82.3	85.6	88	95	72-121	4	
Ethylbenzene	ug/L	<1.0	50	50	49.3	52.7	99	105	70-113	7	
m&p-Xylene	ug/L	<2.0	100	100	100	107	100	107	72-115	7	
o-Xylene	ug/L	<1.0	50	50	49.6	53.3	99	107	73-117	7	
Tetrachloroethene	ug/L	<1.0	50	50	53.2	57.6	106	115	60-128	8	
Toluene	ug/L	<1.0	50	50	49.2	52.8	98	106	72-119	7	
trans-1,2-Dichloroethene	ug/L	<1.0	50	50	48.1	50.2	96	100	56-142	4	
Trichloroethene	ug/L	1.0	50	50	48.8	53.5	95	105	69-117	9	
Vinyl chloride	ug/L	10.5	50	50	56.2	59.6	91	98	43-143	6	IH
Xylene (Total)	ug/L	<3.0	150	150	150	161	100	107	71-109	7	
1,2-Dichloroethane-d4 (S)	%						90	91	68-153		
4-Bromofluorobenzene (S)	%						91	92	79-124		
Toluene-d8 (S)	%						95	95	69-124		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

IH	This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN UTICA 10/5
Pace Project No.: 70149135

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70149135001	**MH-1 SP-101**	EPA 8260C/5030C	180987		
70149135002	**MH-2 SP-102**	EPA 8260C/5030C	180987		
70149135003	**MH-3 SP-103**	EPA 8260C/5030C	180987		
70149135004	**EFFLUENT SP-106**	EPA 8260C/5030C	180987		
70149135005	**CB-1**	EPA 8260C/5030C	180987		
70149135006	**CB-2**	EPA 8260C/5030C	180987		
70149135007	**CB-3**	EPA 8260C/5030C	180987		
70149135008	**TRIP BLANK**	EPA 8260C/5030C	180987		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Tetra Tech Inc.	Report To: Glenn Netuschil	Attention:
Address: 661 Andersen Drive	Copy To:	Company Name:
Pittsburgh, PA 15220		Address:
Email: glenn.netuschil@tetratech.com	Purchase Order #:	Pace Quote:
Phone: (631)987-3206 Fax	Project Name: Lockheed Martin Utica	Pace Project Manager: kimberley.mack@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 6261

Regulatory Agency
State / Location
NY

WO#: 70149135
70149135

ITEM #	MATRIX CODE	MA...	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): 8260	Residual Chlorine (Y/N)
1	MH-1 SP-101	WT	G	10/5/20	9:00				2				X						X	
2	MH-2 SP-102	WT	G	10/5/20	9:20				2				X						X	
3	MH-3 SP-103	WT	G	10/5/20	8:37				2				X						X	
4	Effluent SP-106	WT	G	10/5/20	9:10				2				X						X	
5																				
6	CB-1	WT	G	10/5/20	1:15				2				X						X	
7	CB-2	WT	G	10/5/20	1:04				2				X						X	
8	CB-3	WT	G	10/5/20	1:30				2				X						X	
9																				
10	Trip Blank								2				X						X	
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Steve McCarthy	10/9/20	1341	RBC	10/9/20	1341				
	RBC	10/9/20	1700	[signature] Pace LI	10/10/20	10:05	3.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/9/20

Sample Condition Upon Receipt

Pace Analytical

WO#: 70149135

PM: KMM Due Date: 10/26/20

CLIENT: TETRA

Client Name: Proj

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 7717 5942 7890

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No Seals intact: ☐ Yes ☐ No

Temperature Blank Present: ☑ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: (Wet) Blue None

Thermometer Used: TH091 Correction Factor: -0.2

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 3.9 Cooler Temperature Corrected (°C): 3.7

Date/Time 5035A kits placed in freezer _____

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample) Date and Initials of person examining contents: HDR 10/23/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1.
Chain of Custody Filled Out:	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested:	☐Yes	☑No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☑Yes	☐No		8.
Correct Containers Used:	☑Yes	☐No		9.
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☑Yes	☐No		12.
-Includes date/time/ID/Analysis Matrix SL (WT) OIL				
All containers needing preservation have been checked	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☑N/A	Sample #
				Initial when completed: / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
KI starch test strips Lot #				Positive for Res. Chlorine? Y N
Residual chlorine strips Lot #				
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if applicable):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

*** PM (Project Manager) review is documented electronically in LIMS.**

F-LI-C-002-rev.02

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

December 18, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on December 05, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
(631)694-3040

CERTIFICATIONS

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: December 18, 2020

General Information:
2 samples were analyzed for EPA 8260C/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

Sample: SP-106 **Lab ID: 70155655001** Collected: 12/02/20 09:00 Received: 12/05/20 10:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		12/10/20 22:48	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		12/10/20 22:48	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		12/10/20 22:48	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		12/10/20 22:48	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		12/10/20 22:48	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		12/10/20 22:48	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		12/10/20 22:48	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	68-153	1		12/10/20 22:48	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		12/10/20 22:48	460-00-4	
Toluene-d8 (S)	100	%	69-124	1		12/10/20 22:48	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

Sample: TRIP BLANK **Lab ID: 70155655002** Collected: 12/02/20 00:00 Received: 12/05/20 10:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		12/10/20 22:29	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		12/10/20 22:29	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		12/10/20 22:29	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		12/10/20 22:29	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		12/10/20 22:29	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		12/10/20 22:29	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		12/10/20 22:29	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	68-153	1		12/10/20 22:29	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-124	1		12/10/20 22:29	460-00-4	
Toluene-d8 (S)	100	%	69-124	1		12/10/20 22:29	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

QC Batch: 189133
QC Batch Method: EPA 8260C/5030C
Analysis Method: EPA 8260C/5030C
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70155655001, 70155655002

METHOD BLANK: 927881 Matrix: Water
Associated Lab Samples: 70155655001, 70155655002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	12/10/20 16:10	
1,1-Dichloroethane	ug/L	<1.0	1.0	12/10/20 16:10	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	12/10/20 16:10	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	12/10/20 16:10	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	12/10/20 16:10	
Benzene	ug/L	<1.0	1.0	12/10/20 16:10	
Chlorobenzene	ug/L	<1.0	1.0	12/10/20 16:10	
Chloroethane	ug/L	<1.0	1.0	12/10/20 16:10	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	12/10/20 16:10	
Ethylbenzene	ug/L	<1.0	1.0	12/10/20 16:10	
m&p-Xylene	ug/L	<2.0	2.0	12/10/20 16:10	
o-Xylene	ug/L	<1.0	1.0	12/10/20 16:10	
Tetrachloroethene	ug/L	<1.0	1.0	12/10/20 16:10	
Toluene	ug/L	<1.0	1.0	12/10/20 16:10	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	12/10/20 16:10	
Trichloroethene	ug/L	<1.0	1.0	12/10/20 16:10	
Vinyl chloride	ug/L	<1.0	1.0	12/10/20 16:10	
Xylene (Total)	ug/L	<3.0	3.0	12/10/20 16:10	
1,2-Dichloroethane-d4 (S)	%	102	68-153	12/10/20 16:10	
4-Bromofluorobenzene (S)	%	96	79-124	12/10/20 16:10	
Toluene-d8 (S)	%	98	69-124	12/10/20 16:10	

LABORATORY CONTROL SAMPLE: 927882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	49.7	99	65-118	
1,1-Dichloroethane	ug/L	50	47.6	95	83-151	
1,2-Dichlorobenzene	ug/L	50	45.8	92	74-113	
1,3-Dichlorobenzene	ug/L	50	47.3	95	71-112	
1,4-Dichlorobenzene	ug/L	50	47.0	94	71-113	
Benzene	ug/L	50	46.5	93	73-119	
Chlorobenzene	ug/L	50	48.8	98	75-113	
Chloroethane	ug/L	50	44.1	88	49-151	
cis-1,2-Dichloroethene	ug/L	50	46.9	94	72-121	
Ethylbenzene	ug/L	50	49.9	100	70-113	
m&p-Xylene	ug/L	100	99.4	99	72-115	
o-Xylene	ug/L	50	48.2	96	73-117	
Tetrachloroethene	ug/L	50	46.7	93	60-128	
Toluene	ug/L	50	48.6	97	72-119	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

LABORATORY CONTROL SAMPLE: 927882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
trans-1,2-Dichloroethene	ug/L	50	46.9	94	56-142	
Trichloroethene	ug/L	50	48.5	97	69-117	
Vinyl chloride	ug/L	50	42.4	85	43-143	
Xylene (Total)	ug/L	150	148	98	71-109	
1,2-Dichloroethane-d4 (S)	%			103	68-153	
4-Bromofluorobenzene (S)	%			103	79-124	
Toluene-d8 (S)	%			98	69-124	

MATRIX SPIKE SAMPLE: 930300

Parameter	Units	70155782002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	50	42.5	85	65-118	
1,1-Dichloroethane	ug/L	<1.0	50	43.2	86	83-151	
1,2-Dichlorobenzene	ug/L	<1.0	50	42.7	85	74-113	
1,3-Dichlorobenzene	ug/L	<1.0	50	44.6	89	71-112	
1,4-Dichlorobenzene	ug/L	<1.0	50	44.0	88	71-113	
Benzene	ug/L	<0.70	50	43.1	86	73-119	
Chlorobenzene	ug/L	<1.0	50	46.1	92	75-113	
Chloroethane	ug/L	<1.0	50	42.4	85	49-151	
cis-1,2-Dichloroethene	ug/L	<1.0	50	43.1	86	72-121	
Ethylbenzene	ug/L	<1.0	50	48.1	96	70-113	
m&p-Xylene	ug/L	<2.0	100	95.1	95	72-115	
o-Xylene	ug/L	<1.0	50	46.6	93	73-117	
Tetrachloroethene	ug/L	<1.0	50	45.2	90	60-128	
Toluene	ug/L	<1.0	50	45.0	90	72-119	
trans-1,2-Dichloroethene	ug/L	<1.0	50	44.1	88	56-142	
Trichloroethene	ug/L	<1.0	50	44.8	90	69-117	
Vinyl chloride	ug/L	<1.0	50	41.1	82	43-143	
Xylene (Total)	ug/L	<3.0	150	142	94	71-109	
1,2-Dichloroethane-d4 (S)	%				98	68-153	
4-Bromofluorobenzene (S)	%				103	79-124	
Toluene-d8 (S)	%				101	69-124	

SAMPLE DUPLICATE: 930299

Parameter	Units	70155782001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	<1.0		
1,1-Dichloroethane	ug/L	<1.0	<1.0		
1,2-Dichlorobenzene	ug/L	<1.0	<1.0		
1,3-Dichlorobenzene	ug/L	<1.0	<1.0		
1,4-Dichlorobenzene	ug/L	1.6	1.6	3	
Benzene	ug/L	<0.70	<1.0		
Chlorobenzene	ug/L	<1.0	<1.0		
Chloroethane	ug/L	<1.0	<1.0		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

SAMPLE DUPLICATE: 930299

Parameter	Units	70155782001 Result	Dup Result	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/L	1.0	<1.0		
Ethylbenzene	ug/L	<1.0	<1.0		
m&p-Xylene	ug/L	<2.0	<2.0		
o-Xylene	ug/L	<1.0	<1.0		
Tetrachloroethene	ug/L	<1.0	<1.0		
Toluene	ug/L	<1.0	<1.0		
trans-1,2-Dichloroethene	ug/L	<1.0	<1.0		
Trichloroethene	ug/L	<1.0	<1.0		
Vinyl chloride	ug/L	<1.0	<1.0		
Xylene (Total)	ug/L	<3.0	<3.0		
1,2-Dichloroethane-d4 (S)	%	101	99		
4-Bromofluorobenzene (S)	%	98	99		
Toluene-d8 (S)	%	97	99		

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QUALIFIERS

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN 12/2
Pace Project No.: 70155655

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70155655001	**SP-106**	EPA 8260C/5030C	189133		
70155655002	**TRIP BLANK**	EPA 8260C/5030C	189133		

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CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in

WO# : 70155655

70155655

USE ONLY

KMM

Company: TeTraTech

Address: 175 N. Corporate Ave

Report To: Glenn Netuschil

Copy To:

Customer Project Name/Number: Lockheed Martin

Billing Information:

Email To:

Site Collection Info/Address:

State / County/City / Time Zone Collected PT MT CT ET

Phone:
Email:

Site/Facility ID #

Compliance Monitoring? [ ] Yes [ ] No

Collected by (print): S McCarthy

Purchase Order #

DW PWS ID #:

Quote #

DW Location Code #:

Collected by (signature): Steve McCarthy

Turnaround Date Required:

Immediately Packed on Ice? [ ] Yes [ ] No

Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive _____ [ ] Hold _____

RUSH: Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) Same Day

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis: _____

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses: 8260

LAB Profile/Line:

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

↓ LAB USE ONLY: ↓
Lab Sample # / Comments

Customer Sample ID	Matrix*	Comp/ Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	8260
SP-106	GW	G	12/2/20	9:40				2	X
Trip Blank								2	X

Customer Remarks/ Special Conditions/ Possible Hazards:

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: 3 Ppl cc, BB

LAB Tracking #: 7722 6897 3055

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier

MTJL LAB USE ONLY

Table #:

ACCT #:

Template:

Prelogin:

PM:

PB:

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: TH091

Cooler 1 Temp Upon Receipt 4.6 oC

Cooler 1 Therm Corr. Factor -.2 oC

Cooler 1 Corrected Temp 4.4 oC

Comments:

Trip Blank Received: Y N N/A

HCL MeOH TSP Other

NonConformance(s) YES / NO

Page ____ of ____

Relinquished by/Company : (Signature)	Date/Time:	Received by/Company : (Signature)	Date/Time:
Steve McCarthy	12/4/20 1415	[signature]	12-4 1415
[signature]	12-4 1700	[signature] Pace Lab	12/5/20 10:50

F-ALL-C-010-rev.00, 05Jul2018

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

April 20, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on April 09, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
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CERTIFICATIONS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Pace Analytical Services Long Island
575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208
Rhode Island Certification #: LAO00340
Massachusetts Certification #: M-NY026
New Hampshire Certification #: 2987

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PROJECT NARRATIVE

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: April 20, 2020

General Information:
8 samples were analyzed for EPA 8260C/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Sample: SP-101 INFLUENT **Lab ID: 70127542001** Collected: 04/07/20 08:50 Received: 04/09/20 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		04/13/20 17:14	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	106-46-7	
1,1-Dichloroethane	**2.4**	ug/L	1.0	1		04/13/20 17:14	75-34-3	
cis-1,2-Dichloroethene	**17.2**	ug/L	1.0	1		04/13/20 17:14	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	100-41-4	
Tetrachloroethene	**13.7**	ug/L	1.0	1		04/13/20 17:14	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 17:14	71-55-6	
Trichloroethene	**22.8**	ug/L	1.0	1		04/13/20 17:14	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		04/13/20 17:14	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/13/20 17:14	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		04/13/20 17:14	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		04/13/20 17:14	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%	68-153	1		04/13/20 17:14	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/13/20 17:14	460-00-4	
Toluene-d8 (S)	106	%	69-124	1		04/13/20 17:14	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Sample: SP-102 INFLUENT **Lab ID: 70127542002** Collected: 04/07/20 12:59 Received: 04/09/20 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		04/13/20 17:34	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	106-46-7	
1,1-Dichloroethane	**1.1**	ug/L	1.0	1		04/13/20 17:34	75-34-3	
cis-1,2-Dichloroethene	**5.0**	ug/L	1.0	1		04/13/20 17:34	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 17:34	71-55-6	
Trichloroethene	**2.0**	ug/L	1.0	1		04/13/20 17:34	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		04/13/20 17:34	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/13/20 17:34	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		04/13/20 17:34	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		04/13/20 17:34	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	68-153	1		04/13/20 17:34	17060-07-0	
4-Bromofluorobenzene (S)	103	%	79-124	1		04/13/20 17:34	460-00-4	
Toluene-d8 (S)	100	%	69-124	1		04/13/20 17:34	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Sample: SP-103 INFLUENT **Lab ID: 70127542003** Collected: 04/07/20 10:57 Received: 04/09/20 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		04/13/20 17:54	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 17:54	75-34-3	
cis-1,2-Dichloroethene	**2.8**	ug/L	1.0	1		04/13/20 17:54	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	100-41-4	
Tetrachloroethene	**30.2**	ug/L	1.0	1		04/13/20 17:54	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 17:54	71-55-6	
Trichloroethene	**10.4**	ug/L	1.0	1		04/13/20 17:54	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		04/13/20 17:54	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/13/20 17:54	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		04/13/20 17:54	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		04/13/20 17:54	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%	68-153	1		04/13/20 17:54	17060-07-0	
4-Bromofluorobenzene (S)	104	%	79-124	1		04/13/20 17:54	460-00-4	
Toluene-d8 (S)	104	%	69-124	1		04/13/20 17:54	2037-26-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Sample: SP-106 EFFLUENT **Lab ID: 70127542004** Collected: 04/07/20 08:55 Received: 04/09/20 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:15	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:15	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:15	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		04/13/20 18:15	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/13/20 18:15	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		04/13/20 18:15	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		04/13/20 18:15	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	68-153	1		04/13/20 18:15	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-124	1		04/13/20 18:15	460-00-4	
Toluene-d8 (S)	104	%	69-124	1		04/13/20 18:15	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Sample: CB#1 **Lab ID: 70127542005** Collected: 04/07/20 09:52 Received: 04/09/20 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:34	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:34	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:34	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		04/13/20 18:34	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/13/20 18:34	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		04/13/20 18:34	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		04/13/20 18:34	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%	68-153	1		04/13/20 18:34	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-124	1		04/13/20 18:34	460-00-4	
Toluene-d8 (S)	103	%	69-124	1		04/13/20 18:34	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Sample: CB#2 **Lab ID: 70127542006** Collected: 04/07/20 10:00 Received: 04/09/20 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:54	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:54	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 18:54	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		04/13/20 18:54	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/13/20 18:54	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		04/13/20 18:54	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		04/13/20 18:54	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	97	%	68-153	1		04/13/20 18:54	17060-07-0	
4-Bromofluorobenzene (S)	103	%	79-124	1		04/13/20 18:54	460-00-4	
Toluene-d8 (S)	105	%	69-124	1		04/13/20 18:54	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Sample: CB#3 **Lab ID: 70127542007** Collected: 04/07/20 10:30 Received: 04/09/20 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		04/13/20 19:14	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 19:14	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 19:14	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		04/13/20 19:14	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/13/20 19:14	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		04/13/20 19:14	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		04/13/20 19:14	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	98	%	68-153	1		04/13/20 19:14	17060-07-0	
4-Bromofluorobenzene (S)	103	%	79-124	1		04/13/20 19:14	460-00-4	
Toluene-d8 (S)	106	%	69-124	1		04/13/20 19:14	2037-26-5	

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ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Sample: TRIP BLANK **Lab ID: 70127542008** Collected: 04/07/20 00:00 Received: 04/09/20 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		04/13/20 16:54	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 16:54	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		04/13/20 16:54	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		04/13/20 16:54	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		04/13/20 16:54	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		04/13/20 16:54	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		04/13/20 16:54	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%	68-153	1		04/13/20 16:54	17060-07-0	
4-Bromofluorobenzene (S)	107	%	79-124	1		04/13/20 16:54	460-00-4	
Toluene-d8 (S)	104	%	69-124	1		04/13/20 16:54	2037-26-5	

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QUALITY CONTROL DATA

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

QC Batch: 156718
QC Batch Method: EPA 8260C/5030C
Analysis Method: EPA 8260C/5030C
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Melville
Associated Lab Samples: 70127542001, 70127542002, 70127542003, 70127542004, 70127542005, 70127542006, 70127542007, 70127542008

METHOD BLANK: 755267 Matrix: Water
Associated Lab Samples: 70127542001, 70127542002, 70127542003, 70127542004, 70127542005, 70127542006, 70127542007, 70127542008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	04/13/20 15:07	
1,1-Dichloroethane	ug/L	<1.0	1.0	04/13/20 15:07	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	04/13/20 15:07	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	04/13/20 15:07	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	04/13/20 15:07	
Benzene	ug/L	<1.0	1.0	04/13/20 15:07	
Chlorobenzene	ug/L	<1.0	1.0	04/13/20 15:07	
Chloroethane	ug/L	<1.0	1.0	04/13/20 15:07	
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	04/13/20 15:07	
Ethylbenzene	ug/L	<1.0	1.0	04/13/20 15:07	
m&p-Xylene	ug/L	<2.0	2.0	04/13/20 15:07	
o-Xylene	ug/L	<1.0	1.0	04/13/20 15:07	
Tetrachloroethene	ug/L	<1.0	1.0	04/13/20 15:07	
Toluene	ug/L	<1.0	1.0	04/13/20 15:07	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	04/13/20 15:07	
Trichloroethene	ug/L	<1.0	1.0	04/13/20 15:07	
Vinyl chloride	ug/L	<1.0	1.0	04/13/20 15:07	
Xylene (Total)	ug/L	<3.0	3.0	04/13/20 15:07	
1,2-Dichloroethane-d4 (S)	%	97	68-153	04/13/20 15:07	
4-Bromofluorobenzene (S)	%	104	79-124	04/13/20 15:07	
Toluene-d8 (S)	%	106	69-124	04/13/20 15:07	

LABORATORY CONTROL SAMPLE: 755268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	42.8	86	65-118	
1,1-Dichloroethane	ug/L	50	46.4	93	83-151	
1,2-Dichlorobenzene	ug/L	50	48.5	97	74-113	
1,3-Dichlorobenzene	ug/L	50	48.7	97	71-112	
1,4-Dichlorobenzene	ug/L	50	48.7	97	71-113	
Benzene	ug/L	50	48.4	97	73-119	
Chlorobenzene	ug/L	50	49.2	98	75-113	
Chloroethane	ug/L	50	44.1	88	49-151	
cis-1,2-Dichloroethene	ug/L	50	48.1	96	72-121	
Ethylbenzene	ug/L	50	47.8	96	70-113	
m&p-Xylene	ug/L	100	100	100	72-115	
o-Xylene	ug/L	50	49.7	99	73-117	

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QUALITY CONTROL DATA

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

LABORATORY CONTROL SAMPLE: 755268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	50	45.7	91	60-128	
Toluene	ug/L	50	48.6	97	72-119	
trans-1,2-Dichloroethene	ug/L	50	45.4	91	56-142	
Trichloroethene	ug/L	50	46.6	93	69-117	
Vinyl chloride	ug/L	50	41.1	82	43-143	
Xylene (Total)	ug/L	150	150	100	71-109	
1,2-Dichloroethane-d4 (S)	%			94	68-153	
4-Bromofluorobenzene (S)	%			104	79-124	
Toluene-d8 (S)	%			105	69-124	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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TNI - The NELAC Institute.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEAD MARTIN UTICA 4/7
Pace Project No.: 70127542

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70127542001	**SP-101 INFLUENT**	EPA 8260C/5030C	156718		
70127542002	**SP-102 INFLUENT**	EPA 8260C/5030C	156718		
70127542003	**SP-103 INFLUENT**	EPA 8260C/5030C	156718		
70127542004	**SP-106 EFFLUENT**	EPA 8260C/5030C	156718		
70127542005	**CB#1**	EPA 8260C/5030C	156718		
70127542006	**CB#2**	EPA 8260C/5030C	156718		
70127542007	**CB#3**	EPA 8260C/5030C	156718		
70127542008	**TRIP BLANK**	EPA 8260C/5030C	156718		

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WO# : 70127542

70127542

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company:	Tetra Tech Inc.
Address:	661 Andersen Drive
	Pittsburgh, PA 15220
Email:	glenn.netuschil@tetratech.com
Phone:	(631)987-3206 Fax
Requested Due Date:	

Section B — Required Project Information:

Report To:	Glenn Netuschil
Copy To:	
Purchase Order #:	
Project Name:	Lockheed Martin Utica
Project #:	

Section C — Invoice Information:

Attention:	Glen Netuschil
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	devon.fox@pacelabs.com,
Pace Profile #:	6261

Regulatory Agency: —

State / Location: NY

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test: 8260	Residual Chlorine (Y/N)
1	SP-101 INFluent	WT		4/7/20	8:50								X					X	
2	SP-102 INFluent	WT		4/7/20	12:59								X					X	
3	SP-103 INFluent	WT		4/7/20	10:57								X					X	
4																			
5	SP-106 EFFluent	WT		4/7/20	8:55								X					X	
6																			
7	CB#1	WT		4/7/20	9:52								X					X	
8	CB#2	WT		4/7/20	10:00								X					X	
9	CB#3	WT		4/7/20	10:30								X					X	
10																			
11	Trip Blank	WT											X					X	
12																			

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Steve McCarthy	4/8/20	0900		4.8.20	0900				
		4.8	1700		4/8/20	9:20	3.2	1	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: Steve McCarthy DATE Signed: 4/7/20

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Sample Condition Upon Receipt

Pace Analytical

WO#: 70127542

PM: DJF **Due Date: 04/23/20**

CLIENT: TETRA

Client Name: Tetra Project

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 7101 9973 0922

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☑ Yes ☐ No

Temperature Blank Present: ☐ Yes ☑ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Ziploc ☐ None ☐ Other

Type of Ice: (Wet) Blue None

Thermometer Used: (TH091) Correction Factor: +0.2

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 3.2 Cooler Temperature Corrected (°C): 3.4

Date/Time 5035A kits placed in freezer _____

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample)

Date and Initials of person examining contents: LDR 4/9/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1.
Chain of Custody Filled Out:	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested: 4HR	☑Yes	☐No		7.
Sufficient Volume: (Triple volume provided for MS/MSD	☑Yes	☐No		8.
Correct Containers Used:	☑Yes	☐No		9.
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☑Yes	☐No		12.
-Includes date/time/ID/Analysis Matrix SL (WT) OIL				
All containers needing preservation have been checked	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☑N/A	Initial when completed: / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
KI starch test strips Lot #				Positive for Res. Chlorine? Y N
Residual chlorine strips Lot #				
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes LDR	☑No	☐N/A	16.
Trip Blank Custody Seals Present	☑Yes 4/9	☐No	☐N/A	
Pace Trip Blank Lot # (if applicable): _____				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

* PM (Project Manager) review is documented electronically in LIMS.

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: SP-106 EFFLUENT **Lab ID: 70137739004** Collected: 07/06/20 11:35 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:17	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:17	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 11:17	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 11:17	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 11:17	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 11:17	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 11:17	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	68-153	1		07/15/20 11:17	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-124	1		07/15/20 11:17	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/15/20 11:17	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEAD MARTIN UTICA 7/8
Pace Project No.: 70137739

Sample: TRIP BLANK **Lab ID: 70137739008** Collected: 07/07/20 00:00 Received: 07/10/20 10:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Benzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	71-43-2	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	108-90-7	
Chloroethane	**<1.0**	ug/L	1.0	1		07/15/20 09:40	75-00-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	106-46-7	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 09:40	75-34-3	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	156-60-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	100-41-4	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	127-18-4	
Toluene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	108-88-3	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/15/20 09:40	71-55-6	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	79-01-6	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/15/20 09:40	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/15/20 09:40	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/15/20 09:40	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/15/20 09:40	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	68-153	1		07/15/20 09:40	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/15/20 09:40	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/15/20 09:40	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL

WO#: 70137739

70137739

Page: 1 / 1 / Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tetra Tech Inc.	Report To:	Glenn Netuschil	Attention:	
Address:	661 Andersen Drive	Copy To:		Company Name:	
Pittsburgh, PA 15220				Address:	
Email:	glenn.netuschil@tetratech.com	Purchase Order #:		Pace Quote:	
Phone:	(631)987-3206 Fax:	Project Name:	Lockheed Martin Utica	Pace Project Manager:	devon.fox@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	6261

Regulatory Agency
State / Location
NY

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	8260	Residual Chlorine (Y/N)
1	MH-1 influent	WT	G	7/6/20	11:20				2				X							
2	MH-2 influent	WT	G	7/8/20	2:05				2				X							
3	MH-3 influent	WT	G	7/6/20	11:15				2				X							
4																				
5	SP-106 Effluent	WT	G	7/6/20	11:35				2				X							
6																				
7	CB-1	WT	G	7/7/20	8:45				2				X							
8	CB-2	WT	G	7/7/20	8:55				2				X							
9	CB-3	WT	G	7/7/20	9:00				2				X							
10																				
11	Trip Blank	WT	G						2				X							
12																				

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Steve McCarthy	7/8/20	15:10	[signature]	7-8-20	1630				
	[signature]	7-9	1200	[signature] Pace LI	7/10/20	10:55	4.0	4.0	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/8/20

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

February 05, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Dear Glenn Netuschil:
Enclosed are the analytical results for sample(s) received by the laboratory on January 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Jason Drews, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
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CERTIFICATIONS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70119372001	**PRE CARBON SP-401**	TO-15	MJL	61	PASI-M
70119372002	**MID CARBON SP-402**	TO-15	MJL	61	PASI-M
70119372003	**POST CARBON SP-403**	TO-15	MJL	61	PASI-M
70119372004	**SDS-1 SP-101**	TO-15	MJL	61	PASI-M
70119372005	**SDS-2 SP-102**	TO-15	MJL	61	PASI-M
70119372006	**SDS-3 SP-103**	TO-15	MJL	61	PASI-M
70119372007	**SDS-4 SP-104**	TO-15	MJL	61	PASI-M
70119372008	**SDS-5 SP-105**	TO-15	MJL	61	PASI-M
70119372009	**SDS-6 SP-106**	TO-15	MJL	61	PASI-M
70119372010	**SDS-7 SP-107**	TO-15	MJL	61	PASI-M
70119372011	**SDS-8 SP-108**	TO-15	MJL	61	PASI-M
70119372012	**MID CARBON -SP302**	TO-15	MJL	61	PASI-M
70119372013	**EFFLUENT POST CARBON**	TO-15	MJL	61	PASI-M

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: February 05, 2020

General Information:
13 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: 657863

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- LCS (Lab ID: 3532450)
  - Vinyl acetate

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: PRE CARBON SP-401 **Lab ID: 70119372001** Collected: 01/21/20 09:20 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**30.8**	ug/m3	5.5	2.29		02/03/20 01:00	67-64-1	
Benzene	**0.97**	ug/m3	0.74	2.29		02/03/20 01:00	71-43-2	
Benzyl chloride	**<2.7**	ug/m3	6.0	2.29		02/03/20 01:00	100-44-7	
Bromodichloromethane	**<0.84**	ug/m3	3.1	2.29		02/03/20 01:00	75-27-4	
Bromoform	**<3.3**	ug/m3	12.0	2.29		02/03/20 01:00	75-25-2	
Bromomethane	**<0.52**	ug/m3	1.8	2.29		02/03/20 01:00	74-83-9	
1,3-Butadiene	**<0.29**	ug/m3	1.0	2.29		02/03/20 01:00	106-99-0	
2-Butanone (MEK)	**8.0**	ug/m3	6.9	2.29		02/03/20 01:00	78-93-3	
Carbon disulfide	**9.8**	ug/m3	1.4	2.29		02/03/20 01:00	75-15-0	
Carbon tetrachloride	**<0.98**	ug/m3	2.9	2.29		02/03/20 01:00	56-23-5	
Chlorobenzene	**<0.63**	ug/m3	2.1	2.29		02/03/20 01:00	108-90-7	
Chloroethane	**<0.60**	ug/m3	1.2	2.29		02/03/20 01:00	75-00-3	
Chloroform	**<0.45**	ug/m3	1.1	2.29		02/03/20 01:00	67-66-3	
Chloromethane	**1.1**	ug/m3	0.96	2.29		02/03/20 01:00	74-87-3	
Cyclohexane	**<0.81**	ug/m3	4.0	2.29		02/03/20 01:00	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	4.0	2.29		02/03/20 01:00	124-48-1	
1,2-Dibromoethane (EDB)	**<0.84**	ug/m3	1.8	2.29		02/03/20 01:00	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.8	2.29		02/03/20 01:00	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.8	2.29		02/03/20 01:00	541-73-1	
1,4-Dichlorobenzene	**<2.3**	ug/m3	7.0	2.29		02/03/20 01:00	106-46-7	
Dichlorodifluoromethane	**2.3J**	ug/m3	2.3	2.29		02/03/20 01:00	75-71-8	
1,1-Dichloroethane	**9.5**	ug/m3	1.9	2.29		02/03/20 01:00	75-34-3	
1,2-Dichloroethane	**<0.34**	ug/m3	0.94	2.29		02/03/20 01:00	107-06-2	
1,1-Dichloroethene	**<0.63**	ug/m3	1.8	2.29		02/03/20 01:00	75-35-4	
cis-1,2-Dichloroethene	**87.3**	ug/m3	1.8	2.29		02/03/20 01:00	156-59-2	
trans-1,2-Dichloroethene	**<0.65**	ug/m3	1.8	2.29		02/03/20 01:00	156-60-5	
1,2-Dichloropropane	**<0.53**	ug/m3	2.2	2.29		02/03/20 01:00	78-87-5	
cis-1,3-Dichloropropene	**<0.70**	ug/m3	2.1	2.29		02/03/20 01:00	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/m3	2.1	2.29		02/03/20 01:00	10061-02-6	
Dichlorotetrafluoroethane	**<1.0**	ug/m3	3.3	2.29		02/03/20 01:00	76-14-2	
Ethanol	**24.0**	ug/m3	11.0	2.29		02/03/20 01:00	64-17-5	
Ethyl acetate	**0.57J**	ug/m3	1.7	2.29		02/03/20 01:00	141-78-6	
Ethylbenzene	**<0.70**	ug/m3	2.0	2.29		02/03/20 01:00	100-41-4	
4-Ethyltoluene	**<1.3**	ug/m3	5.7	2.29		02/03/20 01:00	622-96-8	
n-Heptane	**<0.87**	ug/m3	1.9	2.29		02/03/20 01:00	142-82-5	
Hexachloro-1,3-butadiene	**<4.5**	ug/m3	12.4	2.29		02/03/20 01:00	87-68-3	
n-Hexane	**2.3**	ug/m3	1.6	2.29		02/03/20 01:00	110-54-3	
2-Hexanone	**<1.7**	ug/m3	9.5	2.29		02/03/20 01:00	591-78-6	
Methylene Chloride	**13.3**	ug/m3	8.1	2.29		02/03/20 01:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	9.5	2.29		02/03/20 01:00	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.4	2.29		02/03/20 01:00	1634-04-4	
Naphthalene	**<3.0**	ug/m3	6.1	2.29		02/03/20 01:00	91-20-3	
2-Propanol	**50.6**	ug/m3	5.7	2.29		02/03/20 01:00	67-63-0	
Propylene	**1.7**	ug/m3	0.80	2.29		02/03/20 01:00	115-07-1	
Styrene	**<0.79**	ug/m3	2.0	2.29		02/03/20 01:00	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.71**	ug/m3	1.6	2.29		02/03/20 01:00	79-34-5	
Tetrachloroethene	**84.1**	ug/m3	1.6	2.29		02/03/20 01:00	127-18-4	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: PRE CARBON SP-401 **Lab ID: 70119372001** Collected: 01/21/20 09:20 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.60**	ug/m3	1.4	2.29		02/03/20 01:00	109-99-9	
Toluene	**1.5J**	ug/m3	1.8	2.29		02/03/20 01:00	108-88-3	
1,2,4-Trichlorobenzene	**<8.5**	ug/m3	17.3	2.29		02/03/20 01:00	120-82-1	
1,1,1-Trichloroethane	**<0.71**	ug/m3	2.5	2.29		02/03/20 01:00	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/m3	1.3	2.29		02/03/20 01:00	79-00-5	
Trichloroethene	**103**	ug/m3	1.3	2.29		02/03/20 01:00	79-01-6	
Trichlorofluoromethane	**1.2J**	ug/m3	2.6	2.29		02/03/20 01:00	75-69-4	
1,1,2-Trichlorotrifluoroethane	**33.0**	ug/m3	3.6	2.29		02/03/20 01:00	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/m3	2.3	2.29		02/03/20 01:00	95-63-6	
1,3,5-Trimethylbenzene	**<0.91**	ug/m3	2.3	2.29		02/03/20 01:00	108-67-8	
Vinyl acetate	**<0.62**	ug/m3	1.6	2.29		02/03/20 01:00	108-05-4	
Vinyl chloride	**0.77**	ug/m3	0.60	2.29		02/03/20 01:00	75-01-4	
m&p-Xylene	**<1.6**	ug/m3	4.1	2.29		02/03/20 01:00	179601-23-1	
o-Xylene	**<0.79**	ug/m3	2.0	2.29		02/03/20 01:00	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: MID CARBON SP-402 **Lab ID: 70119372002** Collected: 01/21/20 09:25 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**9.4**	ug/m3	5.8	2.4		02/03/20 00:01	67-64-1	
Benzene	**<0.37**	ug/m3	0.78	2.4		02/03/20 00:01	71-43-2	
Benzyl chloride	**<2.9**	ug/m3	6.3	2.4		02/03/20 00:01	100-44-7	
Bromodichloromethane	**<0.88**	ug/m3	3.3	2.4		02/03/20 00:01	75-27-4	
Bromoform	**<3.4**	ug/m3	12.6	2.4		02/03/20 00:01	75-25-2	
Bromomethane	**<0.54**	ug/m3	1.9	2.4		02/03/20 00:01	74-83-9	
1,3-Butadiene	**<0.31**	ug/m3	1.1	2.4		02/03/20 00:01	106-99-0	
2-Butanone (MEK)	**2.8J**	ug/m3	7.2	2.4		02/03/20 00:01	78-93-3	
Carbon disulfide	**<0.53**	ug/m3	1.5	2.4		02/03/20 00:01	75-15-0	
Carbon tetrachloride	**<1.0**	ug/m3	3.1	2.4		02/03/20 00:01	56-23-5	
Chlorobenzene	**<0.66**	ug/m3	2.2	2.4		02/03/20 00:01	108-90-7	
Chloroethane	**<0.62**	ug/m3	1.3	2.4		02/03/20 00:01	75-00-3	
Chloroform	**<0.47**	ug/m3	1.2	2.4		02/03/20 00:01	67-66-3	
Chloromethane	**0.68J**	ug/m3	1.0	2.4		02/03/20 00:01	74-87-3	
Cyclohexane	**<0.85**	ug/m3	4.2	2.4		02/03/20 00:01	110-82-7	
Dibromochloromethane	**<1.7**	ug/m3	4.2	2.4		02/03/20 00:01	124-48-1	
1,2-Dibromoethane (EDB)	**<0.88**	ug/m3	1.9	2.4		02/03/20 00:01	106-93-4	
1,2-Dichlorobenzene	**<1.2**	ug/m3	2.9	2.4		02/03/20 00:01	95-50-1	
1,3-Dichlorobenzene	**<1.4**	ug/m3	2.9	2.4		02/03/20 00:01	541-73-1	
1,4-Dichlorobenzene	**<2.4**	ug/m3	7.3	2.4		02/03/20 00:01	106-46-7	
Dichlorodifluoromethane	**2.6**	ug/m3	2.4	2.4		02/03/20 00:01	75-71-8	
1,1-Dichloroethane	**<0.54**	ug/m3	2.0	2.4		02/03/20 00:01	75-34-3	
1,2-Dichloroethane	**<0.36**	ug/m3	0.99	2.4		02/03/20 00:01	107-06-2	
1,1-Dichloroethene	**<0.66**	ug/m3	1.9	2.4		02/03/20 00:01	75-35-4	
cis-1,2-Dichloroethene	**<0.53**	ug/m3	1.9	2.4		02/03/20 00:01	156-59-2	
trans-1,2-Dichloroethene	**<0.68**	ug/m3	1.9	2.4		02/03/20 00:01	156-60-5	
1,2-Dichloropropane	**<0.55**	ug/m3	2.3	2.4		02/03/20 00:01	78-87-5	
cis-1,3-Dichloropropene	**<0.73**	ug/m3	2.2	2.4		02/03/20 00:01	10061-01-5	
trans-1,3-Dichloropropene	**<1.1**	ug/m3	2.2	2.4		02/03/20 00:01	10061-02-6	
Dichlorotetrafluoroethane	**<1.0**	ug/m3	3.4	2.4		02/03/20 00:01	76-14-2	
Ethanol	**<1.9**	ug/m3	11.5	2.4		02/03/20 00:01	64-17-5	
Ethyl acetate	**<0.46**	ug/m3	1.8	2.4		02/03/20 00:01	141-78-6	
Ethylbenzene	**<0.73**	ug/m3	2.1	2.4		02/03/20 00:01	100-41-4	
4-Ethyltoluene	**<1.4**	ug/m3	6.0	2.4		02/03/20 00:01	622-96-8	
n-Heptane	**<0.91**	ug/m3	2.0	2.4		02/03/20 00:01	142-82-5	
Hexachloro-1,3-butadiene	**<4.7**	ug/m3	13.0	2.4		02/03/20 00:01	87-68-3	
n-Hexane	**<0.75**	ug/m3	1.7	2.4		02/03/20 00:01	110-54-3	
2-Hexanone	**<1.8**	ug/m3	10	2.4		02/03/20 00:01	591-78-6	
Methylene Chloride	**3.1J**	ug/m3	8.5	2.4		02/03/20 00:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	10	2.4		02/03/20 00:01	108-10-1	
Methyl-tert-butyl ether	**<1.6**	ug/m3	8.8	2.4		02/03/20 00:01	1634-04-4	
Naphthalene	**<3.1**	ug/m3	6.4	2.4		02/03/20 00:01	91-20-3	
2-Propanol	**3.9J**	ug/m3	6.0	2.4		02/03/20 00:01	67-63-0	
Propylene	**<0.34**	ug/m3	0.84	2.4		02/03/20 00:01	115-07-1	
Styrene	**<0.83**	ug/m3	2.1	2.4		02/03/20 00:01	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.74**	ug/m3	1.7	2.4		02/03/20 00:01	79-34-5	
Tetrachloroethene	**<0.75**	ug/m3	1.7	2.4		02/03/20 00:01	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: MID CARBON SP-402 **Lab ID: 70119372002** Collected: 01/21/20 09:25 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.63**	ug/m3	1.4	2.4		02/03/20 00:01	109-99-9	
Toluene	**<0.84**	ug/m3	1.8	2.4		02/03/20 00:01	108-88-3	
1,2,4-Trichlorobenzene	**<8.9**	ug/m3	18.1	2.4		02/03/20 00:01	120-82-1	
1,1,1-Trichloroethane	**<0.74**	ug/m3	2.7	2.4		02/03/20 00:01	71-55-6	
1,1,2-Trichloroethane	**<0.58**	ug/m3	1.3	2.4		02/03/20 00:01	79-00-5	
Trichloroethene	**<0.61**	ug/m3	1.3	2.4		02/03/20 00:01	79-01-6	
Trichlorofluoromethane	**<0.88**	ug/m3	2.7	2.4		02/03/20 00:01	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.4**	ug/m3	3.7	2.4		02/03/20 00:01	76-13-1	
1,2,4-Trimethylbenzene	**<1.1**	ug/m3	2.4	2.4		02/03/20 00:01	95-63-6	
1,3,5-Trimethylbenzene	**<0.96**	ug/m3	2.4	2.4		02/03/20 00:01	108-67-8	
Vinyl acetate	**<0.65**	ug/m3	1.7	2.4		02/03/20 00:01	108-05-4	
Vinyl chloride	**<0.30**	ug/m3	0.62	2.4		02/03/20 00:01	75-01-4	
m&p-Xylene	**<1.7**	ug/m3	4.2	2.4		02/03/20 00:01	179601-23-1	
o-Xylene	**<0.83**	ug/m3	2.1	2.4		02/03/20 00:01	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: POST CARBON SP-403 **Lab ID: 70119372003** Collected: 01/21/20 09:27 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**17.0**	ug/m3	5.5	2.29		02/02/20 20:33	67-64-1	
Benzene	**<0.35**	ug/m3	0.74	2.29		02/02/20 20:33	71-43-2	
Benzyl chloride	**<2.7**	ug/m3	6.0	2.29		02/02/20 20:33	100-44-7	
Bromodichloromethane	**<0.84**	ug/m3	3.1	2.29		02/02/20 20:33	75-27-4	
Bromoform	**<3.3**	ug/m3	12.0	2.29		02/02/20 20:33	75-25-2	
Bromomethane	**<0.52**	ug/m3	1.8	2.29		02/02/20 20:33	74-83-9	
1,3-Butadiene	**<0.29**	ug/m3	1.0	2.29		02/02/20 20:33	106-99-0	
2-Butanone (MEK)	**6.3J**	ug/m3	6.9	2.29		02/02/20 20:33	78-93-3	
Carbon disulfide	**<0.50**	ug/m3	1.4	2.29		02/02/20 20:33	75-15-0	
Carbon tetrachloride	**<0.98**	ug/m3	2.9	2.29		02/02/20 20:33	56-23-5	
Chlorobenzene	**<0.63**	ug/m3	2.1	2.29		02/02/20 20:33	108-90-7	
Chloroethane	**<0.60**	ug/m3	1.2	2.29		02/02/20 20:33	75-00-3	
Chloroform	**<0.45**	ug/m3	1.1	2.29		02/02/20 20:33	67-66-3	
Chloromethane	**0.90J**	ug/m3	0.96	2.29		02/02/20 20:33	74-87-3	
Cyclohexane	**<0.81**	ug/m3	4.0	2.29		02/02/20 20:33	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	4.0	2.29		02/02/20 20:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.84**	ug/m3	1.8	2.29		02/02/20 20:33	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.8	2.29		02/02/20 20:33	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.8	2.29		02/02/20 20:33	541-73-1	
1,4-Dichlorobenzene	**<2.3**	ug/m3	7.0	2.29		02/02/20 20:33	106-46-7	
Dichlorodifluoromethane	**2.2J**	ug/m3	2.3	2.29		02/02/20 20:33	75-71-8	
1,1-Dichloroethane	**<0.52**	ug/m3	1.9	2.29		02/02/20 20:33	75-34-3	
1,2-Dichloroethane	**<0.34**	ug/m3	0.94	2.29		02/02/20 20:33	107-06-2	
1,1-Dichloroethene	**<0.63**	ug/m3	1.8	2.29		02/02/20 20:33	75-35-4	
cis-1,2-Dichloroethene	**<0.50**	ug/m3	1.8	2.29		02/02/20 20:33	156-59-2	
trans-1,2-Dichloroethene	**<0.65**	ug/m3	1.8	2.29		02/02/20 20:33	156-60-5	
1,2-Dichloropropane	**<0.53**	ug/m3	2.2	2.29		02/02/20 20:33	78-87-5	
cis-1,3-Dichloropropene	**<0.70**	ug/m3	2.1	2.29		02/02/20 20:33	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/m3	2.1	2.29		02/02/20 20:33	10061-02-6	
Dichlorotetrafluoroethane	**<1.0**	ug/m3	3.3	2.29		02/02/20 20:33	76-14-2	
Ethanol	**<1.9**	ug/m3	11.0	2.29		02/02/20 20:33	64-17-5	
Ethyl acetate	**1.1J**	ug/m3	1.7	2.29		02/02/20 20:33	141-78-6	
Ethylbenzene	**<0.70**	ug/m3	2.0	2.29		02/02/20 20:33	100-41-4	
4-Ethyltoluene	**<1.3**	ug/m3	5.7	2.29		02/02/20 20:33	622-96-8	
n-Heptane	**<0.87**	ug/m3	1.9	2.29		02/02/20 20:33	142-82-5	
Hexachloro-1,3-butadiene	**<4.5**	ug/m3	12.4	2.29		02/02/20 20:33	87-68-3	
n-Hexane	**<0.71**	ug/m3	1.6	2.29		02/02/20 20:33	110-54-3	
2-Hexanone	**<1.7**	ug/m3	9.5	2.29		02/02/20 20:33	591-78-6	
Methylene Chloride	**4.4J**	ug/m3	8.1	2.29		02/02/20 20:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	9.5	2.29		02/02/20 20:33	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.4	2.29		02/02/20 20:33	1634-04-4	
Naphthalene	**<3.0**	ug/m3	6.1	2.29		02/02/20 20:33	91-20-3	
2-Propanol	**2.8J**	ug/m3	5.7	2.29		02/02/20 20:33	67-63-0	
Propylene	**<0.32**	ug/m3	0.80	2.29		02/02/20 20:33	115-07-1	
Styrene	**<0.79**	ug/m3	2.0	2.29		02/02/20 20:33	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.71**	ug/m3	1.6	2.29		02/02/20 20:33	79-34-5	
Tetrachloroethene	**<0.72**	ug/m3	1.6	2.29		02/02/20 20:33	127-18-4	

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: POST CARBON SP-403 **Lab ID: 70119372003** Collected: 01/21/20 09:27 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.60**	ug/m3	1.4	2.29		02/02/20 20:33	109-99-9	
Toluene	**<0.80**	ug/m3	1.8	2.29		02/02/20 20:33	108-88-3	
1,2,4-Trichlorobenzene	**<8.5**	ug/m3	17.3	2.29		02/02/20 20:33	120-82-1	
1,1,1-Trichloroethane	**<0.71**	ug/m3	2.5	2.29		02/02/20 20:33	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/m3	1.3	2.29		02/02/20 20:33	79-00-5	
Trichloroethene	**0.73J**	ug/m3	1.3	2.29		02/02/20 20:33	79-01-6	
Trichlorofluoromethane	**1.5J**	ug/m3	2.6	2.29		02/02/20 20:33	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/m3	3.6	2.29		02/02/20 20:33	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/m3	2.3	2.29		02/02/20 20:33	95-63-6	
1,3,5-Trimethylbenzene	**<0.91**	ug/m3	2.3	2.29		02/02/20 20:33	108-67-8	
Vinyl acetate	**<0.62**	ug/m3	1.6	2.29		02/02/20 20:33	108-05-4	
Vinyl chloride	**<0.29**	ug/m3	0.60	2.29		02/02/20 20:33	75-01-4	
m&p-Xylene	**<1.6**	ug/m3	4.1	2.29		02/02/20 20:33	179601-23-1	
o-Xylene	**<0.79**	ug/m3	2.0	2.29		02/02/20 20:33	95-47-6	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-1 SP-101 **Lab ID: 70119372004** Collected: 01/21/20 14:15 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**59.3**	ug/m3	5.5	2.29		02/03/20 00:30	67-64-1	
Benzene	**<0.35**	ug/m3	0.74	2.29		02/03/20 00:30	71-43-2	
Benzyl chloride	**<2.7**	ug/m3	6.0	2.29		02/03/20 00:30	100-44-7	
Bromodichloromethane	**<0.84**	ug/m3	3.1	2.29		02/03/20 00:30	75-27-4	
Bromoform	**<3.3**	ug/m3	12.0	2.29		02/03/20 00:30	75-25-2	
Bromomethane	**<0.52**	ug/m3	1.8	2.29		02/03/20 00:30	74-83-9	
1,3-Butadiene	**<0.29**	ug/m3	1.0	2.29		02/03/20 00:30	106-99-0	
2-Butanone (MEK)	**4.8J**	ug/m3	6.9	2.29		02/03/20 00:30	78-93-3	
Carbon disulfide	**<0.50**	ug/m3	1.4	2.29		02/03/20 00:30	75-15-0	
Carbon tetrachloride	**<0.98**	ug/m3	2.9	2.29		02/03/20 00:30	56-23-5	
Chlorobenzene	**<0.63**	ug/m3	2.1	2.29		02/03/20 00:30	108-90-7	
Chloroethane	**<0.60**	ug/m3	1.2	2.29		02/03/20 00:30	75-00-3	
Chloroform	**1.3**	ug/m3	1.1	2.29		02/03/20 00:30	67-66-3	
Chloromethane	**0.73J**	ug/m3	0.96	2.29		02/03/20 00:30	74-87-3	
Cyclohexane	**1.9J**	ug/m3	4.0	2.29		02/03/20 00:30	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	4.0	2.29		02/03/20 00:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.84**	ug/m3	1.8	2.29		02/03/20 00:30	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.8	2.29		02/03/20 00:30	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.8	2.29		02/03/20 00:30	541-73-1	
1,4-Dichlorobenzene	**<2.3**	ug/m3	7.0	2.29		02/03/20 00:30	106-46-7	
Dichlorodifluoromethane	**7.6**	ug/m3	2.3	2.29		02/03/20 00:30	75-71-8	
1,1-Dichloroethane	**<0.52**	ug/m3	1.9	2.29		02/03/20 00:30	75-34-3	
1,2-Dichloroethane	**<0.34**	ug/m3	0.94	2.29		02/03/20 00:30	107-06-2	
1,1-Dichloroethene	**<0.63**	ug/m3	1.8	2.29		02/03/20 00:30	75-35-4	
cis-1,2-Dichloroethene	**4.9**	ug/m3	1.8	2.29		02/03/20 00:30	156-59-2	
trans-1,2-Dichloroethene	**0.81J**	ug/m3	1.8	2.29		02/03/20 00:30	156-60-5	
1,2-Dichloropropane	**<0.53**	ug/m3	2.2	2.29		02/03/20 00:30	78-87-5	
cis-1,3-Dichloropropene	**<0.70**	ug/m3	2.1	2.29		02/03/20 00:30	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/m3	2.1	2.29		02/03/20 00:30	10061-02-6	
Dichlorotetrafluoroethane	**<1.0**	ug/m3	3.3	2.29		02/03/20 00:30	76-14-2	
Ethanol	**20.0**	ug/m3	11.0	2.29		02/03/20 00:30	64-17-5	
Ethyl acetate	**<0.44**	ug/m3	1.7	2.29		02/03/20 00:30	141-78-6	
Ethylbenzene	**<0.70**	ug/m3	2.0	2.29		02/03/20 00:30	100-41-4	
4-Ethyltoluene	**<1.3**	ug/m3	5.7	2.29		02/03/20 00:30	622-96-8	
n-Heptane	**<0.87**	ug/m3	1.9	2.29		02/03/20 00:30	142-82-5	
Hexachloro-1,3-butadiene	**<4.5**	ug/m3	12.4	2.29		02/03/20 00:30	87-68-3	
n-Hexane	**<0.71**	ug/m3	1.6	2.29		02/03/20 00:30	110-54-3	
2-Hexanone	**<1.7**	ug/m3	9.5	2.29		02/03/20 00:30	591-78-6	
Methylene Chloride	**10.9**	ug/m3	8.1	2.29		02/03/20 00:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	9.5	2.29		02/03/20 00:30	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.4	2.29		02/03/20 00:30	1634-04-4	
Naphthalene	**<3.0**	ug/m3	6.1	2.29		02/03/20 00:30	91-20-3	
2-Propanol	**272**	ug/m3	5.7	2.29		02/03/20 00:30	67-63-0	
Propylene	**0.92**	ug/m3	0.80	2.29		02/03/20 00:30	115-07-1	
Styrene	**<0.79**	ug/m3	2.0	2.29		02/03/20 00:30	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.71**	ug/m3	1.6	2.29		02/03/20 00:30	79-34-5	
Tetrachloroethene	**744**	ug/m3	15.8	22.9		02/03/20 12:44	127-18-4	

REPORT OF LABORATORY ANALYSIS

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-1 SP-101 **Lab ID: 70119372004** Collected: 01/21/20 14:15 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.60**	ug/m3	1.4	2.29		02/03/20 00:30	109-99-9	
Toluene	**1.3J**	ug/m3	1.8	2.29		02/03/20 00:30	108-88-3	
1,2,4-Trichlorobenzene	**<8.5**	ug/m3	17.3	2.29		02/03/20 00:30	120-82-1	
1,1,1-Trichloroethane	**<0.71**	ug/m3	2.5	2.29		02/03/20 00:30	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/m3	1.3	2.29		02/03/20 00:30	79-00-5	
Trichloroethene	**21.6**	ug/m3	1.3	2.29		02/03/20 00:30	79-01-6	
Trichlorofluoromethane	**1.5J**	ug/m3	2.6	2.29		02/03/20 00:30	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/m3	3.6	2.29		02/03/20 00:30	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/m3	2.3	2.29		02/03/20 00:30	95-63-6	
1,3,5-Trimethylbenzene	**<0.91**	ug/m3	2.3	2.29		02/03/20 00:30	108-67-8	
Vinyl acetate	**<0.62**	ug/m3	1.6	2.29		02/03/20 00:30	108-05-4	
Vinyl chloride	**<0.29**	ug/m3	0.60	2.29		02/03/20 00:30	75-01-4	
m&p-Xylene	**<1.6**	ug/m3	4.1	2.29		02/03/20 00:30	179601-23-1	
o-Xylene	**<0.79**	ug/m3	2.0	2.29		02/03/20 00:30	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-2 SP-102 **Lab ID: 70119372005** Collected: 01/21/20 14:17 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**74.1**	ug/m3	5.3	2.19		02/03/20 01:29	67-64-1	
Benzene	**<0.34**	ug/m3	0.71	2.19		02/03/20 01:29	71-43-2	
Benzyl chloride	**<2.6**	ug/m3	5.8	2.19		02/03/20 01:29	100-44-7	
Bromodichloromethane	**<0.80**	ug/m3	3.0	2.19		02/03/20 01:29	75-27-4	
Bromoform	**<3.1**	ug/m3	11.5	2.19		02/03/20 01:29	75-25-2	
Bromomethane	**<0.50**	ug/m3	1.7	2.19		02/03/20 01:29	74-83-9	
1,3-Butadiene	**<0.28**	ug/m3	0.99	2.19		02/03/20 01:29	106-99-0	
2-Butanone (MEK)	**6.3J**	ug/m3	6.6	2.19		02/03/20 01:29	78-93-3	
Carbon disulfide	**<0.48**	ug/m3	1.4	2.19		02/03/20 01:29	75-15-0	
Carbon tetrachloride	**<0.94**	ug/m3	2.8	2.19		02/03/20 01:29	56-23-5	
Chlorobenzene	**<0.60**	ug/m3	2.0	2.19		02/03/20 01:29	108-90-7	
Chloroethane	**<0.57**	ug/m3	1.2	2.19		02/03/20 01:29	75-00-3	
Chloroform	**1.8**	ug/m3	1.1	2.19		02/03/20 01:29	67-66-3	
Chloromethane	**<0.34**	ug/m3	0.92	2.19		02/03/20 01:29	74-87-3	
Cyclohexane	**2.4J**	ug/m3	3.8	2.19		02/03/20 01:29	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	3.8	2.19		02/03/20 01:29	124-48-1	
1,2-Dibromoethane (EDB)	**<0.80**	ug/m3	1.7	2.19		02/03/20 01:29	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.7	2.19		02/03/20 01:29	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.7	2.19		02/03/20 01:29	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	6.7	2.19		02/03/20 01:29	106-46-7	
Dichlorodifluoromethane	**21.7**	ug/m3	2.2	2.19		02/03/20 01:29	75-71-8	
1,1-Dichloroethane	**<0.49**	ug/m3	1.8	2.19		02/03/20 01:29	75-34-3	
1,2-Dichloroethane	**<0.33**	ug/m3	0.90	2.19		02/03/20 01:29	107-06-2	
1,1-Dichloroethene	**<0.60**	ug/m3	1.8	2.19		02/03/20 01:29	75-35-4	
cis-1,2-Dichloroethene	**<0.48**	ug/m3	1.8	2.19		02/03/20 01:29	156-59-2	
trans-1,2-Dichloroethene	**<0.62**	ug/m3	1.8	2.19		02/03/20 01:29	156-60-5	
1,2-Dichloropropane	**<0.50**	ug/m3	2.1	2.19		02/03/20 01:29	78-87-5	
cis-1,3-Dichloropropene	**<0.67**	ug/m3	2.0	2.19		02/03/20 01:29	10061-01-5	
trans-1,3-Dichloropropene	**<0.96**	ug/m3	2.0	2.19		02/03/20 01:29	10061-02-6	
Dichlorotetrafluoroethane	**<0.96**	ug/m3	3.1	2.19		02/03/20 01:29	76-14-2	
Ethanol	**15.3**	ug/m3	10.5	2.19		02/03/20 01:29	64-17-5	
Ethyl acetate	**<0.42**	ug/m3	1.6	2.19		02/03/20 01:29	141-78-6	
Ethylbenzene	**<0.67**	ug/m3	1.9	2.19		02/03/20 01:29	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.5	2.19		02/03/20 01:29	622-96-8	
n-Heptane	**<0.83**	ug/m3	1.8	2.19		02/03/20 01:29	142-82-5	
Hexachloro-1,3-butadiene	**<4.3**	ug/m3	11.9	2.19		02/03/20 01:29	87-68-3	
n-Hexane	**<0.68**	ug/m3	1.6	2.19		02/03/20 01:29	110-54-3	
2-Hexanone	**<1.6**	ug/m3	9.1	2.19		02/03/20 01:29	591-78-6	
Methylene Chloride	**10.9**	ug/m3	7.7	2.19		02/03/20 01:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.1**	ug/m3	9.1	2.19		02/03/20 01:29	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.0	2.19		02/03/20 01:29	1634-04-4	
Naphthalene	**<2.9**	ug/m3	5.8	2.19		02/03/20 01:29	91-20-3	
2-Propanol	**349**	ug/m3	5.5	2.19		02/03/20 01:29	67-63-0	
Propylene	**<0.31**	ug/m3	0.77	2.19		02/03/20 01:29	115-07-1	
Styrene	**<0.75**	ug/m3	1.9	2.19		02/03/20 01:29	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.68**	ug/m3	1.5	2.19		02/03/20 01:29	79-34-5	
Tetrachloroethene	**35.0**	ug/m3	1.5	2.19		02/03/20 01:29	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-2 SP-102 **Lab ID: 70119372005** Collected: 01/21/20 14:17 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.57**	ug/m3	1.3	2.19		02/03/20 01:29	109-99-9	
Toluene	**1.5J**	ug/m3	1.7	2.19		02/03/20 01:29	108-88-3	
1,2,4-Trichlorobenzene	**<8.1**	ug/m3	16.5	2.19		02/03/20 01:29	120-82-1	
1,1,1-Trichloroethane	**9.9**	ug/m3	2.4	2.19		02/03/20 01:29	71-55-6	
1,1,2-Trichloroethane	**<0.53**	ug/m3	1.2	2.19		02/03/20 01:29	79-00-5	
Trichloroethene	**12.5**	ug/m3	1.2	2.19		02/03/20 01:29	79-01-6	
Trichlorofluoromethane	**2.7**	ug/m3	2.5	2.19		02/03/20 01:29	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.2**	ug/m3	3.4	2.19		02/03/20 01:29	76-13-1	
1,2,4-Trimethylbenzene	**<0.99**	ug/m3	2.2	2.19		02/03/20 01:29	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/m3	2.2	2.19		02/03/20 01:29	108-67-8	
Vinyl acetate	**<0.59**	ug/m3	1.6	2.19		02/03/20 01:29	108-05-4	
Vinyl chloride	**<0.28**	ug/m3	0.57	2.19		02/03/20 01:29	75-01-4	
m&p-Xylene	**<1.5**	ug/m3	3.9	2.19		02/03/20 01:29	179601-23-1	
o-Xylene	**<0.75**	ug/m3	1.9	2.19		02/03/20 01:29	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-3 SP-103 **Lab ID: 70119372006** Collected: 01/21/20 14:11 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**23.2**	ug/m3	5.3	2.19		02/03/20 01:59	67-64-1	
Benzene	**<0.34**	ug/m3	0.71	2.19		02/03/20 01:59	71-43-2	
Benzyl chloride	**<2.6**	ug/m3	5.8	2.19		02/03/20 01:59	100-44-7	
Bromodichloromethane	**<0.80**	ug/m3	3.0	2.19		02/03/20 01:59	75-27-4	
Bromoform	**<3.1**	ug/m3	11.5	2.19		02/03/20 01:59	75-25-2	
Bromomethane	**<0.50**	ug/m3	1.7	2.19		02/03/20 01:59	74-83-9	
1,3-Butadiene	**<0.28**	ug/m3	0.99	2.19		02/03/20 01:59	106-99-0	
2-Butanone (MEK)	**2.6J**	ug/m3	6.6	2.19		02/03/20 01:59	78-93-3	
Carbon disulfide	**<0.48**	ug/m3	1.4	2.19		02/03/20 01:59	75-15-0	
Carbon tetrachloride	**<0.94**	ug/m3	2.8	2.19		02/03/20 01:59	56-23-5	
Chlorobenzene	**<0.60**	ug/m3	2.0	2.19		02/03/20 01:59	108-90-7	
Chloroethane	**<0.57**	ug/m3	1.2	2.19		02/03/20 01:59	75-00-3	
Chloroform	**0.55J**	ug/m3	1.1	2.19		02/03/20 01:59	67-66-3	
Chloromethane	**0.47J**	ug/m3	0.92	2.19		02/03/20 01:59	74-87-3	
Cyclohexane	**<0.77**	ug/m3	3.8	2.19		02/03/20 01:59	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	3.8	2.19		02/03/20 01:59	124-48-1	
1,2-Dibromoethane (EDB)	**<0.80**	ug/m3	1.7	2.19		02/03/20 01:59	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.7	2.19		02/03/20 01:59	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.7	2.19		02/03/20 01:59	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	6.7	2.19		02/03/20 01:59	106-46-7	
Dichlorodifluoromethane	**2.2J**	ug/m3	2.2	2.19		02/03/20 01:59	75-71-8	
1,1-Dichloroethane	**<0.49**	ug/m3	1.8	2.19		02/03/20 01:59	75-34-3	
1,2-Dichloroethane	**<0.33**	ug/m3	0.90	2.19		02/03/20 01:59	107-06-2	
1,1-Dichloroethene	**<0.60**	ug/m3	1.8	2.19		02/03/20 01:59	75-35-4	
cis-1,2-Dichloroethene	**<0.48**	ug/m3	1.8	2.19		02/03/20 01:59	156-59-2	
trans-1,2-Dichloroethene	**<0.62**	ug/m3	1.8	2.19		02/03/20 01:59	156-60-5	
1,2-Dichloropropane	**<0.50**	ug/m3	2.1	2.19		02/03/20 01:59	78-87-5	
cis-1,3-Dichloropropene	**<0.67**	ug/m3	2.0	2.19		02/03/20 01:59	10061-01-5	
trans-1,3-Dichloropropene	**<0.96**	ug/m3	2.0	2.19		02/03/20 01:59	10061-02-6	
Dichlorotetrafluoroethane	**<0.96**	ug/m3	3.1	2.19		02/03/20 01:59	76-14-2	
Ethanol	**16.6**	ug/m3	10.5	2.19		02/03/20 01:59	64-17-5	
Ethyl acetate	**<0.42**	ug/m3	1.6	2.19		02/03/20 01:59	141-78-6	
Ethylbenzene	**<0.67**	ug/m3	1.9	2.19		02/03/20 01:59	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.5	2.19		02/03/20 01:59	622-96-8	
n-Heptane	**<0.83**	ug/m3	1.8	2.19		02/03/20 01:59	142-82-5	
Hexachloro-1,3-butadiene	**<4.3**	ug/m3	11.9	2.19		02/03/20 01:59	87-68-3	
n-Hexane	**0.73J**	ug/m3	1.6	2.19		02/03/20 01:59	110-54-3	
2-Hexanone	**<1.6**	ug/m3	9.1	2.19		02/03/20 01:59	591-78-6	
Methylene Chloride	**36.6**	ug/m3	7.7	2.19		02/03/20 01:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.1**	ug/m3	9.1	2.19		02/03/20 01:59	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.0	2.19		02/03/20 01:59	1634-04-4	
Naphthalene	**<2.9**	ug/m3	5.8	2.19		02/03/20 01:59	91-20-3	
2-Propanol	**53.7**	ug/m3	5.5	2.19		02/03/20 01:59	67-63-0	
Propylene	**<0.31**	ug/m3	0.77	2.19		02/03/20 01:59	115-07-1	
Styrene	**<0.75**	ug/m3	1.9	2.19		02/03/20 01:59	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.68**	ug/m3	1.5	2.19		02/03/20 01:59	79-34-5	
Tetrachloroethene	**11.5**	ug/m3	1.5	2.19		02/03/20 01:59	127-18-4	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-3 SP-103 **Lab ID: 70119372006** Collected: 01/21/20 14:11 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.57**	ug/m3	1.3	2.19		02/03/20 01:59	109-99-9	
Toluene	**0.81J**	ug/m3	1.7	2.19		02/03/20 01:59	108-88-3	
1,2,4-Trichlorobenzene	**<8.1**	ug/m3	16.5	2.19		02/03/20 01:59	120-82-1	
1,1,1-Trichloroethane	**<0.68**	ug/m3	2.4	2.19		02/03/20 01:59	71-55-6	
1,1,2-Trichloroethane	**<0.53**	ug/m3	1.2	2.19		02/03/20 01:59	79-00-5	
Trichloroethene	**5.1**	ug/m3	1.2	2.19		02/03/20 01:59	79-01-6	
Trichlorofluoromethane	**1.2J**	ug/m3	2.5	2.19		02/03/20 01:59	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.2**	ug/m3	3.4	2.19		02/03/20 01:59	76-13-1	
1,2,4-Trimethylbenzene	**<0.99**	ug/m3	2.2	2.19		02/03/20 01:59	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/m3	2.2	2.19		02/03/20 01:59	108-67-8	
Vinyl acetate	**<0.59**	ug/m3	1.6	2.19		02/03/20 01:59	108-05-4	
Vinyl chloride	**<0.28**	ug/m3	0.57	2.19		02/03/20 01:59	75-01-4	
m&p-Xylene	**<1.5**	ug/m3	3.9	2.19		02/03/20 01:59	179601-23-1	
o-Xylene	**<0.75**	ug/m3	1.9	2.19		02/03/20 01:59	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-4 SP-104 **Lab ID: 70119372007** Collected: 01/21/20 14:13 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**87.3**	ug/m3	5.8	2.4		02/02/20 22:02	67-64-1	
Benzene	**<0.37**	ug/m3	0.78	2.4		02/02/20 22:02	71-43-2	
Benzyl chloride	**<2.9**	ug/m3	6.3	2.4		02/02/20 22:02	100-44-7	
Bromodichloromethane	**<0.88**	ug/m3	3.3	2.4		02/02/20 22:02	75-27-4	
Bromoform	**<3.4**	ug/m3	12.6	2.4		02/02/20 22:02	75-25-2	
Bromomethane	**<0.54**	ug/m3	1.9	2.4		02/02/20 22:02	74-83-9	
1,3-Butadiene	**<0.31**	ug/m3	1.1	2.4		02/02/20 22:02	106-99-0	
2-Butanone (MEK)	**3.1J**	ug/m3	7.2	2.4		02/02/20 22:02	78-93-3	
Carbon disulfide	**2.9**	ug/m3	1.5	2.4		02/02/20 22:02	75-15-0	
Carbon tetrachloride	**<1.0**	ug/m3	3.1	2.4		02/02/20 22:02	56-23-5	
Chlorobenzene	**<0.66**	ug/m3	2.2	2.4		02/02/20 22:02	108-90-7	
Chloroethane	**<0.62**	ug/m3	1.3	2.4		02/02/20 22:02	75-00-3	
Chloroform	**1.3**	ug/m3	1.2	2.4		02/02/20 22:02	67-66-3	
Chloromethane	**0.53J**	ug/m3	1.0	2.4		02/02/20 22:02	74-87-3	
Cyclohexane	**2.6J**	ug/m3	4.2	2.4		02/02/20 22:02	110-82-7	
Dibromochloromethane	**<1.7**	ug/m3	4.2	2.4		02/02/20 22:02	124-48-1	
1,2-Dibromoethane (EDB)	**<0.88**	ug/m3	1.9	2.4		02/02/20 22:02	106-93-4	
1,2-Dichlorobenzene	**<1.2**	ug/m3	2.9	2.4		02/02/20 22:02	95-50-1	
1,3-Dichlorobenzene	**<1.4**	ug/m3	2.9	2.4		02/02/20 22:02	541-73-1	
1,4-Dichlorobenzene	**<2.4**	ug/m3	7.3	2.4		02/02/20 22:02	106-46-7	
Dichlorodifluoromethane	**2.1J**	ug/m3	2.4	2.4		02/02/20 22:02	75-71-8	
1,1-Dichloroethane	**<0.54**	ug/m3	2.0	2.4		02/02/20 22:02	75-34-3	
1,2-Dichloroethane	**<0.36**	ug/m3	0.99	2.4		02/02/20 22:02	107-06-2	
1,1-Dichloroethene	**<0.66**	ug/m3	1.9	2.4		02/02/20 22:02	75-35-4	
cis-1,2-Dichloroethene	**1.3J**	ug/m3	1.9	2.4		02/02/20 22:02	156-59-2	
trans-1,2-Dichloroethene	**<0.68**	ug/m3	1.9	2.4		02/02/20 22:02	156-60-5	
1,2-Dichloropropane	**<0.55**	ug/m3	2.3	2.4		02/02/20 22:02	78-87-5	
cis-1,3-Dichloropropene	**<0.73**	ug/m3	2.2	2.4		02/02/20 22:02	10061-01-5	
trans-1,3-Dichloropropene	**<1.1**	ug/m3	2.2	2.4		02/02/20 22:02	10061-02-6	
Dichlorotetrafluoroethane	**<1.0**	ug/m3	3.4	2.4		02/02/20 22:02	76-14-2	
Ethanol	**16.7**	ug/m3	11.5	2.4		02/02/20 22:02	64-17-5	
Ethyl acetate	**<0.46**	ug/m3	1.8	2.4		02/02/20 22:02	141-78-6	
Ethylbenzene	**<0.73**	ug/m3	2.1	2.4		02/02/20 22:02	100-41-4	
4-Ethyltoluene	**<1.4**	ug/m3	6.0	2.4		02/02/20 22:02	622-96-8	
n-Heptane	**<0.91**	ug/m3	2.0	2.4		02/02/20 22:02	142-82-5	
Hexachloro-1,3-butadiene	**<4.7**	ug/m3	13.0	2.4		02/02/20 22:02	87-68-3	
n-Hexane	**<0.75**	ug/m3	1.7	2.4		02/02/20 22:02	110-54-3	
2-Hexanone	**<1.8**	ug/m3	10	2.4		02/02/20 22:02	591-78-6	
Methylene Chloride	**38.3**	ug/m3	8.5	2.4		02/02/20 22:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	10	2.4		02/02/20 22:02	108-10-1	
Methyl-tert-butyl ether	**<1.6**	ug/m3	8.8	2.4		02/02/20 22:02	1634-04-4	
Naphthalene	**<3.1**	ug/m3	6.4	2.4		02/02/20 22:02	91-20-3	
2-Propanol	**340**	ug/m3	6.0	2.4		02/02/20 22:02	67-63-0	
Propylene	**1.5**	ug/m3	0.84	2.4		02/02/20 22:02	115-07-1	
Styrene	**<0.83**	ug/m3	2.1	2.4		02/02/20 22:02	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.74**	ug/m3	1.7	2.4		02/02/20 22:02	79-34-5	
Tetrachloroethene	**136**	ug/m3	1.7	2.4		02/02/20 22:02	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-4 SP-104 **Lab ID: 70119372007** Collected: 01/21/20 14:13 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.63**	ug/m3	1.4	2.4		02/02/20 22:02	109-99-9	
Toluene	**2.4**	ug/m3	1.8	2.4		02/02/20 22:02	108-88-3	
1,2,4-Trichlorobenzene	**<8.9**	ug/m3	18.1	2.4		02/02/20 22:02	120-82-1	
1,1,1-Trichloroethane	**<0.74**	ug/m3	2.7	2.4		02/02/20 22:02	71-55-6	
1,1,2-Trichloroethane	**<0.58**	ug/m3	1.3	2.4		02/02/20 22:02	79-00-5	
Trichloroethene	**7.3**	ug/m3	1.3	2.4		02/02/20 22:02	79-01-6	
Trichlorofluoromethane	**1.4J**	ug/m3	2.7	2.4		02/02/20 22:02	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.4**	ug/m3	3.7	2.4		02/02/20 22:02	76-13-1	
1,2,4-Trimethylbenzene	**1.5J**	ug/m3	2.4	2.4		02/02/20 22:02	95-63-6	
1,3,5-Trimethylbenzene	**1.4J**	ug/m3	2.4	2.4		02/02/20 22:02	108-67-8	
Vinyl acetate	**<0.65**	ug/m3	1.7	2.4		02/02/20 22:02	108-05-4	
Vinyl chloride	**<0.30**	ug/m3	0.62	2.4		02/02/20 22:02	75-01-4	
m&p-Xylene	**<1.7**	ug/m3	4.2	2.4		02/02/20 22:02	179601-23-1	
o-Xylene	**0.86J**	ug/m3	2.1	2.4		02/02/20 22:02	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-5 SP-105 **Lab ID: 70119372008** Collected: 01/21/20 13:59 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**49.0**	ug/m3	5.1	2.1		02/02/20 22:32	67-64-1	
Benzene	**<0.32**	ug/m3	0.68	2.1		02/02/20 22:32	71-43-2	
Benzyl chloride	**<2.5**	ug/m3	5.5	2.1		02/02/20 22:32	100-44-7	
Bromodichloromethane	**<0.77**	ug/m3	2.9	2.1		02/02/20 22:32	75-27-4	
Bromoform	**<3.0**	ug/m3	11.0	2.1		02/02/20 22:32	75-25-2	
Bromomethane	**<0.48**	ug/m3	1.7	2.1		02/02/20 22:32	74-83-9	
1,3-Butadiene	**<0.27**	ug/m3	0.94	2.1		02/02/20 22:32	106-99-0	
2-Butanone (MEK)	**8.8**	ug/m3	6.3	2.1		02/02/20 22:32	78-93-3	
Carbon disulfide	**<0.46**	ug/m3	1.3	2.1		02/02/20 22:32	75-15-0	
Carbon tetrachloride	**<0.90**	ug/m3	2.7	2.1		02/02/20 22:32	56-23-5	
Chlorobenzene	**<0.58**	ug/m3	2.0	2.1		02/02/20 22:32	108-90-7	
Chloroethane	**<0.55**	ug/m3	1.1	2.1		02/02/20 22:32	75-00-3	
Chloroform	**0.87J**	ug/m3	1.0	2.1		02/02/20 22:32	67-66-3	
Chloromethane	**<0.33**	ug/m3	0.88	2.1		02/02/20 22:32	74-87-3	
Cyclohexane	**3.4J**	ug/m3	3.7	2.1		02/02/20 22:32	110-82-7	
Dibromochloromethane	**<1.5**	ug/m3	3.6	2.1		02/02/20 22:32	124-48-1	
1,2-Dibromoethane (EDB)	**<0.77**	ug/m3	1.6	2.1		02/02/20 22:32	106-93-4	
1,2-Dichlorobenzene	**<1.0**	ug/m3	2.6	2.1		02/02/20 22:32	95-50-1	
1,3-Dichlorobenzene	**<1.2**	ug/m3	2.6	2.1		02/02/20 22:32	541-73-1	
1,4-Dichlorobenzene	**<2.1**	ug/m3	6.4	2.1		02/02/20 22:32	106-46-7	
Dichlorodifluoromethane	**2.3**	ug/m3	2.1	2.1		02/02/20 22:32	75-71-8	
1,1-Dichloroethane	**<0.47**	ug/m3	1.7	2.1		02/02/20 22:32	75-34-3	
1,2-Dichloroethane	**<0.32**	ug/m3	0.86	2.1		02/02/20 22:32	107-06-2	
1,1-Dichloroethene	**<0.58**	ug/m3	1.7	2.1		02/02/20 22:32	75-35-4	
cis-1,2-Dichloroethene	**<0.46**	ug/m3	1.7	2.1		02/02/20 22:32	156-59-2	
trans-1,2-Dichloroethene	**<0.60**	ug/m3	1.7	2.1		02/02/20 22:32	156-60-5	
1,2-Dichloropropane	**<0.48**	ug/m3	2.0	2.1		02/02/20 22:32	78-87-5	
cis-1,3-Dichloropropene	**<0.64**	ug/m3	1.9	2.1		02/02/20 22:32	10061-01-5	
trans-1,3-Dichloropropene	**<0.92**	ug/m3	1.9	2.1		02/02/20 22:32	10061-02-6	
Dichlorotetrafluoroethane	**<0.92**	ug/m3	3.0	2.1		02/02/20 22:32	76-14-2	
Ethanol	**76.4**	ug/m3	10.1	2.1		02/02/20 22:32	64-17-5	
Ethyl acetate	**<0.40**	ug/m3	1.5	2.1		02/02/20 22:32	141-78-6	
Ethylbenzene	**<0.64**	ug/m3	1.9	2.1		02/02/20 22:32	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.2	2.1		02/02/20 22:32	622-96-8	
n-Heptane	**1.5J**	ug/m3	1.7	2.1		02/02/20 22:32	142-82-5	
Hexachloro-1,3-butadiene	**<4.1**	ug/m3	11.4	2.1		02/02/20 22:32	87-68-3	
n-Hexane	**0.76J**	ug/m3	1.5	2.1		02/02/20 22:32	110-54-3	
2-Hexanone	**<1.6**	ug/m3	8.7	2.1		02/02/20 22:32	591-78-6	
Methylene Chloride	**202**	ug/m3	7.4	2.1		02/02/20 22:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.1**	ug/m3	8.7	2.1		02/02/20 22:32	108-10-1	
Methyl-tert-butyl ether	**<1.4**	ug/m3	7.7	2.1		02/02/20 22:32	1634-04-4	
Naphthalene	**<2.8**	ug/m3	5.6	2.1		02/02/20 22:32	91-20-3	
2-Propanol	**219**	ug/m3	5.2	2.1		02/02/20 22:32	67-63-0	
Propylene	**<0.29**	ug/m3	0.74	2.1		02/02/20 22:32	115-07-1	
Styrene	**<0.72**	ug/m3	1.8	2.1		02/02/20 22:32	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.65**	ug/m3	1.5	2.1		02/02/20 22:32	79-34-5	
Tetrachloroethene	**2.5**	ug/m3	1.4	2.1		02/02/20 22:32	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-5 SP-105 **Lab ID: 70119372008** Collected: 01/21/20 13:59 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.55**	ug/m3	1.3	2.1		02/02/20 22:32	109-99-9	
Toluene	**1.9**	ug/m3	1.6	2.1		02/02/20 22:32	108-88-3	
1,2,4-Trichlorobenzene	**<7.8**	ug/m3	15.8	2.1		02/02/20 22:32	120-82-1	
1,1,1-Trichloroethane	**<0.65**	ug/m3	2.3	2.1		02/02/20 22:32	71-55-6	
1,1,2-Trichloroethane	**<0.51**	ug/m3	1.2	2.1		02/02/20 22:32	79-00-5	
Trichloroethene	**4.4**	ug/m3	1.1	2.1		02/02/20 22:32	79-01-6	
Trichlorofluoromethane	**1.3J**	ug/m3	2.4	2.1		02/02/20 22:32	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.2**	ug/m3	3.3	2.1		02/02/20 22:32	76-13-1	
1,2,4-Trimethylbenzene	**<0.95**	ug/m3	2.1	2.1		02/02/20 22:32	95-63-6	
1,3,5-Trimethylbenzene	**<0.84**	ug/m3	2.1	2.1		02/02/20 22:32	108-67-8	
Vinyl acetate	**<0.57**	ug/m3	1.5	2.1		02/02/20 22:32	108-05-4	
Vinyl chloride	**<0.26**	ug/m3	0.55	2.1		02/02/20 22:32	75-01-4	
m&p-Xylene	**<1.5**	ug/m3	3.7	2.1		02/02/20 22:32	179601-23-1	
o-Xylene	**<0.72**	ug/m3	1.9	2.1		02/02/20 22:32	95-47-6	

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-6 SP-106 **Lab ID: 70119372009** Collected: 01/21/20 14:02 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**115**	ug/m3	4.8	1.98		02/02/20 23:31	67-64-1	
Benzene	**0.39J**	ug/m3	0.64	1.98		02/02/20 23:31	71-43-2	
Benzyl chloride	**<2.4**	ug/m3	5.2	1.98		02/02/20 23:31	100-44-7	
Bromodichloromethane	**<0.72**	ug/m3	2.7	1.98		02/02/20 23:31	75-27-4	
Bromoform	**<2.8**	ug/m3	10.4	1.98		02/02/20 23:31	75-25-2	
Bromomethane	**<0.45**	ug/m3	1.6	1.98		02/02/20 23:31	74-83-9	
1,3-Butadiene	**<0.25**	ug/m3	0.89	1.98		02/02/20 23:31	106-99-0	
2-Butanone (MEK)	**8.9**	ug/m3	5.9	1.98		02/02/20 23:31	78-93-3	
Carbon disulfide	**0.48J**	ug/m3	1.3	1.98		02/02/20 23:31	75-15-0	
Carbon tetrachloride	**<0.85**	ug/m3	2.5	1.98		02/02/20 23:31	56-23-5	
Chlorobenzene	**<0.54**	ug/m3	1.9	1.98		02/02/20 23:31	108-90-7	
Chloroethane	**<0.51**	ug/m3	1.1	1.98		02/02/20 23:31	75-00-3	
Chloroform	**<0.39**	ug/m3	0.98	1.98		02/02/20 23:31	67-66-3	
Chloromethane	**1.2**	ug/m3	0.83	1.98		02/02/20 23:31	74-87-3	
Cyclohexane	**9.0**	ug/m3	3.5	1.98		02/02/20 23:31	110-82-7	
Dibromochloromethane	**<1.4**	ug/m3	3.4	1.98		02/02/20 23:31	124-48-1	
1,2-Dibromoethane (EDB)	**<0.72**	ug/m3	1.5	1.98		02/02/20 23:31	106-93-4	
1,2-Dichlorobenzene	**<0.99**	ug/m3	2.4	1.98		02/02/20 23:31	95-50-1	
1,3-Dichlorobenzene	**<1.2**	ug/m3	2.4	1.98		02/02/20 23:31	541-73-1	
1,4-Dichlorobenzene	**<2.0**	ug/m3	6.1	1.98		02/02/20 23:31	106-46-7	
Dichlorodifluoromethane	**2.3**	ug/m3	2.0	1.98		02/02/20 23:31	75-71-8	
1,1-Dichloroethane	**<0.45**	ug/m3	1.6	1.98		02/02/20 23:31	75-34-3	
1,2-Dichloroethane	**<0.30**	ug/m3	0.81	1.98		02/02/20 23:31	107-06-2	
1,1-Dichloroethene	**<0.54**	ug/m3	1.6	1.98		02/02/20 23:31	75-35-4	
cis-1,2-Dichloroethene	**<0.43**	ug/m3	1.6	1.98		02/02/20 23:31	156-59-2	
trans-1,2-Dichloroethene	**<0.56**	ug/m3	1.6	1.98		02/02/20 23:31	156-60-5	
1,2-Dichloropropane	**<0.46**	ug/m3	1.9	1.98		02/02/20 23:31	78-87-5	
cis-1,3-Dichloropropene	**<0.60**	ug/m3	1.8	1.98		02/02/20 23:31	10061-01-5	
trans-1,3-Dichloropropene	**<0.87**	ug/m3	1.8	1.98		02/02/20 23:31	10061-02-6	
Dichlorotetrafluoroethane	**<0.87**	ug/m3	2.8	1.98		02/02/20 23:31	76-14-2	
Ethanol	**161**	ug/m3	9.5	1.98		02/02/20 23:31	64-17-5	
Ethyl acetate	**<0.38**	ug/m3	1.5	1.98		02/02/20 23:31	141-78-6	
Ethylbenzene	**<0.60**	ug/m3	1.7	1.98		02/02/20 23:31	100-41-4	
4-Ethyltoluene	**<1.1**	ug/m3	5.0	1.98		02/02/20 23:31	622-96-8	
n-Heptane	**2.1**	ug/m3	1.6	1.98		02/02/20 23:31	142-82-5	
Hexachloro-1,3-butadiene	**<3.9**	ug/m3	10.7	1.98		02/02/20 23:31	87-68-3	
n-Hexane	**1.2J**	ug/m3	1.4	1.98		02/02/20 23:31	110-54-3	
2-Hexanone	**<1.5**	ug/m3	8.2	1.98		02/02/20 23:31	591-78-6	
Methylene Chloride	**421**	ug/m3	7.0	1.98		02/02/20 23:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2.0J**	ug/m3	8.2	1.98		02/02/20 23:31	108-10-1	
Methyl-tert-butyl ether	**<1.3**	ug/m3	7.2	1.98		02/02/20 23:31	1634-04-4	
Naphthalene	**<2.6**	ug/m3	5.3	1.98		02/02/20 23:31	91-20-3	
2-Propanol	**602**	ug/m3	5.0	1.98		02/02/20 23:31	67-63-0	
Propylene	**<0.28**	ug/m3	0.69	1.98		02/02/20 23:31	115-07-1	
Styrene	**0.84J**	ug/m3	1.7	1.98		02/02/20 23:31	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.61**	ug/m3	1.4	1.98		02/02/20 23:31	79-34-5	
Tetrachloroethene	**3.0**	ug/m3	1.4	1.98		02/02/20 23:31	127-18-4	

REPORT OF LABORATORY ANALYSIS

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-6 SP-106 **Lab ID: 70119372009** Collected: 01/21/20 14:02 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.52**	ug/m3	1.2	1.98		02/02/20 23:31	109-99-9	
Toluene	**5.2**	ug/m3	1.5	1.98		02/02/20 23:31	108-88-3	
1,2,4-Trichlorobenzene	**<7.4**	ug/m3	14.9	1.98		02/02/20 23:31	120-82-1	
1,1,1-Trichloroethane	**<0.61**	ug/m3	2.2	1.98		02/02/20 23:31	71-55-6	
1,1,2-Trichloroethane	**<0.48**	ug/m3	1.1	1.98		02/02/20 23:31	79-00-5	
Trichloroethene	**<0.50**	ug/m3	1.1	1.98		02/02/20 23:31	79-01-6	
Trichlorofluoromethane	**1.3J**	ug/m3	2.3	1.98		02/02/20 23:31	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.1**	ug/m3	3.1	1.98		02/02/20 23:31	76-13-1	
1,2,4-Trimethylbenzene	**1.4J**	ug/m3	2.0	1.98		02/02/20 23:31	95-63-6	
1,3,5-Trimethylbenzene	**0.80J**	ug/m3	2.0	1.98		02/02/20 23:31	108-67-8	
Vinyl acetate	**<0.53**	ug/m3	1.4	1.98		02/02/20 23:31	108-05-4	
Vinyl chloride	**<0.25**	ug/m3	0.51	1.98		02/02/20 23:31	75-01-4	
m&p-Xylene	**<1.4**	ug/m3	3.5	1.98		02/02/20 23:31	179601-23-1	
o-Xylene	**<0.68**	ug/m3	1.7	1.98		02/02/20 23:31	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-7 SP-107 **Lab ID: 70119372010** Collected: 01/21/20 14:05 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**40.6**	ug/m3	4.9	2.02		02/02/20 21:03	67-64-1	
Benzene	**<0.31**	ug/m3	0.66	2.02		02/02/20 21:03	71-43-2	
Benzyl chloride	**<2.4**	ug/m3	5.3	2.02		02/02/20 21:03	100-44-7	
Bromodichloromethane	**<0.74**	ug/m3	2.7	2.02		02/02/20 21:03	75-27-4	
Bromoform	**<2.9**	ug/m3	10.6	2.02		02/02/20 21:03	75-25-2	
Bromomethane	**<0.46**	ug/m3	1.6	2.02		02/02/20 21:03	74-83-9	
1,3-Butadiene	**<0.26**	ug/m3	0.91	2.02		02/02/20 21:03	106-99-0	
2-Butanone (MEK)	**7.5**	ug/m3	6.1	2.02		02/02/20 21:03	78-93-3	
Carbon disulfide	**0.81J**	ug/m3	1.3	2.02		02/02/20 21:03	75-15-0	
Carbon tetrachloride	**<0.87**	ug/m3	2.6	2.02		02/02/20 21:03	56-23-5	
Chlorobenzene	**<0.56**	ug/m3	1.9	2.02		02/02/20 21:03	108-90-7	
Chloroethane	**<0.53**	ug/m3	1.1	2.02		02/02/20 21:03	75-00-3	
Chloroform	**2.6**	ug/m3	1.0	2.02		02/02/20 21:03	67-66-3	
Chloromethane	**1.1**	ug/m3	0.85	2.02		02/02/20 21:03	74-87-3	
Cyclohexane	**2.0J**	ug/m3	3.5	2.02		02/02/20 21:03	110-82-7	
Dibromochloromethane	**<1.5**	ug/m3	3.5	2.02		02/02/20 21:03	124-48-1	
1,2-Dibromoethane (EDB)	**<0.74**	ug/m3	1.6	2.02		02/02/20 21:03	106-93-4	
1,2-Dichlorobenzene	**<1.0**	ug/m3	2.5	2.02		02/02/20 21:03	95-50-1	
1,3-Dichlorobenzene	**<1.2**	ug/m3	2.5	2.02		02/02/20 21:03	541-73-1	
1,4-Dichlorobenzene	**<2.0**	ug/m3	6.2	2.02		02/02/20 21:03	106-46-7	
Dichlorodifluoromethane	**2.2**	ug/m3	2.0	2.02		02/02/20 21:03	75-71-8	
1,1-Dichloroethane	**<0.45**	ug/m3	1.7	2.02		02/02/20 21:03	75-34-3	
1,2-Dichloroethane	**<0.30**	ug/m3	0.83	2.02		02/02/20 21:03	107-06-2	
1,1-Dichloroethene	**<0.55**	ug/m3	1.6	2.02		02/02/20 21:03	75-35-4	
cis-1,2-Dichloroethene	**<0.44**	ug/m3	1.6	2.02		02/02/20 21:03	156-59-2	
trans-1,2-Dichloroethene	**<0.58**	ug/m3	1.6	2.02		02/02/20 21:03	156-60-5	
1,2-Dichloropropane	**<0.46**	ug/m3	1.9	2.02		02/02/20 21:03	78-87-5	
cis-1,3-Dichloropropene	**<0.61**	ug/m3	1.9	2.02		02/02/20 21:03	10061-01-5	
trans-1,3-Dichloropropene	**<0.89**	ug/m3	1.9	2.02		02/02/20 21:03	10061-02-6	
Dichlorotetrafluoroethane	**<0.88**	ug/m3	2.9	2.02		02/02/20 21:03	76-14-2	
Ethanol	**47.0**	ug/m3	9.7	2.02		02/02/20 21:03	64-17-5	
Ethyl acetate	**<0.38**	ug/m3	1.5	2.02		02/02/20 21:03	141-78-6	
Ethylbenzene	**<0.62**	ug/m3	1.8	2.02		02/02/20 21:03	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.0	2.02		02/02/20 21:03	622-96-8	
n-Heptane	**<0.77**	ug/m3	1.7	2.02		02/02/20 21:03	142-82-5	
Hexachloro-1,3-butadiene	**<4.0**	ug/m3	10.9	2.02		02/02/20 21:03	87-68-3	
n-Hexane	**<0.63**	ug/m3	1.4	2.02		02/02/20 21:03	110-54-3	
2-Hexanone	**<1.5**	ug/m3	8.4	2.02		02/02/20 21:03	591-78-6	
Methylene Chloride	**39.6**	ug/m3	7.1	2.02		02/02/20 21:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3.1J**	ug/m3	8.4	2.02		02/02/20 21:03	108-10-1	
Methyl-tert-butyl ether	**<1.3**	ug/m3	7.4	2.02		02/02/20 21:03	1634-04-4	
Naphthalene	**<2.6**	ug/m3	5.4	2.02		02/02/20 21:03	91-20-3	
2-Propanol	**165**	ug/m3	5.0	2.02		02/02/20 21:03	67-63-0	
Propylene	**<0.28**	ug/m3	0.71	2.02		02/02/20 21:03	115-07-1	
Styrene	**<0.69**	ug/m3	1.7	2.02		02/02/20 21:03	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.62**	ug/m3	1.4	2.02		02/02/20 21:03	79-34-5	
Tetrachloroethene	**1.3J**	ug/m3	1.4	2.02		02/02/20 21:03	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-7 SP-107 **Lab ID: 70119372010** Collected: 01/21/20 14:05 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.53**	ug/m3	1.2	2.02		02/02/20 21:03	109-99-9	
Toluene	**0.83J**	ug/m3	1.5	2.02		02/02/20 21:03	108-88-3	
1,2,4-Trichlorobenzene	**<7.5**	ug/m3	15.2	2.02		02/02/20 21:03	120-82-1	
1,1,1-Trichloroethane	**<0.62**	ug/m3	2.2	2.02		02/02/20 21:03	71-55-6	
1,1,2-Trichloroethane	**<0.49**	ug/m3	1.1	2.02		02/02/20 21:03	79-00-5	
Trichloroethene	**0.79J**	ug/m3	1.1	2.02		02/02/20 21:03	79-01-6	
Trichlorofluoromethane	**1.2J**	ug/m3	2.3	2.02		02/02/20 21:03	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<1.1**	ug/m3	3.2	2.02		02/02/20 21:03	76-13-1	
1,2,4-Trimethylbenzene	**<0.91**	ug/m3	2.0	2.02		02/02/20 21:03	95-63-6	
1,3,5-Trimethylbenzene	**<0.81**	ug/m3	2.0	2.02		02/02/20 21:03	108-67-8	
Vinyl acetate	**<0.55**	ug/m3	1.4	2.02		02/02/20 21:03	108-05-4	
Vinyl chloride	**<0.25**	ug/m3	0.53	2.02		02/02/20 21:03	75-01-4	
m&p-Xylene	**<1.4**	ug/m3	3.6	2.02		02/02/20 21:03	179601-23-1	
o-Xylene	**<0.69**	ug/m3	1.8	2.02		02/02/20 21:03	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-8 SP-108 **Lab ID: 70119372011** Collected: 01/21/20 14:06 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**27.9**	ug/m3	5.4	2.24		02/02/20 20:04	67-64-1	
Benzene	**<0.34**	ug/m3	0.73	2.24		02/02/20 20:04	71-43-2	
Benzyl chloride	**<2.7**	ug/m3	5.9	2.24		02/02/20 20:04	100-44-7	
Bromodichloromethane	**<0.82**	ug/m3	3.0	2.24		02/02/20 20:04	75-27-4	
Bromoform	**<3.2**	ug/m3	11.8	2.24		02/02/20 20:04	75-25-2	
Bromomethane	**<0.51**	ug/m3	1.8	2.24		02/02/20 20:04	74-83-9	
1,3-Butadiene	**<0.29**	ug/m3	1.0	2.24		02/02/20 20:04	106-99-0	
2-Butanone (MEK)	**8.0**	ug/m3	6.7	2.24		02/02/20 20:04	78-93-3	
Carbon disulfide	**<0.49**	ug/m3	1.4	2.24		02/02/20 20:04	75-15-0	
Carbon tetrachloride	**<0.96**	ug/m3	2.9	2.24		02/02/20 20:04	56-23-5	
Chlorobenzene	**<0.62**	ug/m3	2.1	2.24		02/02/20 20:04	108-90-7	
Chloroethane	**<0.58**	ug/m3	1.2	2.24		02/02/20 20:04	75-00-3	
Chloroform	**23.3**	ug/m3	1.1	2.24		02/02/20 20:04	67-66-3	
Chloromethane	**<0.35**	ug/m3	0.94	2.24		02/02/20 20:04	74-87-3	
Cyclohexane	**<0.79**	ug/m3	3.9	2.24		02/02/20 20:04	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	3.9	2.24		02/02/20 20:04	124-48-1	
1,2-Dibromoethane (EDB)	**<0.82**	ug/m3	1.7	2.24		02/02/20 20:04	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.7	2.24		02/02/20 20:04	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.7	2.24		02/02/20 20:04	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	6.9	2.24		02/02/20 20:04	106-46-7	
Dichlorodifluoromethane	**4.9**	ug/m3	2.3	2.24		02/02/20 20:04	75-71-8	
1,1-Dichloroethane	**<0.50**	ug/m3	1.8	2.24		02/02/20 20:04	75-34-3	
1,2-Dichloroethane	**<0.34**	ug/m3	0.92	2.24		02/02/20 20:04	107-06-2	
1,1-Dichloroethene	**<0.61**	ug/m3	1.8	2.24		02/02/20 20:04	75-35-4	
cis-1,2-Dichloroethene	**<0.49**	ug/m3	1.8	2.24		02/02/20 20:04	156-59-2	
trans-1,2-Dichloroethene	**<0.64**	ug/m3	1.8	2.24		02/02/20 20:04	156-60-5	
1,2-Dichloropropane	**<0.52**	ug/m3	2.1	2.24		02/02/20 20:04	78-87-5	
cis-1,3-Dichloropropene	**<0.68**	ug/m3	2.1	2.24		02/02/20 20:04	10061-01-5	
trans-1,3-Dichloropropene	**<0.99**	ug/m3	2.1	2.24		02/02/20 20:04	10061-02-6	
Dichlorotetrafluoroethane	**<0.98**	ug/m3	3.2	2.24		02/02/20 20:04	76-14-2	
Ethanol	**26.9**	ug/m3	10.7	2.24		02/02/20 20:04	64-17-5	
Ethyl acetate	**<0.43**	ug/m3	1.6	2.24		02/02/20 20:04	141-78-6	
Ethylbenzene	**<0.68**	ug/m3	2.0	2.24		02/02/20 20:04	100-41-4	
4-Ethyltoluene	**<1.3**	ug/m3	5.6	2.24		02/02/20 20:04	622-96-8	
n-Heptane	**<0.85**	ug/m3	1.9	2.24		02/02/20 20:04	142-82-5	
Hexachloro-1,3-butadiene	**<4.4**	ug/m3	12.1	2.24		02/02/20 20:04	87-68-3	
n-Hexane	**<0.70**	ug/m3	1.6	2.24		02/02/20 20:04	110-54-3	
2-Hexanone	**<1.7**	ug/m3	9.3	2.24		02/02/20 20:04	591-78-6	
Methylene Chloride	**15.0**	ug/m3	7.9	2.24		02/02/20 20:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/m3	9.3	2.24		02/02/20 20:04	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.2	2.24		02/02/20 20:04	1634-04-4	
Naphthalene	**<2.9**	ug/m3	6.0	2.24		02/02/20 20:04	91-20-3	
2-Propanol	**68.1**	ug/m3	5.6	2.24		02/02/20 20:04	67-63-0	
Propylene	**<0.31**	ug/m3	0.78	2.24		02/02/20 20:04	115-07-1	
Styrene	**<0.77**	ug/m3	1.9	2.24		02/02/20 20:04	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.69**	ug/m3	1.6	2.24		02/02/20 20:04	79-34-5	
Tetrachloroethene	**44.1**	ug/m3	1.5	2.24		02/02/20 20:04	127-18-4	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: SDS-8 SP-108 **Lab ID: 70119372011** Collected: 01/21/20 14:06 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**<0.58**	ug/m3	1.3	2.24		02/02/20 20:04	109-99-9	
Toluene	**2.7**	ug/m3	1.7	2.24		02/02/20 20:04	108-88-3	
1,2,4-Trichlorobenzene	**<8.3**	ug/m3	16.9	2.24		02/02/20 20:04	120-82-1	
1,1,1-Trichloroethane	**3.0**	ug/m3	2.5	2.24		02/02/20 20:04	71-55-6	
1,1,2-Trichloroethane	**<0.54**	ug/m3	1.2	2.24		02/02/20 20:04	79-00-5	
Trichloroethene	**28.4**	ug/m3	1.2	2.24		02/02/20 20:04	79-01-6	
Trichlorofluoromethane	**1.3J**	ug/m3	2.6	2.24		02/02/20 20:04	75-69-4	
1,1,2-Trichlorotrifluoroethane	**3.8**	ug/m3	3.5	2.24		02/02/20 20:04	76-13-1	
1,2,4-Trimethylbenzene	**<1.0**	ug/m3	2.2	2.24		02/02/20 20:04	95-63-6	
1,3,5-Trimethylbenzene	**<0.89**	ug/m3	2.2	2.24		02/02/20 20:04	108-67-8	
Vinyl acetate	**<0.60**	ug/m3	1.6	2.24		02/02/20 20:04	108-05-4	
Vinyl chloride	**<0.28**	ug/m3	0.58	2.24		02/02/20 20:04	75-01-4	
m&p-Xylene	**<1.6**	ug/m3	4.0	2.24		02/02/20 20:04	179601-23-1	
o-Xylene	**<0.77**	ug/m3	2.0	2.24		02/02/20 20:04	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: MID CARBON -SP302 **Lab ID: 70119372012** Collected: 01/21/20 14:31 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**45.4**	ug/m3	4.9	2.02		02/02/20 23:01	67-64-1	
Benzene	**1.2**	ug/m3	0.66	2.02		02/02/20 23:01	71-43-2	
Benzyl chloride	**<2.4**	ug/m3	5.3	2.02		02/02/20 23:01	100-44-7	
Bromodichloromethane	**<0.74**	ug/m3	2.7	2.02		02/02/20 23:01	75-27-4	
Bromoform	**<2.9**	ug/m3	10.6	2.02		02/02/20 23:01	75-25-2	
Bromomethane	**<0.46**	ug/m3	1.6	2.02		02/02/20 23:01	74-83-9	
1,3-Butadiene	**<0.26**	ug/m3	0.91	2.02		02/02/20 23:01	106-99-0	
2-Butanone (MEK)	**5.7J**	ug/m3	6.1	2.02		02/02/20 23:01	78-93-3	
Carbon disulfide	**<0.44**	ug/m3	1.3	2.02		02/02/20 23:01	75-15-0	
Carbon tetrachloride	**<0.87**	ug/m3	2.6	2.02		02/02/20 23:01	56-23-5	
Chlorobenzene	**<0.56**	ug/m3	1.9	2.02		02/02/20 23:01	108-90-7	
Chloroethane	**<0.53**	ug/m3	1.1	2.02		02/02/20 23:01	75-00-3	
Chloroform	**10.5**	ug/m3	1.0	2.02		02/02/20 23:01	67-66-3	
Chloromethane	**<0.32**	ug/m3	0.85	2.02		02/02/20 23:01	74-87-3	
Cyclohexane	**<0.71**	ug/m3	3.5	2.02		02/02/20 23:01	110-82-7	
Dibromochloromethane	**<1.5**	ug/m3	3.5	2.02		02/02/20 23:01	124-48-1	
1,2-Dibromoethane (EDB)	**<0.74**	ug/m3	1.6	2.02		02/02/20 23:01	106-93-4	
1,2-Dichlorobenzene	**<1.0**	ug/m3	2.5	2.02		02/02/20 23:01	95-50-1	
1,3-Dichlorobenzene	**<1.2**	ug/m3	2.5	2.02		02/02/20 23:01	541-73-1	
1,4-Dichlorobenzene	**<2.0**	ug/m3	6.2	2.02		02/02/20 23:01	106-46-7	
Dichlorodifluoromethane	**3.4**	ug/m3	2.0	2.02		02/02/20 23:01	75-71-8	
1,1-Dichloroethane	**<0.45**	ug/m3	1.7	2.02		02/02/20 23:01	75-34-3	
1,2-Dichloroethane	**<0.30**	ug/m3	0.83	2.02		02/02/20 23:01	107-06-2	
1,1-Dichloroethene	**<0.55**	ug/m3	1.6	2.02		02/02/20 23:01	75-35-4	
cis-1,2-Dichloroethene	**0.49J**	ug/m3	1.6	2.02		02/02/20 23:01	156-59-2	
trans-1,2-Dichloroethene	**<0.58**	ug/m3	1.6	2.02		02/02/20 23:01	156-60-5	
1,2-Dichloropropane	**<0.46**	ug/m3	1.9	2.02		02/02/20 23:01	78-87-5	
cis-1,3-Dichloropropene	**<0.61**	ug/m3	1.9	2.02		02/02/20 23:01	10061-01-5	
trans-1,3-Dichloropropene	**<0.89**	ug/m3	1.9	2.02		02/02/20 23:01	10061-02-6	
Dichlorotetrafluoroethane	**<0.88**	ug/m3	2.9	2.02		02/02/20 23:01	76-14-2	
Ethanol	**9.8**	ug/m3	9.7	2.02		02/02/20 23:01	64-17-5	
Ethyl acetate	**<0.38**	ug/m3	1.5	2.02		02/02/20 23:01	141-78-6	
Ethylbenzene	**<0.62**	ug/m3	1.8	2.02		02/02/20 23:01	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.0	2.02		02/02/20 23:01	622-96-8	
n-Heptane	**<0.77**	ug/m3	1.7	2.02		02/02/20 23:01	142-82-5	
Hexachloro-1,3-butadiene	**<4.0**	ug/m3	10.9	2.02		02/02/20 23:01	87-68-3	
n-Hexane	**<0.63**	ug/m3	1.4	2.02		02/02/20 23:01	110-54-3	
2-Hexanone	**<1.5**	ug/m3	8.4	2.02		02/02/20 23:01	591-78-6	
Methylene Chloride	**41.2**	ug/m3	7.1	2.02		02/02/20 23:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<1.0**	ug/m3	8.4	2.02		02/02/20 23:01	108-10-1	
Methyl-tert-butyl ether	**<1.3**	ug/m3	7.4	2.02		02/02/20 23:01	1634-04-4	
Naphthalene	**<2.6**	ug/m3	5.4	2.02		02/02/20 23:01	91-20-3	
2-Propanol	**146**	ug/m3	5.0	2.02		02/02/20 23:01	67-63-0	
Propylene	**<0.28**	ug/m3	0.71	2.02		02/02/20 23:01	115-07-1	
Styrene	**<0.69**	ug/m3	1.7	2.02		02/02/20 23:01	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.62**	ug/m3	1.4	2.02		02/02/20 23:01	79-34-5	
Tetrachloroethene	**<0.63**	ug/m3	1.4	2.02		02/02/20 23:01	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: MID CARBON -SP302 **Lab ID: 70119372012** Collected: 01/21/20 14:31 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**0.98J**	ug/m3	1.2	2.02		02/02/20 23:01	109-99-9	
Toluene	**<0.71**	ug/m3	1.5	2.02		02/02/20 23:01	108-88-3	
1,2,4-Trichlorobenzene	**<7.5**	ug/m3	15.2	2.02		02/02/20 23:01	120-82-1	
1,1,1-Trichloroethane	**<0.62**	ug/m3	2.2	2.02		02/02/20 23:01	71-55-6	
1,1,2-Trichloroethane	**<0.49**	ug/m3	1.1	2.02		02/02/20 23:01	79-00-5	
Trichloroethene	**<0.51**	ug/m3	1.1	2.02		02/02/20 23:01	79-01-6	
Trichlorofluoromethane	**1.9J**	ug/m3	2.3	2.02		02/02/20 23:01	75-69-4	
1,1,2-Trichlorotrifluoroethane	**2.0J**	ug/m3	3.2	2.02		02/02/20 23:01	76-13-1	
1,2,4-Trimethylbenzene	**<0.91**	ug/m3	2.0	2.02		02/02/20 23:01	95-63-6	
1,3,5-Trimethylbenzene	**<0.81**	ug/m3	2.0	2.02		02/02/20 23:01	108-67-8	
Vinyl acetate	**<0.55**	ug/m3	1.4	2.02		02/02/20 23:01	108-05-4	
Vinyl chloride	**<0.25**	ug/m3	0.53	2.02		02/02/20 23:01	75-01-4	
m&p-Xylene	**<1.4**	ug/m3	3.6	2.02		02/02/20 23:01	179601-23-1	
o-Xylene	**<0.69**	ug/m3	1.8	2.02		02/02/20 23:01	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: EFFLUENT POST CARBON **Lab ID: 70119372013** Collected: 01/21/20 14:34 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**52.5**	ug/m3	5.3	2.19		02/02/20 21:33	67-64-1	
Benzene	**<0.34**	ug/m3	0.71	2.19		02/02/20 21:33	71-43-2	
Benzyl chloride	**<2.6**	ug/m3	5.8	2.19		02/02/20 21:33	100-44-7	
Bromodichloromethane	**<0.80**	ug/m3	3.0	2.19		02/02/20 21:33	75-27-4	
Bromoform	**<3.1**	ug/m3	11.5	2.19		02/02/20 21:33	75-25-2	
Bromomethane	**<0.50**	ug/m3	1.7	2.19		02/02/20 21:33	74-83-9	
1,3-Butadiene	**<0.28**	ug/m3	0.99	2.19		02/02/20 21:33	106-99-0	
2-Butanone (MEK)	**3.8J**	ug/m3	6.6	2.19		02/02/20 21:33	78-93-3	
Carbon disulfide	**<0.48**	ug/m3	1.4	2.19		02/02/20 21:33	75-15-0	
Carbon tetrachloride	**<0.94**	ug/m3	2.8	2.19		02/02/20 21:33	56-23-5	
Chlorobenzene	**<0.60**	ug/m3	2.0	2.19		02/02/20 21:33	108-90-7	
Chloroethane	**<0.57**	ug/m3	1.2	2.19		02/02/20 21:33	75-00-3	
Chloroform	**10.3**	ug/m3	1.1	2.19		02/02/20 21:33	67-66-3	
Chloromethane	**0.76J**	ug/m3	0.92	2.19		02/02/20 21:33	74-87-3	
Cyclohexane	**<0.77**	ug/m3	3.8	2.19		02/02/20 21:33	110-82-7	
Dibromochloromethane	**<1.6**	ug/m3	3.8	2.19		02/02/20 21:33	124-48-1	
1,2-Dibromoethane (EDB)	**<0.80**	ug/m3	1.7	2.19		02/02/20 21:33	106-93-4	
1,2-Dichlorobenzene	**<1.1**	ug/m3	2.7	2.19		02/02/20 21:33	95-50-1	
1,3-Dichlorobenzene	**<1.3**	ug/m3	2.7	2.19		02/02/20 21:33	541-73-1	
1,4-Dichlorobenzene	**<2.2**	ug/m3	6.7	2.19		02/02/20 21:33	106-46-7	
Dichlorodifluoromethane	**3.4**	ug/m3	2.2	2.19		02/02/20 21:33	75-71-8	
1,1-Dichloroethane	**<0.49**	ug/m3	1.8	2.19		02/02/20 21:33	75-34-3	
1,2-Dichloroethane	**<0.33**	ug/m3	0.90	2.19		02/02/20 21:33	107-06-2	
1,1-Dichloroethene	**<0.60**	ug/m3	1.8	2.19		02/02/20 21:33	75-35-4	
cis-1,2-Dichloroethene	**<0.48**	ug/m3	1.8	2.19		02/02/20 21:33	156-59-2	
trans-1,2-Dichloroethene	**<0.62**	ug/m3	1.8	2.19		02/02/20 21:33	156-60-5	
1,2-Dichloropropane	**<0.50**	ug/m3	2.1	2.19		02/02/20 21:33	78-87-5	
cis-1,3-Dichloropropene	**<0.67**	ug/m3	2.0	2.19		02/02/20 21:33	10061-01-5	
trans-1,3-Dichloropropene	**<0.96**	ug/m3	2.0	2.19		02/02/20 21:33	10061-02-6	
Dichlorotetrafluoroethane	**<0.96**	ug/m3	3.1	2.19		02/02/20 21:33	76-14-2	
Ethanol	**11.1**	ug/m3	10.5	2.19		02/02/20 21:33	64-17-5	
Ethyl acetate	**<0.42**	ug/m3	1.6	2.19		02/02/20 21:33	141-78-6	
Ethylbenzene	**<0.67**	ug/m3	1.9	2.19		02/02/20 21:33	100-41-4	
4-Ethyltoluene	**<1.2**	ug/m3	5.5	2.19		02/02/20 21:33	622-96-8	
n-Heptane	**<0.83**	ug/m3	1.8	2.19		02/02/20 21:33	142-82-5	
Hexachloro-1,3-butadiene	**<4.3**	ug/m3	11.9	2.19		02/02/20 21:33	87-68-3	
n-Hexane	**<0.68**	ug/m3	1.6	2.19		02/02/20 21:33	110-54-3	
2-Hexanone	**<1.6**	ug/m3	9.1	2.19		02/02/20 21:33	591-78-6	
Methylene Chloride	**48.2**	ug/m3	7.7	2.19		02/02/20 21:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.3J**	ug/m3	9.1	2.19		02/02/20 21:33	108-10-1	
Methyl-tert-butyl ether	**<1.5**	ug/m3	8.0	2.19		02/02/20 21:33	1634-04-4	
Naphthalene	**<2.9**	ug/m3	5.8	2.19		02/02/20 21:33	91-20-3	
2-Propanol	**166**	ug/m3	5.5	2.19		02/02/20 21:33	67-63-0	
Propylene	**0.81**	ug/m3	0.77	2.19		02/02/20 21:33	115-07-1	
Styrene	**<0.75**	ug/m3	1.9	2.19		02/02/20 21:33	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.68**	ug/m3	1.5	2.19		02/02/20 21:33	79-34-5	
Tetrachloroethene	**<0.69**	ug/m3	1.5	2.19		02/02/20 21:33	127-18-4	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Sample: EFFLUENT POST CARBON **Lab ID: 70119372013** Collected: 01/21/20 14:34 Received: 01/23/20 09:30 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Tetrahydrofuran	**0.64J**	ug/m3	1.3	2.19		02/02/20 21:33	109-99-9	
Toluene	**<0.77**	ug/m3	1.7	2.19		02/02/20 21:33	108-88-3	
1,2,4-Trichlorobenzene	**<8.1**	ug/m3	16.5	2.19		02/02/20 21:33	120-82-1	
1,1,1-Trichloroethane	**<0.68**	ug/m3	2.4	2.19		02/02/20 21:33	71-55-6	
1,1,2-Trichloroethane	**<0.53**	ug/m3	1.2	2.19		02/02/20 21:33	79-00-5	
Trichloroethene	**<0.55**	ug/m3	1.2	2.19		02/02/20 21:33	79-01-6	
Trichlorofluoromethane	**2.8**	ug/m3	2.5	2.19		02/02/20 21:33	75-69-4	
1,1,2-Trichlorotrifluoroethane	**2.9J**	ug/m3	3.4	2.19		02/02/20 21:33	76-13-1	
1,2,4-Trimethylbenzene	**<0.99**	ug/m3	2.2	2.19		02/02/20 21:33	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/m3	2.2	2.19		02/02/20 21:33	108-67-8	
Vinyl acetate	**<0.59**	ug/m3	1.6	2.19		02/02/20 21:33	108-05-4	
Vinyl chloride	**<0.28**	ug/m3	0.57	2.19		02/02/20 21:33	75-01-4	
m&p-Xylene	**<1.5**	ug/m3	3.9	2.19		02/02/20 21:33	179601-23-1	
o-Xylene	**<0.75**	ug/m3	1.9	2.19		02/02/20 21:33	95-47-6	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

QC Batch: 657863 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 70119372001, 70119372002, 70119372003, 70119372004, 70119372005, 70119372006, 70119372007, 70119372008, 70119372009, 70119372010, 70119372011, 70119372012, 70119372013

METHOD BLANK: 3532449 Matrix: Air
Associated Lab Samples: 70119372001, 70119372002, 70119372003, 70119372004, 70119372005, 70119372006, 70119372007, 70119372008, 70119372009, 70119372010, 70119372011, 70119372012, 70119372013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.31	1.1	02/02/20 08:47	
1,1,2,2-Tetrachloroethane	ug/m3	<0.31	0.70	02/02/20 08:47	
1,1,2-Trichloroethane	ug/m3	<0.24	0.56	02/02/20 08:47	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.56	1.6	02/02/20 08:47	
1,1-Dichloroethane	ug/m3	<0.22	0.82	02/02/20 08:47	
1,1-Dichloroethene	ug/m3	<0.27	0.81	02/02/20 08:47	
1,2,4-Trichlorobenzene	ug/m3	<3.7	7.5	02/02/20 08:47	
1,2,4-Trimethylbenzene	ug/m3	<0.45	1.0	02/02/20 08:47	
1,2-Dibromoethane (EDB)	ug/m3	<0.37	0.78	02/02/20 08:47	
1,2-Dichlorobenzene	ug/m3	<0.50	1.2	02/02/20 08:47	
1,2-Dichloroethane	ug/m3	<0.15	0.41	02/02/20 08:47	
1,2-Dichloropropane	ug/m3	<0.23	0.94	02/02/20 08:47	
1,3,5-Trimethylbenzene	ug/m3	<0.40	1.0	02/02/20 08:47	
1,3-Butadiene	ug/m3	<0.13	0.45	02/02/20 08:47	
1,3-Dichlorobenzene	ug/m3	<0.58	1.2	02/02/20 08:47	
1,4-Dichlorobenzene	ug/m3	<1.0	3.1	02/02/20 08:47	
2-Butanone (MEK)	ug/m3	<0.37	3.0	02/02/20 08:47	
2-Hexanone	ug/m3	<0.74	4.2	02/02/20 08:47	
2-Propanol	ug/m3	<0.70	2.5	02/02/20 08:47	
4-Ethyltoluene	ug/m3	<0.57	2.5	02/02/20 08:47	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.52	4.2	02/02/20 08:47	
Acetone	ug/m3	<1.2	2.4	02/02/20 08:47	
Benzene	ug/m3	<0.15	0.32	02/02/20 08:47	
Benzyl chloride	ug/m3	<1.2	2.6	02/02/20 08:47	
Bromodichloromethane	ug/m3	<0.37	1.4	02/02/20 08:47	
Bromoform	ug/m3	<1.4	5.2	02/02/20 08:47	
Bromomethane	ug/m3	<0.23	0.79	02/02/20 08:47	
Carbon disulfide	ug/m3	<0.22	0.63	02/02/20 08:47	
Carbon tetrachloride	ug/m3	<0.43	1.3	02/02/20 08:47	
Chlorobenzene	ug/m3	<0.28	0.94	02/02/20 08:47	
Chloroethane	ug/m3	<0.26	0.54	02/02/20 08:47	
Chloroform	ug/m3	<0.20	0.50	02/02/20 08:47	
Chloromethane	ug/m3	<0.16	0.42	02/02/20 08:47	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	02/02/20 08:47	
cis-1,3-Dichloropropene	ug/m3	<0.30	0.92	02/02/20 08:47	
Cyclohexane	ug/m3	<0.35	1.8	02/02/20 08:47	
Dibromochloromethane	ug/m3	<0.72	1.7	02/02/20 08:47	
Dichlorodifluoromethane	ug/m3	<0.29	1.0	02/02/20 08:47	
Dichlorotetrafluoroethane	ug/m3	<0.44	1.4	02/02/20 08:47	
Ethanol	ug/m3	<0.81	4.8	02/02/20 08:47	MN

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

METHOD BLANK: 3532449 Matrix: Air

Associated Lab Samples: 70119372001, 70119372002, 70119372003, 70119372004, 70119372005, 70119372006, 70119372007, 70119372008, 70119372009, 70119372010, 70119372011, 70119372012, 70119372013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.19	0.73	02/02/20 08:47	
Ethylbenzene	ug/m3	<0.30	0.88	02/02/20 08:47	
Hexachloro-1,3-butadiene	ug/m3	<2.0	5.4	02/02/20 08:47	
m&p-Xylene	ug/m3	<0.70	1.8	02/02/20 08:47	
Methyl-tert-butyl ether	ug/m3	<0.66	3.7	02/02/20 08:47	
Methylene Chloride	ug/m3	<1.2	3.5	02/02/20 08:47	
n-Heptane	ug/m3	<0.38	0.83	02/02/20 08:47	
n-Hexane	ug/m3	<0.31	0.72	02/02/20 08:47	
Naphthalene	ug/m3	<1.3	2.7	02/02/20 08:47	
o-Xylene	ug/m3	<0.34	0.88	02/02/20 08:47	
Propylene	ug/m3	<0.14	0.35	02/02/20 08:47	
Styrene	ug/m3	<0.34	0.87	02/02/20 08:47	
Tetrachloroethene	ug/m3	<0.31	0.69	02/02/20 08:47	
Tetrahydrofuran	ug/m3	<0.26	0.60	02/02/20 08:47	
Toluene	ug/m3	<0.35	0.77	02/02/20 08:47	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	02/02/20 08:47	
trans-1,3-Dichloropropene	ug/m3	<0.44	0.92	02/02/20 08:47	
Trichloroethene	ug/m3	<0.25	0.55	02/02/20 08:47	
Trichlorofluoromethane	ug/m3	<0.37	1.1	02/02/20 08:47	
Vinyl acetate	ug/m3	<0.27	0.72	02/02/20 08:47	
Vinyl chloride	ug/m3	<0.13	0.26	02/02/20 08:47	

LABORATORY CONTROL SAMPLE: 3532450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	55.1	99	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	67.2	96	70-132	
1,1,2-Trichloroethane	ug/m3	55.5	56.4	102	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	72.6	93	70-130	
1,1-Dichloroethane	ug/m3	41.1	40.0	97	70-130	
1,1-Dichloroethene	ug/m3	40.3	38.5	96	69-137	
1,2,4-Trichlorobenzene	ug/m3	75.4	74.3	98	70-130	
1,2,4-Trimethylbenzene	ug/m3	50	49.8	100	70-137	
1,2-Dibromoethane (EDB)	ug/m3	78.1	82.2	105	70-138	
1,2-Dichlorobenzene	ug/m3	61.1	64.2	105	70-136	
1,2-Dichloroethane	ug/m3	41.1	41.3	100	70-130	
1,2-Dichloropropane	ug/m3	47	46.5	99	70-132	
1,3,5-Trimethylbenzene	ug/m3	50	48.2	96	70-136	
1,3-Butadiene	ug/m3	22.5	22.5	100	67-139	
1,3-Dichlorobenzene	ug/m3	61.1	63.8	104	70-138	
1,4-Dichlorobenzene	ug/m3	61.1	65.0	106	70-145	
2-Butanone (MEK)	ug/m3	30	25.4	85	61-130	
2-Hexanone	ug/m3	41.6	38.7	93	70-138	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

LABORATORY CONTROL SAMPLE: 3532450

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/m3	125	124	99	70-136	
4-Ethyltoluene	ug/m3	50	49.6	99	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.6	38.3	92	70-134	
Acetone	ug/m3	121	109	90	59-137	
Benzene	ug/m3	32.5	30.8	95	70-133	
Benzyl chloride	ug/m3	52.6	56.6	108	70-139	
Bromodichloromethane	ug/m3	68.1	71.2	105	70-130	
Bromoform	ug/m3	105	115	109	60-140	
Bromomethane	ug/m3	39.5	37.1	94	70-131	
Carbon disulfide	ug/m3	31.6	31.4	99	70-130	
Carbon tetrachloride	ug/m3	64	68.6	107	70-133	
Chlorobenzene	ug/m3	46.8	47.6	102	70-131	
Chloroethane	ug/m3	26.8	29.0	108	70-141	
Chloroform	ug/m3	49.6	49.2	99	70-130	
Chloromethane	ug/m3	21	19.5	93	64-137	
cis-1,2-Dichloroethene	ug/m3	40.3	40.9	102	70-132	
cis-1,3-Dichloropropene	ug/m3	46.1	47.7	103	70-138	
Cyclohexane	ug/m3	35	33.3	95	70-133	
Dibromochloromethane	ug/m3	86.6	100	116	70-139	
Dichlorodifluoromethane	ug/m3	50.3	48.1	96	70-130	
Dichlorotetrafluoroethane	ug/m3	71	66.5	94	65-133	
Ethanol	ug/m3	95.8	103	108	65-135	
Ethyl acetate	ug/m3	36.6	34.8	95	70-135	
Ethylbenzene	ug/m3	44.1	43.8	99	70-142	
Hexachloro-1,3-butadiene	ug/m3	108	98.1	90	70-134	
m&p-Xylene	ug/m3	88.3	86.8	98	70-141	
Methyl-tert-butyl ether	ug/m3	36.6	36.0	98	70-131	
Methylene Chloride	ug/m3	177	160	90	69-130	
n-Heptane	ug/m3	41.7	38.0	91	70-130	
n-Hexane	ug/m3	35.8	33.8	94	70-131	
Naphthalene	ug/m3	53.3	48.0	90	63-130	
o-Xylene	ug/m3	44.1	42.6	97	70-135	
Propylene	ug/m3	17.5	16.0	91	63-139	
Styrene	ug/m3	43.3	45.1	104	70-143	
Tetrachloroethene	ug/m3	68.9	69.8	101	70-136	
Tetrahydrofuran	ug/m3	30	29.6	99	70-137	
Toluene	ug/m3	38.3	37.2	97	70-136	
trans-1,2-Dichloroethene	ug/m3	40.3	40.6	101	70-132	
trans-1,3-Dichloropropene	ug/m3	46.1	50.9	110	70-139	
Trichloroethene	ug/m3	54.6	57.2	105	70-132	
Trichlorofluoromethane	ug/m3	57.1	54.2	95	65-136	
Vinyl acetate	ug/m3	35.8	30.0	84	66-140	SS
Vinyl chloride	ug/m3	26	24.7	95	68-141	

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Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

SAMPLE DUPLICATE: 3532749

Parameter	Units	10506325001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.62		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.62		
1,1,2-Trichloroethane	ug/m3	ND	<0.49		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<1.1		
1,1-Dichloroethane	ug/m3	ND	<0.45		
1,1-Dichloroethene	ug/m3	ND	<0.55		
1,2,4-Trichlorobenzene	ug/m3	ND	<7.5		
1,2,4-Trimethylbenzene	ug/m3	ND	<0.91		
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.74		
1,2-Dichlorobenzene	ug/m3	ND	<1.0		
1,2-Dichloroethane	ug/m3	ND	<0.30		
1,2-Dichloropropane	ug/m3	ND	<0.46		
1,3,5-Trimethylbenzene	ug/m3	ND	<0.80		
1,3-Butadiene	ug/m3	ND	<0.26		
1,3-Dichlorobenzene	ug/m3	ND	<1.2		
1,4-Dichlorobenzene	ug/m3	ND	<2.0		
2-Butanone (MEK)	ug/m3	ND	4.0J		
2-Hexanone	ug/m3	ND	<1.5		
2-Propanol	ug/m3	ND	<1.4		
4-Ethyltoluene	ug/m3	ND	<1.1		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<1.0		
Acetone	ug/m3	7.7	7.2	7	
Benzene	ug/m3	ND	0.40J		
Benzyl chloride	ug/m3	ND	<2.4		
Bromodichloromethane	ug/m3	ND	<0.74		
Bromoform	ug/m3	ND	<2.9		
Bromomethane	ug/m3	ND	<0.46		
Carbon disulfide	ug/m3	ND	<0.44		
Carbon tetrachloride	ug/m3	ND	<0.86		
Chlorobenzene	ug/m3	ND	<0.55		
Chloroethane	ug/m3	ND	<0.52		
Chloroform	ug/m3	ND	<0.39		
Chloromethane	ug/m3	ND	0.53J		
cis-1,2-Dichloroethene	ug/m3	ND	<0.44		
cis-1,3-Dichloropropene	ug/m3	ND	<0.61		
Cyclohexane	ug/m3	ND	<0.71		
Dibromochloromethane	ug/m3	ND	<1.4		
Dichlorodifluoromethane	ug/m3	ND	1.9J		
Dichlorotetrafluoroethane	ug/m3	ND	<0.88		
Ethanol	ug/m3	ND	4.6J		
Ethyl acetate	ug/m3	ND	<0.38		
Ethylbenzene	ug/m3	ND	<0.61		
Hexachloro-1,3-butadiene	ug/m3	ND	<4.0		
m&p-Xylene	ug/m3	ND	<1.4		
Methyl-tert-butyl ether	ug/m3	ND	<1.3		
Methylene Chloride	ug/m3	ND	<2.4		
n-Heptane	ug/m3	ND	<0.76		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

SAMPLE DUPLICATE: 3532749

Parameter	Units	10506325001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	ND	0.75J		
Naphthalene	ug/m3	ND	<2.6		
o-Xylene	ug/m3	ND	<0.69		
Propylene	ug/m3	ND	<0.28		
Styrene	ug/m3	ND	<0.69		
Tetrachloroethene	ug/m3	ND	<0.63		
Tetrahydrofuran	ug/m3	ND	<0.52		
Toluene	ug/m3	ND	<0.71		
trans-1,2-Dichloroethene	ug/m3	ND	<0.57		
trans-1,3-Dichloropropene	ug/m3	ND	<0.88		
Trichloroethene	ug/m3	ND	<0.51		
Trichlorofluoromethane	ug/m3	ND	0.99J		
Vinyl acetate	ug/m3	ND	<0.54		
Vinyl chloride	ug/m3	ND	<0.25		

SAMPLE DUPLICATE: 3532750

Parameter	Units	10506325003 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<0.44		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.44		
1,1,2-Trichloroethane	ug/m3	ND	<0.35		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<0.81		
1,1-Dichloroethane	ug/m3	ND	<0.32		
1,1-Dichloroethene	ug/m3	ND	<0.39		
1,2,4-Trichlorobenzene	ug/m3	ND	<5.4		
1,2,4-Trimethylbenzene	ug/m3	1.6	1.5	5	
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.53		
1,2-Dichlorobenzene	ug/m3	ND	<0.72		
1,2-Dichloroethane	ug/m3	ND	<0.22		
1,2-Dichloropropane	ug/m3	ND	<0.33		
1,3,5-Trimethylbenzene	ug/m3	ND	0.68J		
1,3-Butadiene	ug/m3	ND	<0.18		
1,3-Dichlorobenzene	ug/m3	ND	<0.84		
1,4-Dichlorobenzene	ug/m3	ND	<1.4		
2-Butanone (MEK)	ug/m3	ND	0.67J		
2-Hexanone	ug/m3	ND	<1.1		
2-Propanol	ug/m3	ND	<1.0		
4-Ethyltoluene	ug/m3	ND	<0.82		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<0.75		
Acetone	ug/m3	ND	3.2J		
Benzene	ug/m3	ND	0.43J		
Benzyl chloride	ug/m3	ND	<1.7		
Bromodichloromethane	ug/m3	ND	<0.53		
Bromoform	ug/m3	ND	<2.0		
Bromomethane	ug/m3	ND	<0.33		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

SAMPLE DUPLICATE: 3532750

Parameter	Units	10506325003 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	ND	0.66J		
Carbon tetrachloride	ug/m3	ND	<0.62		
Chlorobenzene	ug/m3	ND	<0.40		
Chloroethane	ug/m3	ND	<0.37		
Chloroform	ug/m3	ND	<0.28		
Chloromethane	ug/m3	0.91	0.95	5	
cis-1,2-Dichloroethene	ug/m3	ND	<0.32		
cis-1,3-Dichloropropene	ug/m3	ND	<0.44		
Cyclohexane	ug/m3	ND	<0.51		
Dibromochloromethane	ug/m3	ND	<1.0		
Dichlorodifluoromethane	ug/m3	2.2	2.1	4	
Dichlorotetrafluoroethane	ug/m3	ND	<0.63		
Ethanol	ug/m3	ND	<1.2		
Ethyl acetate	ug/m3	ND	<0.27		
Ethylbenzene	ug/m3	ND	<0.44		
Hexachloro-1,3-butadiene	ug/m3	ND	<2.8		
m&p-Xylene	ug/m3	2.7	2.6	3	
Methyl-tert-butyl ether	ug/m3	ND	<0.95		
Methylene Chloride	ug/m3	ND	2.1J		
n-Heptane	ug/m3	ND	<0.55		
n-Hexane	ug/m3	ND	<0.45		
Naphthalene	ug/m3	ND	3.1J		
o-Xylene	ug/m3	ND	1.2J		
Propylene	ug/m3	ND	<0.20		
Styrene	ug/m3	ND	<0.50		
Tetrachloroethene	ug/m3	ND	<0.45		
Tetrahydrofuran	ug/m3	ND	<0.38		
Toluene	ug/m3	1.6	1.6	3	
trans-1,2-Dichloroethene	ug/m3	ND	<0.41		
trans-1,3-Dichloropropene	ug/m3	ND	<0.63		
Trichloroethene	ug/m3	ND	<0.36		
Trichlorofluoromethane	ug/m3	ND	1.1J		
Vinyl acetate	ug/m3	ND	<0.39		
Vinyl chloride	ug/m3	ND	<0.18		

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Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

MN	The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN JAN 2020
Pace Project No.: 70119372

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70119372001	**PRE CARBON SP-401**	TO-15	657863		
70119372002	**MID CARBON SP-402**	TO-15	657863		
70119372003	**POST CARBON SP-403**	TO-15	657863		
70119372004	**SDS-1 SP-101**	TO-15	657863		
70119372005	**SDS-2 SP-102**	TO-15	657863		
70119372006	**SDS-3 SP-103**	TO-15	657863		
70119372007	**SDS-4 SP-104**	TO-15	657863		
70119372008	**SDS-5 SP-105**	TO-15	657863		
70119372009	**SDS-6 SP-106**	TO-15	657863		
70119372010	**SDS-7 SP-107**	TO-15	657863		
70119372011	**SDS-8 SP-108**	TO-15	657863		
70119372012	**MID CARBON -SP302**	TO-15	657863		
70119372013	**EFFLUENT POST CARBON**	TO-15	657863		

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AIR: CHAIN-OF-CUSTODY /

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO#:70119372

70119372

43295

Page: 1 of 2

Section A Required Client Information:

Company: TeTraTech
Address: 175 N Corporate Dr Brookfield WI
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Glen Netuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed
Project Number:

Section C Invoice Information:

Attention: Glen Netuschil
Company Name: TeTraTech
Address: 175 N Corporate dr, Brookfield WI
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39570

Program
☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act
☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State

Reporting Units
ug/m³ mg/m³
PPBV PPMV
Other

Report Level II. III. IV. Other

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	Section D Required Client Information / AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Pre Carbon SP-401	1LC		1/21/20	9:20			27	7	2465						X					
2																					
3	mid Carbon SP-402	1LC		1/21/20	9:25			18	7	2617						X					
4																					
5	POST Carbon SP-403	1LC		1/21/20	9:27			18	7	2855						X					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	1/22/20	8:24	[illegible] Pace	1.22.20	8:24 am
[illegible]	1/22	1200	[illegible] Pace	1/23/20	9:30

SAMPLE CONDITIONS

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: [illegible] DATE Signed (MM / DD / YY): 1/21/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

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www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

43294 | Page: 2 of 2

Section A Required Client Information:

Company: TeTraTech
Address: 175 N Corporate dr Brookfield WI
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Glen Netuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed Martin
Project Number:

Section C Invoice Information:

Attention: Glen Netuschil
Company Name: TeTraTech
Address: 175 N Corporate Dr Brookfield WI
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 39570

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. Other

Method: PM10 | 3C - Fixed Gas (%) | TO-3 BTEX | TO-3M (Methane) | TO-14 | TO-15 Full List VOCs | TO-15 Short List BTEX | TO-15 Short List Chlorinated | TO-15 Short List (other)

*Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Pace Lab ID
1	SDS-1 SP-101	1LC		1/20/20	2:15			20	7	2239		
2	SDS-2 SP-102	1LC		1/20/20	2:17			20	7	3283		
3	SDS-3 SP-103	1LC		1/20/20	2:11			18	7	1135		
4	SDS-4 SP-104	1LC		1/20/20	2:13			18	7	1030		
5	SDS-5 SP-105	1LC		1/20/20	1:59			20	7	2854		
6	SDS-6 SP-106	1LC		1/20/20	2:02			20	7	2004		
7	SDS-7 SP-107	1LC		1/20/20	2:05			25	7	2212		
8	SDS-8 SP-108	1LC		1/20/20	2:00			18	7	3033		
9	Mid Carbon - SP302	1LC		1/20/20	2:31			28	7	2911		
10	EFFluent Post Carbon	1LC		1/20/20	2:34			20	7	2781		
11												
12												

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	1/22/20	5:24	[signature] Pace	1-22-20	824a
[signature]	1/22	1200	WJOL Pace	1/23/20	9:30

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 1/20/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Nov2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.20	Pace Analytical Services - Minneapolis

Air Sample Condition Upon Receipt **Client Name:** TETRA TECH **Project #:**

WO#:70119372
PM: DJF Due Date: 02/06/20
CLIENT: TETRA

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial **See Exception** [ ]

Tracking Number: 7775 7575 8533, 8566

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [X] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other: _____ **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): X **Corrected Temp (°C):** X **Thermometer Used:** [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 1/23/20 CMY

Type of ice Received [ ] Blue [ ] Wet [X] None

		Comments:
Chain of Custody Present?	[X] Yes [ ] No	1.
Chain of Custody Filled Out?	[X] Yes [ ] No	2.
Chain of Custody Relinquished?	[X] Yes [ ] No	3.
Sampler Name and/or Signature on COC?	[X] Yes [ ] No [ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes [ ] No	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes [X] No	6.
Rush Turn Around Time Requested?	[ ] Yes [X] No	7.
Sufficient Volume?	[X] Yes [ ] No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	[X] Yes [ ] No [X] Yes [ ] No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	[X] Yes [ ] No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes [ ] No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	[X] Yes [ ] No	13.

Gauge # [X] 10AIR26 [ ] 10AIR34 [ ] 10AIR35 [ ] 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
PRE CARBON	2465		-8	~0	" 6	2004		-4.5	~0
MID CARBON	2617		-9	~0	" 7	2212		-5	~0
POST CARBON	2855		-8	~0	" 8	3033		-7.5	~0
SDS-1	2239		-8	~0	MID CARBON SPLIT	2911		-5	~0
" 2	3283		-7	~0	EFF	2781		-7	~0
" 3	1135		-7	~0	UNUSED	2253		-28	
" 4	1030		-9	~0					
" 5	2854		-6	~0					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** [ ] Yes [ ] No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

April 24, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on April 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Devon J. Fox
devon.fox@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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CERTIFICATIONS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70127698001	**PRE CARBON SP-401**	TO-15	MJL	61	PASI-M
70127698002	**MID CARBON SP-402**	TO-15	MJL	61	PASI-M
70127698003	**POST CARBON SP-403**	TO-15	MJL	61	PASI-M
70127698004	**PRE CARBON SP-301**	TO-15	MJL	61	PASI-M
70127698005	**MID CARON SP-302**	TO-15	MJL	61	PASI-M
70127698006	**POST CARBON SP-303**	TO-15	MJL	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: April 24, 2020

General Information:
6 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: 670792

SS: This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

- DUP (Lab ID: 3594857)
  - Ethanol
- DUP (Lab ID: 3594858)
  - Ethanol
- LCS (Lab ID: 3594623)
  - Ethanol
- MID CARBON SP-402 (Lab ID: 70127698002)
  - Ethanol
- MID CARON SP-302 (Lab ID: 70127698005)
  - Ethanol
- POST CARBON SP-303 (Lab ID: 70127698006)
  - Ethanol
- POST CARBON SP-403 (Lab ID: 70127698003)
  - Ethanol
- PRE CARBON SP-301 (Lab ID: 70127698004)
  - Ethanol

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: April 24, 2020

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: PRE CARBON SP-401 **Lab ID: 70127698001** Collected: 04/08/20 13:25 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<13.9**	ug/m3	13.9	2.3		04/19/20 19:28	67-64-1	
Benzene	**<0.75**	ug/m3	0.75	2.3		04/19/20 19:28	71-43-2	
Benzyl chloride	**<6.0**	ug/m3	6.0	2.3		04/19/20 19:28	100-44-7	
Bromodichloromethane	**<3.1**	ug/m3	3.1	2.3		04/19/20 19:28	75-27-4	
Bromoform	**<12.1**	ug/m3	12.1	2.3		04/19/20 19:28	75-25-2	
Bromomethane	**<1.8**	ug/m3	1.8	2.3		04/19/20 19:28	74-83-9	
1,3-Butadiene	**<1.0**	ug/m3	1.0	2.3		04/19/20 19:28	106-99-0	
2-Butanone (MEK)	**<6.9**	ug/m3	6.9	2.3		04/19/20 19:28	78-93-3	
Carbon disulfide	**<1.5**	ug/m3	1.5	2.3		04/19/20 19:28	75-15-0	
Carbon tetrachloride	**<2.9**	ug/m3	2.9	2.3		04/19/20 19:28	56-23-5	
Chlorobenzene	**<2.2**	ug/m3	2.2	2.3		04/19/20 19:28	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.3		04/19/20 19:28	75-00-3	
Chloroform	**<1.1**	ug/m3	1.1	2.3		04/19/20 19:28	67-66-3	
Chloromethane	**<0.97**	ug/m3	0.97	2.3		04/19/20 19:28	74-87-3	
Cyclohexane	**<4.0**	ug/m3	4.0	2.3		04/19/20 19:28	110-82-7	
Dibromochloromethane	**<4.0**	ug/m3	4.0	2.3		04/19/20 19:28	124-48-1	
1,2-Dibromoethane (EDB)	**<1.8**	ug/m3	1.8	2.3		04/19/20 19:28	106-93-4	
1,2-Dichlorobenzene	**<2.8**	ug/m3	2.8	2.3		04/19/20 19:28	95-50-1	
1,3-Dichlorobenzene	**<2.8**	ug/m3	2.8	2.3		04/19/20 19:28	541-73-1	
1,4-Dichlorobenzene	**<7.0**	ug/m3	7.0	2.3		04/19/20 19:28	106-46-7	
Dichlorodifluoromethane	**3.1**	ug/m3	2.3	2.3		04/19/20 19:28	75-71-8	
1,1-Dichloroethane	**12.1**	ug/m3	1.9	2.3		04/19/20 19:28	75-34-3	
1,2-Dichloroethane	**<0.95**	ug/m3	0.95	2.3		04/19/20 19:28	107-06-2	
1,1-Dichloroethene	**<1.9**	ug/m3	1.9	2.3		04/19/20 19:28	75-35-4	
cis-1,2-Dichloroethene	**101**	ug/m3	1.9	2.3		04/19/20 19:28	156-59-2	
trans-1,2-Dichloroethene	**<1.9**	ug/m3	1.9	2.3		04/19/20 19:28	156-60-5	
1,2-Dichloropropane	**<2.2**	ug/m3	2.2	2.3		04/19/20 19:28	78-87-5	
cis-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.3		04/19/20 19:28	10061-01-5	
trans-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.3		04/19/20 19:28	10061-02-6	
Dichlorotetrafluoroethane	**<3.3**	ug/m3	3.3	2.3		04/19/20 19:28	76-14-2	
Ethanol	**<4.4**	ug/m3	4.4	2.3		04/19/20 19:28	64-17-5	
Ethyl acetate	**<1.7**	ug/m3	1.7	2.3		04/19/20 19:28	141-78-6	
Ethylbenzene	**<2.0**	ug/m3	2.0	2.3		04/19/20 19:28	100-41-4	
4-Ethyltoluene	**<5.8**	ug/m3	5.8	2.3		04/19/20 19:28	622-96-8	
n-Heptane	**<1.9**	ug/m3	1.9	2.3		04/19/20 19:28	142-82-5	
Hexachloro-1,3-butadiene	**<12.5**	ug/m3	12.5	2.3		04/19/20 19:28	87-68-3	
n-Hexane	**<4.1**	ug/m3	4.1	2.3		04/19/20 19:28	110-54-3	
2-Hexanone	**<9.6**	ug/m3	9.6	2.3		04/19/20 19:28	591-78-6	
Methylene Chloride	**9.4**	ug/m3	8.1	2.3		04/19/20 19:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.6**	ug/m3	9.6	2.3		04/19/20 19:28	108-10-1	
Methyl-tert-butyl ether	**<8.4**	ug/m3	8.4	2.3		04/19/20 19:28	1634-04-4	
Naphthalene	**<6.1**	ug/m3	6.1	2.3		04/19/20 19:28	91-20-3	
2-Propanol	**2610**	ug/m3	57.5	23		04/20/20 11:20	67-63-0	
Propylene	**<0.80**	ug/m3	0.80	2.3		04/19/20 19:28	115-07-1	
Styrene	**<2.0**	ug/m3	2.0	2.3		04/19/20 19:28	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.3		04/19/20 19:28	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: PRE CARBON SP-401 **Lab ID: 70127698001** Collected: 04/08/20 13:25 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**122**	ug/m3	1.6	2.3		04/19/20 19:28	127-18-4	
Tetrahydrofuran	**<1.4**	ug/m3	1.4	2.3		04/19/20 19:28	109-99-9	
Toluene	**<1.8**	ug/m3	1.8	2.3		04/19/20 19:28	108-88-3	
1,2,4-Trichlorobenzene	**<17.3**	ug/m3	17.3	2.3		04/19/20 19:28	120-82-1	
1,1,1-Trichloroethane	**<2.6**	ug/m3	2.6	2.3		04/19/20 19:28	71-55-6	
1,1,2-Trichloroethane	**<1.3**	ug/m3	1.3	2.3		04/19/20 19:28	79-00-5	
Trichloroethene	**140**	ug/m3	1.3	2.3		04/19/20 19:28	79-01-6	
Trichlorofluoromethane	**<2.6**	ug/m3	2.6	2.3		04/19/20 19:28	75-69-4	
1,1,2-Trichlorotrifluoroethane	**36.4**	ug/m3	3.6	2.3		04/19/20 19:28	76-13-1	
1,2,4-Trimethylbenzene	**<2.3**	ug/m3	2.3	2.3		04/19/20 19:28	95-63-6	
1,3,5-Trimethylbenzene	**<2.3**	ug/m3	2.3	2.3		04/19/20 19:28	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.3		04/19/20 19:28	108-05-4	
Vinyl chloride	**0.65**	ug/m3	0.60	2.3		04/19/20 19:28	75-01-4	
m&p-Xylene	**<4.1**	ug/m3	4.1	2.3		04/19/20 19:28	179601-23-1	
o-Xylene	**<2.0**	ug/m3	2.0	2.3		04/19/20 19:28	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: MID CARBON SP-402 **Lab ID: 70127698002** Collected: 04/08/20 13:26 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<12.8**	ug/m3	12.8	2.12		04/19/20 19:58	67-64-1	
Benzene	**<0.69**	ug/m3	0.69	2.12		04/19/20 19:58	71-43-2	
Benzyl chloride	**<5.6**	ug/m3	5.6	2.12		04/19/20 19:58	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.12		04/19/20 19:58	75-27-4	
Bromoform	**<11.1**	ug/m3	11.1	2.12		04/19/20 19:58	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.12		04/19/20 19:58	74-83-9	
1,3-Butadiene	**<0.95**	ug/m3	0.95	2.12		04/19/20 19:58	106-99-0	
2-Butanone (MEK)	**<6.4**	ug/m3	6.4	2.12		04/19/20 19:58	78-93-3	
Carbon disulfide	**<1.3**	ug/m3	1.3	2.12		04/19/20 19:58	75-15-0	
Carbon tetrachloride	**<2.7**	ug/m3	2.7	2.12		04/19/20 19:58	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.12		04/19/20 19:58	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.12		04/19/20 19:58	75-00-3	
Chloroform	**<1.1**	ug/m3	1.1	2.12		04/19/20 19:58	67-66-3	
Chloromethane	**1.1**	ug/m3	0.89	2.12		04/19/20 19:58	74-87-3	
Cyclohexane	**<3.7**	ug/m3	3.7	2.12		04/19/20 19:58	110-82-7	
Dibromochloromethane	**<3.7**	ug/m3	3.7	2.12		04/19/20 19:58	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.12		04/19/20 19:58	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.12		04/19/20 19:58	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.12		04/19/20 19:58	541-73-1	
1,4-Dichlorobenzene	**<6.5**	ug/m3	6.5	2.12		04/19/20 19:58	106-46-7	
Dichlorodifluoromethane	**3.3**	ug/m3	2.1	2.12		04/19/20 19:58	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.12		04/19/20 19:58	75-34-3	
1,2-Dichloroethane	**<0.87**	ug/m3	0.87	2.12		04/19/20 19:58	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 19:58	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 19:58	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 19:58	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.12		04/19/20 19:58	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.12		04/19/20 19:58	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.12		04/19/20 19:58	10061-02-6	
Dichlorotetrafluoroethane	**<3.0**	ug/m3	3.0	2.12		04/19/20 19:58	76-14-2	
Ethanol	**7.4**	ug/m3	4.1	2.12		04/19/20 19:58	64-17-5	SS
Ethyl acetate	**4.4**	ug/m3	1.6	2.12		04/19/20 19:58	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.12		04/19/20 19:58	100-41-4	
4-Ethyltoluene	**<5.3**	ug/m3	5.3	2.12		04/19/20 19:58	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.12		04/19/20 19:58	142-82-5	
Hexachloro-1,3-butadiene	**<11.5**	ug/m3	11.5	2.12		04/19/20 19:58	87-68-3	
n-Hexane	**<3.8**	ug/m3	3.8	2.12		04/19/20 19:58	110-54-3	
2-Hexanone	**<8.8**	ug/m3	8.8	2.12		04/19/20 19:58	591-78-6	
Methylene Chloride	**<7.5**	ug/m3	7.5	2.12		04/19/20 19:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.8**	ug/m3	8.8	2.12		04/19/20 19:58	108-10-1	
Methyl-tert-butyl ether	**<7.8**	ug/m3	7.8	2.12		04/19/20 19:58	1634-04-4	
Naphthalene	**<5.6**	ug/m3	5.6	2.12		04/19/20 19:58	91-20-3	
2-Propanol	**404**	ug/m3	5.3	2.12		04/19/20 19:58	67-63-0	
Propylene	**<0.74**	ug/m3	0.74	2.12		04/19/20 19:58	115-07-1	
Styrene	**<1.8**	ug/m3	1.8	2.12		04/19/20 19:58	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.12		04/19/20 19:58	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: MID CARBON SP-402 **Lab ID: 70127698002** Collected: 04/08/20 13:26 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**12.6**	ug/m3	1.5	2.12		04/19/20 19:58	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.12		04/19/20 19:58	109-99-9	
Toluene	**2.6**	ug/m3	1.6	2.12		04/19/20 19:58	108-88-3	
1,2,4-Trichlorobenzene	**<16.0**	ug/m3	16.0	2.12		04/19/20 19:58	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.12		04/19/20 19:58	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.12		04/19/20 19:58	79-00-5	
Trichloroethene	**<1.2**	ug/m3	1.2	2.12		04/19/20 19:58	79-01-6	
Trichlorofluoromethane	**<2.4**	ug/m3	2.4	2.12		04/19/20 19:58	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.3**	ug/m3	3.3	2.12		04/19/20 19:58	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.12		04/19/20 19:58	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.12		04/19/20 19:58	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.12		04/19/20 19:58	108-05-4	
Vinyl chloride	**0.56**	ug/m3	0.55	2.12		04/19/20 19:58	75-01-4	
m&p-Xylene	**<3.8**	ug/m3	3.8	2.12		04/19/20 19:58	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.12		04/19/20 19:58	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: POST CARBON SP-403 **Lab ID: 70127698003** Collected: 04/08/20 13:30 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<13.2**	ug/m3	13.2	2.18		04/19/20 20:28	67-64-1	
Benzene	**<0.71**	ug/m3	0.71	2.18		04/19/20 20:28	71-43-2	
Benzyl chloride	**<5.7**	ug/m3	5.7	2.18		04/19/20 20:28	100-44-7	
Bromodichloromethane	**<3.0**	ug/m3	3.0	2.18		04/19/20 20:28	75-27-4	
Bromoform	**<11.4**	ug/m3	11.4	2.18		04/19/20 20:28	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.18		04/19/20 20:28	74-83-9	
1,3-Butadiene	**<0.98**	ug/m3	0.98	2.18		04/19/20 20:28	106-99-0	
2-Butanone (MEK)	**<6.5**	ug/m3	6.5	2.18		04/19/20 20:28	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.18		04/19/20 20:28	75-15-0	
Carbon tetrachloride	**<2.8**	ug/m3	2.8	2.18		04/19/20 20:28	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.18		04/19/20 20:28	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.18		04/19/20 20:28	75-00-3	
Chloroform	**<1.1**	ug/m3	1.1	2.18		04/19/20 20:28	67-66-3	
Chloromethane	**0.97**	ug/m3	0.92	2.18		04/19/20 20:28	74-87-3	
Cyclohexane	**<3.8**	ug/m3	3.8	2.18		04/19/20 20:28	110-82-7	
Dibromochloromethane	**<3.8**	ug/m3	3.8	2.18		04/19/20 20:28	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.18		04/19/20 20:28	106-93-4	
1,2-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.18		04/19/20 20:28	95-50-1	
1,3-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.18		04/19/20 20:28	541-73-1	
1,4-Dichlorobenzene	**<6.7**	ug/m3	6.7	2.18		04/19/20 20:28	106-46-7	
Dichlorodifluoromethane	**2.8**	ug/m3	2.2	2.18		04/19/20 20:28	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.18		04/19/20 20:28	75-34-3	
1,2-Dichloroethane	**<0.90**	ug/m3	0.90	2.18		04/19/20 20:28	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 20:28	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 20:28	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 20:28	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.18		04/19/20 20:28	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.18		04/19/20 20:28	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.18		04/19/20 20:28	10061-02-6	
Dichlorotetrafluoroethane	**<3.1**	ug/m3	3.1	2.18		04/19/20 20:28	76-14-2	
Ethanol	**5.4**	ug/m3	4.2	2.18		04/19/20 20:28	64-17-5	SS
Ethyl acetate	**<1.6**	ug/m3	1.6	2.18		04/19/20 20:28	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.18		04/19/20 20:28	100-41-4	
4-Ethyltoluene	**<5.4**	ug/m3	5.4	2.18		04/19/20 20:28	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.18		04/19/20 20:28	142-82-5	
Hexachloro-1,3-butadiene	**<11.8**	ug/m3	11.8	2.18		04/19/20 20:28	87-68-3	
n-Hexane	**<3.9**	ug/m3	3.9	2.18		04/19/20 20:28	110-54-3	
2-Hexanone	**<9.1**	ug/m3	9.1	2.18		04/19/20 20:28	591-78-6	
Methylene Chloride	**<7.7**	ug/m3	7.7	2.18		04/19/20 20:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.1**	ug/m3	9.1	2.18		04/19/20 20:28	108-10-1	
Methyl-tert-butyl ether	**<8.0**	ug/m3	8.0	2.18		04/19/20 20:28	1634-04-4	
Naphthalene	**<5.8**	ug/m3	5.8	2.18		04/19/20 20:28	91-20-3	
2-Propanol	**59.4**	ug/m3	5.4	2.18		04/19/20 20:28	67-63-0	
Propylene	**<0.76**	ug/m3	0.76	2.18		04/19/20 20:28	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.18		04/19/20 20:28	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.18		04/19/20 20:28	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: POST CARBON SP-403 **Lab ID: 70127698003** Collected: 04/08/20 13:30 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**12.9**	ug/m3	1.5	2.18		04/19/20 20:28	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.18		04/19/20 20:28	109-99-9	
Toluene	**<1.7**	ug/m3	1.7	2.18		04/19/20 20:28	108-88-3	
1,2,4-Trichlorobenzene	**<16.4**	ug/m3	16.4	2.18		04/19/20 20:28	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.18		04/19/20 20:28	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.18		04/19/20 20:28	79-00-5	
Trichloroethene	**<1.2**	ug/m3	1.2	2.18		04/19/20 20:28	79-01-6	
Trichlorofluoromethane	**<2.5**	ug/m3	2.5	2.18		04/19/20 20:28	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.4**	ug/m3	3.4	2.18		04/19/20 20:28	76-13-1	
1,2,4-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.18		04/19/20 20:28	95-63-6	
1,3,5-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.18		04/19/20 20:28	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.18		04/19/20 20:28	108-05-4	
Vinyl chloride	**0.66**	ug/m3	0.57	2.18		04/19/20 20:28	75-01-4	
m&p-Xylene	**<3.9**	ug/m3	3.9	2.18		04/19/20 20:28	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.18		04/19/20 20:28	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: PRE CARBON SP-301 **Lab ID: 70127698004** Collected: 04/08/20 12:30 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<13.5**	ug/m3	13.5	2.24		04/19/20 20:57	67-64-1	
Benzene	**<0.73**	ug/m3	0.73	2.24		04/19/20 20:57	71-43-2	
Benzyl chloride	**<5.9**	ug/m3	5.9	2.24		04/19/20 20:57	100-44-7	
Bromodichloromethane	**<3.0**	ug/m3	3.0	2.24		04/19/20 20:57	75-27-4	
Bromoform	**<11.8**	ug/m3	11.8	2.24		04/19/20 20:57	75-25-2	
Bromomethane	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	74-83-9	
1,3-Butadiene	**<1.0**	ug/m3	1.0	2.24		04/19/20 20:57	106-99-0	
2-Butanone (MEK)	**<6.7**	ug/m3	6.7	2.24		04/19/20 20:57	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.24		04/19/20 20:57	75-15-0	
Carbon tetrachloride	**<2.9**	ug/m3	2.9	2.24		04/19/20 20:57	56-23-5	
Chlorobenzene	**<2.1**	ug/m3	2.1	2.24		04/19/20 20:57	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.24		04/19/20 20:57	75-00-3	
Chloroform	**6.0**	ug/m3	1.1	2.24		04/19/20 20:57	67-66-3	
Chloromethane	**<0.94**	ug/m3	0.94	2.24		04/19/20 20:57	74-87-3	
Cyclohexane	**<3.9**	ug/m3	3.9	2.24		04/19/20 20:57	110-82-7	
Dibromochloromethane	**<3.9**	ug/m3	3.9	2.24		04/19/20 20:57	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.24		04/19/20 20:57	106-93-4	
1,2-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.24		04/19/20 20:57	95-50-1	
1,3-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.24		04/19/20 20:57	541-73-1	
1,4-Dichlorobenzene	**<6.9**	ug/m3	6.9	2.24		04/19/20 20:57	106-46-7	
Dichlorodifluoromethane	**3.6**	ug/m3	2.3	2.24		04/19/20 20:57	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	75-34-3	
1,2-Dichloroethane	**<0.92**	ug/m3	0.92	2.24		04/19/20 20:57	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		04/19/20 20:57	156-60-5	
1,2-Dichloropropane	**<2.1**	ug/m3	2.1	2.24		04/19/20 20:57	78-87-5	
cis-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.24		04/19/20 20:57	10061-01-5	
trans-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.24		04/19/20 20:57	10061-02-6	
Dichlorotetrafluoroethane	**<3.2**	ug/m3	3.2	2.24		04/19/20 20:57	76-14-2	
Ethanol	**46.0**	ug/m3	4.3	2.24		04/19/20 20:57	64-17-5	SS
Ethyl acetate	**<1.6**	ug/m3	1.6	2.24		04/19/20 20:57	141-78-6	
Ethylbenzene	**<2.0**	ug/m3	2.0	2.24		04/19/20 20:57	100-41-4	
4-Ethyltoluene	**<5.6**	ug/m3	5.6	2.24		04/19/20 20:57	622-96-8	
n-Heptane	**<1.9**	ug/m3	1.9	2.24		04/19/20 20:57	142-82-5	
Hexachloro-1,3-butadiene	**<12.1**	ug/m3	12.1	2.24		04/19/20 20:57	87-68-3	
n-Hexane	**<4.0**	ug/m3	4.0	2.24		04/19/20 20:57	110-54-3	
2-Hexanone	**<9.3**	ug/m3	9.3	2.24		04/19/20 20:57	591-78-6	
Methylene Chloride	**27.9**	ug/m3	7.9	2.24		04/19/20 20:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.3**	ug/m3	9.3	2.24		04/19/20 20:57	108-10-1	
Methyl-tert-butyl ether	**<8.2**	ug/m3	8.2	2.24		04/19/20 20:57	1634-04-4	
Naphthalene	**<6.0**	ug/m3	6.0	2.24		04/19/20 20:57	91-20-3	
2-Propanol	**388**	ug/m3	5.6	2.24		04/19/20 20:57	67-63-0	
Propylene	**<0.78**	ug/m3	0.78	2.24		04/19/20 20:57	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.24		04/19/20 20:57	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.24		04/19/20 20:57	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: PRE CARBON SP-301 **Lab ID: 70127698004** Collected: 04/08/20 12:30 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**56.7**	ug/m3	1.5	2.24		04/19/20 20:57	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.24		04/19/20 20:57	109-99-9	
Toluene	**2.8**	ug/m3	1.7	2.24		04/19/20 20:57	108-88-3	
1,2,4-Trichlorobenzene	**<16.9**	ug/m3	16.9	2.24		04/19/20 20:57	120-82-1	
1,1,1-Trichloroethane	**<2.5**	ug/m3	2.5	2.24		04/19/20 20:57	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.24		04/19/20 20:57	79-00-5	
Trichloroethene	**9.9**	ug/m3	1.2	2.24		04/19/20 20:57	79-01-6	
Trichlorofluoromethane	**3.8**	ug/m3	2.6	2.24		04/19/20 20:57	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.5**	ug/m3	3.5	2.24		04/19/20 20:57	76-13-1	
1,2,4-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.24		04/19/20 20:57	95-63-6	
1,3,5-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.24		04/19/20 20:57	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.24		04/19/20 20:57	108-05-4	
Vinyl chloride	**<0.58**	ug/m3	0.58	2.24		04/19/20 20:57	75-01-4	
m&p-Xylene	**<4.0**	ug/m3	4.0	2.24		04/19/20 20:57	179601-23-1	
o-Xylene	**<2.0**	ug/m3	2.0	2.24		04/19/20 20:57	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: MID CARON SP-302 **Lab ID: 70127698005** Collected: 04/08/20 12:35 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<12.8**	ug/m3	12.8	2.12		04/19/20 21:27	67-64-1	
Benzene	**0.93**	ug/m3	0.69	2.12		04/19/20 21:27	71-43-2	
Benzyl chloride	**<5.6**	ug/m3	5.6	2.12		04/19/20 21:27	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.12		04/19/20 21:27	75-27-4	
Bromoform	**<11.1**	ug/m3	11.1	2.12		04/19/20 21:27	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	74-83-9	
1,3-Butadiene	**<0.95**	ug/m3	0.95	2.12		04/19/20 21:27	106-99-0	
2-Butanone (MEK)	**<6.4**	ug/m3	6.4	2.12		04/19/20 21:27	78-93-3	
Carbon disulfide	**<1.3**	ug/m3	1.3	2.12		04/19/20 21:27	75-15-0	
Carbon tetrachloride	**<2.7**	ug/m3	2.7	2.12		04/19/20 21:27	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.12		04/19/20 21:27	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.12		04/19/20 21:27	75-00-3	
Chloroform	**10.7**	ug/m3	1.1	2.12		04/19/20 21:27	67-66-3	
Chloromethane	**<0.89**	ug/m3	0.89	2.12		04/19/20 21:27	74-87-3	
Cyclohexane	**<3.7**	ug/m3	3.7	2.12		04/19/20 21:27	110-82-7	
Dibromochloromethane	**<3.7**	ug/m3	3.7	2.12		04/19/20 21:27	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.12		04/19/20 21:27	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.12		04/19/20 21:27	541-73-1	
1,4-Dichlorobenzene	**<6.5**	ug/m3	6.5	2.12		04/19/20 21:27	106-46-7	
Dichlorodifluoromethane	**4.6**	ug/m3	2.1	2.12		04/19/20 21:27	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	75-34-3	
1,2-Dichloroethane	**<0.87**	ug/m3	0.87	2.12		04/19/20 21:27	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.12		04/19/20 21:27	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.12		04/19/20 21:27	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.12		04/19/20 21:27	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.12		04/19/20 21:27	10061-02-6	
Dichlorotetrafluoroethane	**<3.0**	ug/m3	3.0	2.12		04/19/20 21:27	76-14-2	
Ethanol	**56.3**	ug/m3	4.1	2.12		04/19/20 21:27	64-17-5	SS
Ethyl acetate	**20.5**	ug/m3	1.6	2.12		04/19/20 21:27	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.12		04/19/20 21:27	100-41-4	
4-Ethyltoluene	**<5.3**	ug/m3	5.3	2.12		04/19/20 21:27	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.12		04/19/20 21:27	142-82-5	
Hexachloro-1,3-butadiene	**<11.5**	ug/m3	11.5	2.12		04/19/20 21:27	87-68-3	
n-Hexane	**<3.8**	ug/m3	3.8	2.12		04/19/20 21:27	110-54-3	
2-Hexanone	**<8.8**	ug/m3	8.8	2.12		04/19/20 21:27	591-78-6	
Methylene Chloride	**58.3**	ug/m3	7.5	2.12		04/19/20 21:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.8**	ug/m3	8.8	2.12		04/19/20 21:27	108-10-1	
Methyl-tert-butyl ether	**<7.8**	ug/m3	7.8	2.12		04/19/20 21:27	1634-04-4	
Naphthalene	**<5.6**	ug/m3	5.6	2.12		04/19/20 21:27	91-20-3	
2-Propanol	**221**	ug/m3	5.3	2.12		04/19/20 21:27	67-63-0	
Propylene	**<0.74**	ug/m3	0.74	2.12		04/19/20 21:27	115-07-1	
Styrene	**<1.8**	ug/m3	1.8	2.12		04/19/20 21:27	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.12		04/19/20 21:27	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: MID CARON SP-302 **Lab ID: 70127698005** Collected: 04/08/20 12:35 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**2.8**	ug/m3	1.5	2.12		04/19/20 21:27	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.12		04/19/20 21:27	109-99-9	
Toluene	**7.9**	ug/m3	1.6	2.12		04/19/20 21:27	108-88-3	
1,2,4-Trichlorobenzene	**<16.0**	ug/m3	16.0	2.12		04/19/20 21:27	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.12		04/19/20 21:27	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.12		04/19/20 21:27	79-00-5	
Trichloroethene	**<1.2**	ug/m3	1.2	2.12		04/19/20 21:27	79-01-6	
Trichlorofluoromethane	**<2.4**	ug/m3	2.4	2.12		04/19/20 21:27	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.3**	ug/m3	3.3	2.12		04/19/20 21:27	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.12		04/19/20 21:27	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.12		04/19/20 21:27	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.12		04/19/20 21:27	108-05-4	
Vinyl chloride	**<0.55**	ug/m3	0.55	2.12		04/19/20 21:27	75-01-4	
m&p-Xylene	**<3.8**	ug/m3	3.8	2.12		04/19/20 21:27	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.12		04/19/20 21:27	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: POST CARBON SP-303 **Lab ID: 70127698006** Collected: 04/08/20 12:40 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<13.2**	ug/m3	13.2	2.18		04/19/20 21:57	67-64-1	
Benzene	**<0.71**	ug/m3	0.71	2.18		04/19/20 21:57	71-43-2	
Benzyl chloride	**<5.7**	ug/m3	5.7	2.18		04/19/20 21:57	100-44-7	
Bromodichloromethane	**<3.0**	ug/m3	3.0	2.18		04/19/20 21:57	75-27-4	
Bromoform	**<11.4**	ug/m3	11.4	2.18		04/19/20 21:57	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.18		04/19/20 21:57	74-83-9	
1,3-Butadiene	**<0.98**	ug/m3	0.98	2.18		04/19/20 21:57	106-99-0	
2-Butanone (MEK)	**<6.5**	ug/m3	6.5	2.18		04/19/20 21:57	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.18		04/19/20 21:57	75-15-0	
Carbon tetrachloride	**<2.8**	ug/m3	2.8	2.18		04/19/20 21:57	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.18		04/19/20 21:57	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.18		04/19/20 21:57	75-00-3	
Chloroform	**10.7**	ug/m3	1.1	2.18		04/19/20 21:57	67-66-3	
Chloromethane	**<0.92**	ug/m3	0.92	2.18		04/19/20 21:57	74-87-3	
Cyclohexane	**<3.8**	ug/m3	3.8	2.18		04/19/20 21:57	110-82-7	
Dibromochloromethane	**<3.8**	ug/m3	3.8	2.18		04/19/20 21:57	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.18		04/19/20 21:57	106-93-4	
1,2-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.18		04/19/20 21:57	95-50-1	
1,3-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.18		04/19/20 21:57	541-73-1	
1,4-Dichlorobenzene	**<6.7**	ug/m3	6.7	2.18		04/19/20 21:57	106-46-7	
Dichlorodifluoromethane	**4.6**	ug/m3	2.2	2.18		04/19/20 21:57	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	75-34-3	
1,2-Dichloroethane	**<0.90**	ug/m3	0.90	2.18		04/19/20 21:57	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.18		04/19/20 21:57	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.18		04/19/20 21:57	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.18		04/19/20 21:57	10061-02-6	
Dichlorotetrafluoroethane	**<3.1**	ug/m3	3.1	2.18		04/19/20 21:57	76-14-2	
Ethanol	**14.1**	ug/m3	4.2	2.18		04/19/20 21:57	64-17-5	SS
Ethyl acetate	**<1.6**	ug/m3	1.6	2.18		04/19/20 21:57	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.18		04/19/20 21:57	100-41-4	
4-Ethyltoluene	**<5.4**	ug/m3	5.4	2.18		04/19/20 21:57	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.18		04/19/20 21:57	142-82-5	
Hexachloro-1,3-butadiene	**<11.8**	ug/m3	11.8	2.18		04/19/20 21:57	87-68-3	
n-Hexane	**<3.9**	ug/m3	3.9	2.18		04/19/20 21:57	110-54-3	
2-Hexanone	**<9.1**	ug/m3	9.1	2.18		04/19/20 21:57	591-78-6	
Methylene Chloride	**61.1**	ug/m3	7.7	2.18		04/19/20 21:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.1**	ug/m3	9.1	2.18		04/19/20 21:57	108-10-1	
Methyl-tert-butyl ether	**<8.0**	ug/m3	8.0	2.18		04/19/20 21:57	1634-04-4	
Naphthalene	**<5.8**	ug/m3	5.8	2.18		04/19/20 21:57	91-20-3	
2-Propanol	**85.0**	ug/m3	5.4	2.18		04/19/20 21:57	67-63-0	
Propylene	**<0.76**	ug/m3	0.76	2.18		04/19/20 21:57	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.18		04/19/20 21:57	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.18		04/19/20 21:57	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Sample: POST CARBON SP-303 **Lab ID: 70127698006** Collected: 04/08/20 12:40 Received: 04/10/20 09:45 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**2.0**	ug/m3	1.5	2.18		04/19/20 21:57	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.18		04/19/20 21:57	109-99-9	
Toluene	**<1.7**	ug/m3	1.7	2.18		04/19/20 21:57	108-88-3	
1,2,4-Trichlorobenzene	**<16.4**	ug/m3	16.4	2.18		04/19/20 21:57	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.18		04/19/20 21:57	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.18		04/19/20 21:57	79-00-5	
Trichloroethene	**<1.2**	ug/m3	1.2	2.18		04/19/20 21:57	79-01-6	
Trichlorofluoromethane	**<2.5**	ug/m3	2.5	2.18		04/19/20 21:57	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.4**	ug/m3	3.4	2.18		04/19/20 21:57	76-13-1	
1,2,4-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.18		04/19/20 21:57	95-63-6	
1,3,5-Trimethylbenzene	**<2.2**	ug/m3	2.2	2.18		04/19/20 21:57	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.18		04/19/20 21:57	108-05-4	
Vinyl chloride	**<0.57**	ug/m3	0.57	2.18		04/19/20 21:57	75-01-4	
m&p-Xylene	**<3.9**	ug/m3	3.9	2.18		04/19/20 21:57	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.18		04/19/20 21:57	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

QC Batch: 670792
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 70127698001, 70127698002, 70127698003, 70127698004, 70127698005, 70127698006

METHOD BLANK: 3594622 Matrix: Air
Associated Lab Samples: 70127698001, 70127698002, 70127698003, 70127698004, 70127698005, 70127698006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.56	0.56	04/19/20 09:14	
1,1,2,2-Tetrachloroethane	ug/m3	<0.35	0.35	04/19/20 09:14	
1,1,2-Trichloroethane	ug/m3	<0.28	0.28	04/19/20 09:14	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.78	0.78	04/19/20 09:14	
1,1-Dichloroethane	ug/m3	<0.41	0.41	04/19/20 09:14	
1,1-Dichloroethene	ug/m3	<0.40	0.40	04/19/20 09:14	
1,2,4-Trichlorobenzene	ug/m3	<3.8	3.8	04/19/20 09:14	
1,2,4-Trimethylbenzene	ug/m3	<0.50	0.50	04/19/20 09:14	
1,2-Dibromoethane (EDB)	ug/m3	<0.39	0.39	04/19/20 09:14	
1,2-Dichlorobenzene	ug/m3	<0.61	0.61	04/19/20 09:14	
1,2-Dichloroethane	ug/m3	<0.21	0.21	04/19/20 09:14	
1,2-Dichloropropane	ug/m3	<0.47	0.47	04/19/20 09:14	
1,3,5-Trimethylbenzene	ug/m3	<0.50	0.50	04/19/20 09:14	
1,3-Butadiene	ug/m3	<0.22	0.22	04/19/20 09:14	
1,3-Dichlorobenzene	ug/m3	<0.61	0.61	04/19/20 09:14	
1,4-Dichlorobenzene	ug/m3	<1.5	1.5	04/19/20 09:14	
2-Butanone (MEK)	ug/m3	<1.5	1.5	04/19/20 09:14	
2-Hexanone	ug/m3	<2.1	2.1	04/19/20 09:14	
2-Propanol	ug/m3	<1.2	1.2	04/19/20 09:14	
4-Ethyltoluene	ug/m3	<1.2	1.2	04/19/20 09:14	
4-Methyl-2-pentanone (MIBK)	ug/m3	<2.1	2.1	04/19/20 09:14	
Acetone	ug/m3	<3.0	3.0	04/19/20 09:14	
Benzene	ug/m3	<0.16	0.16	04/19/20 09:14	
Benzyl chloride	ug/m3	<1.3	1.3	04/19/20 09:14	
Bromodichloromethane	ug/m3	<0.68	0.68	04/19/20 09:14	
Bromoform	ug/m3	<2.6	2.6	04/19/20 09:14	
Bromomethane	ug/m3	<0.39	0.39	04/19/20 09:14	
Carbon disulfide	ug/m3	<0.32	0.32	04/19/20 09:14	
Carbon tetrachloride	ug/m3	<0.64	0.64	04/19/20 09:14	
Chlorobenzene	ug/m3	<0.47	0.47	04/19/20 09:14	
Chloroethane	ug/m3	<0.27	0.27	04/19/20 09:14	
Chloroform	ug/m3	<0.25	0.25	04/19/20 09:14	
Chloromethane	ug/m3	<0.21	0.21	04/19/20 09:14	
cis-1,2-Dichloroethene	ug/m3	<0.40	0.40	04/19/20 09:14	
cis-1,3-Dichloropropene	ug/m3	<0.46	0.46	04/19/20 09:14	
Cyclohexane	ug/m3	<0.88	0.88	04/19/20 09:14	
Dibromochloromethane	ug/m3	<0.86	0.86	04/19/20 09:14	
Dichlorodifluoromethane	ug/m3	<0.50	0.50	04/19/20 09:14	
Dichlorotetrafluoroethane	ug/m3	<0.71	0.71	04/19/20 09:14	
Ethanol	ug/m3	<0.96	0.96	04/19/20 09:14	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

METHOD BLANK: 3594622 Matrix: Air
Associated Lab Samples: 70127698001, 70127698002, 70127698003, 70127698004, 70127698005, 70127698006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.37	0.37	04/19/20 09:14	
Ethylbenzene	ug/m3	<0.44	0.44	04/19/20 09:14	
Hexachloro-1,3-butadiene	ug/m3	<2.7	2.7	04/19/20 09:14	
m&p-Xylene	ug/m3	<0.88	0.88	04/19/20 09:14	
Methyl-tert-butyl ether	ug/m3	<1.8	1.8	04/19/20 09:14	
Methylene Chloride	ug/m3	<1.8	1.8	04/19/20 09:14	
n-Heptane	ug/m3	<0.42	0.42	04/19/20 09:14	
n-Hexane	ug/m3	<0.90	0.90	04/19/20 09:14	MN
Naphthalene	ug/m3	<1.3	1.3	04/19/20 09:14	
o-Xylene	ug/m3	<0.44	0.44	04/19/20 09:14	
Propylene	ug/m3	<0.18	0.18	04/19/20 09:14	
Styrene	ug/m3	<0.43	0.43	04/19/20 09:14	
Tetrachloroethene	ug/m3	<0.34	0.34	04/19/20 09:14	
Tetrahydrofuran	ug/m3	<0.30	0.30	04/19/20 09:14	
Toluene	ug/m3	<0.38	0.38	04/19/20 09:14	
trans-1,2-Dichloroethene	ug/m3	<0.40	0.40	04/19/20 09:14	
trans-1,3-Dichloropropene	ug/m3	<0.46	0.46	04/19/20 09:14	
Trichloroethene	ug/m3	<0.27	0.27	04/19/20 09:14	
Trichlorofluoromethane	ug/m3	<0.57	0.57	04/19/20 09:14	
Vinyl acetate	ug/m3	<0.36	0.36	04/19/20 09:14	
Vinyl chloride	ug/m3	<0.13	0.13	04/19/20 09:14	

LABORATORY CONTROL SAMPLE: 3594623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	59.5	104	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	78.6	109	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	64.9	113	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	80.9	101	70-130	
1,1-Dichloroethane	ug/m3	42.7	42.7	100	70-130	
1,1-Dichloroethene	ug/m3	41.4	39.7	96	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	189	121	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	54.1	105	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	93.0	116	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	74.6	118	70-136	
1,2-Dichloroethane	ug/m3	42.4	43.2	102	70-130	
1,2-Dichloropropane	ug/m3	48.6	49.9	103	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	53.8	104	70-136	
1,3-Butadiene	ug/m3	23.3	21.5	92	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	75.2	119	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	73.6	116	70-145	
2-Butanone (MEK)	ug/m3	31.4	32.8	104	61-130	
2-Hexanone	ug/m3	42.8	37.7	88	70-138	
2-Propanol	ug/m3	119	123	103	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

LABORATORY CONTROL SAMPLE: 3594623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	57.8	110	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	40.3	92	70-134	
Acetone	ug/m3	126	117	92	59-137	
Benzene	ug/m3	33.5	33.6	100	70-133	
Benzyl chloride	ug/m3	55.1	61.8	112	70-139	
Bromodichloromethane	ug/m3	71.5	76.7	107	70-130	
Bromoform	ug/m3	110	141	128	60-140	
Bromomethane	ug/m3	41.3	37.9	92	70-131	
Carbon disulfide	ug/m3	33.3	34.7	104	70-130	
Carbon tetrachloride	ug/m3	66.2	72.6	110	70-133	
Chlorobenzene	ug/m3	48.3	55.0	114	70-131	
Chloroethane	ug/m3	28.1	27.1	96	70-141	
Chloroform	ug/m3	51.1	52.6	103	70-130	
Chloromethane	ug/m3	21.9	19.1	87	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	45.3	109	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	51.8	109	70-138	
Cyclohexane	ug/m3	36.7	37.1	101	70-133	
Dibromochloromethane	ug/m3	90.7	106	117	70-139	
Dichlorodifluoromethane	ug/m3	51.6	49.8	97	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	67.8	93	65-133	
Ethanol	ug/m3	103	105	102	65-135	SS
Ethyl acetate	ug/m3	38.6	33.8	88	70-135	
Ethylbenzene	ug/m3	45.6	48.0	105	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	123	110	70-134	
m&p-Xylene	ug/m3	91.2	95.2	104	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	38.5	100	70-131	
Methylene Chloride	ug/m3	182	160	88	69-130	
n-Heptane	ug/m3	43.6	36.4	83	70-130	
n-Hexane	ug/m3	37.6	37.9	101	70-131	
Naphthalene	ug/m3	57.7	65.0	113	63-130	
o-Xylene	ug/m3	45.5	46.4	102	70-135	
Propylene	ug/m3	18.2	15.4	85	63-139	
Styrene	ug/m3	44.9	52.1	116	70-143	
Tetrachloroethene	ug/m3	71	77.3	109	70-136	
Tetrahydrofuran	ug/m3	31.5	29.6	94	70-137	
Toluene	ug/m3	39.5	41.7	106	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	45.5	108	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	53.5	112	70-139	
Trichloroethene	ug/m3	56.3	64.3	114	70-132	
Trichlorofluoromethane	ug/m3	59.7	57.9	97	65-136	
Vinyl acetate	ug/m3	34.5	33.1	96	66-140	
Vinyl chloride	ug/m3	26.7	24.3	91	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

SAMPLE DUPLICATE: 3594857

Parameter	Units	10514773001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.7		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.0		
1,1,2-Trichloroethane	ug/m3	ND	<0.83		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.3		
1,1-Dichloroethane	ug/m3	ND	<1.2		
1,1-Dichloroethene	ug/m3	ND	<1.2		
1,2,4-Trichlorobenzene	ug/m3	ND	<11.2		
1,2,4-Trimethylbenzene	ug/m3	2.0	2.0	1	
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.2		
1,2-Dichlorobenzene	ug/m3	ND	<1.8		
1,2-Dichloroethane	ug/m3	ND	<0.61		
1,2-Dichloropropane	ug/m3	ND	<1.4		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.5		
1,3-Butadiene	ug/m3	ND	<0.67		
1,3-Dichlorobenzene	ug/m3	ND	<1.8		
1,4-Dichlorobenzene	ug/m3	ND	<4.6		
2-Butanone (MEK)	ug/m3	8.4	8.2	3	
2-Hexanone	ug/m3	ND	<6.2		
2-Propanol	ug/m3	28.2	27.9	1	
4-Ethyltoluene	ug/m3	ND	<3.7		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<6.2		
Acetone	ug/m3	60.1	58.4	3	
Benzene	ug/m3	0.81	0.82	1	
Benzyl chloride	ug/m3	ND	<3.9		
Bromodichloromethane	ug/m3	ND	<2.0		
Bromoform	ug/m3	ND	<7.8		
Bromomethane	ug/m3	ND	<1.2		
Carbon disulfide	ug/m3	1.6	1.6	1	
Carbon tetrachloride	ug/m3	ND	<1.9		
Chlorobenzene	ug/m3	ND	<1.4		
Chloroethane	ug/m3	ND	<0.80		
Chloroform	ug/m3	ND	<0.74		
Chloromethane	ug/m3	1.0	1.0	3	
cis-1,2-Dichloroethene	ug/m3	ND	<1.2		
cis-1,3-Dichloropropene	ug/m3	ND	<1.4		
Cyclohexane	ug/m3	ND	<2.6		
Dibromochloromethane	ug/m3	ND	<2.6		
Dichlorodifluoromethane	ug/m3	2.4	2.4	0	
Dichlorotetrafluoroethane	ug/m3	ND	<2.1		
Ethanol	ug/m3	45.4	44.4	2	SS
Ethyl acetate	ug/m3	ND	<1.1		
Ethylbenzene	ug/m3	ND	<1.3		
Hexachloro-1,3-butadiene	ug/m3	ND	<8.1		
m&p-Xylene	ug/m3	ND	<2.6		
Methyl-tert-butyl ether	ug/m3	ND	<5.5		
Methylene Chloride	ug/m3	ND	<5.3		
n-Heptane	ug/m3	ND	<1.2		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

SAMPLE DUPLICATE: 3594857

Parameter	Units	10514773001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	ND	<2.7		
Naphthalene	ug/m3	ND	<4.0		
o-Xylene	ug/m3	ND	<1.3		
Propylene	ug/m3	ND	<0.52		
Styrene	ug/m3	ND	<1.3		
Tetrachloroethene	ug/m3	116	115	1	
Tetrahydrofuran	ug/m3	ND	<0.89		
Toluene	ug/m3	3.8	3.8	0	
trans-1,2-Dichloroethene	ug/m3	ND	<1.2		
trans-1,3-Dichloropropene	ug/m3	ND	<1.4		
Trichloroethene	ug/m3	ND	<0.81		
Trichlorofluoromethane	ug/m3	ND	<1.7		
Vinyl acetate	ug/m3	ND	<1.1		
Vinyl chloride	ug/m3	ND	<0.39		

SAMPLE DUPLICATE: 3594858

Parameter	Units	10514773003 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.6		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.0		
1,1,2-Trichloroethane	ug/m3	ND	<0.80		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.2		
1,1-Dichloroethane	ug/m3	ND	<1.2		
1,1-Dichloroethene	ug/m3	ND	<1.2		
1,2,4-Trichlorobenzene	ug/m3	ND	<10.9		
1,2,4-Trimethylbenzene	ug/m3	ND	<1.4		
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.1		
1,2-Dichlorobenzene	ug/m3	ND	<1.8		
1,2-Dichloroethane	ug/m3	ND	<0.59		
1,2-Dichloropropane	ug/m3	ND	<1.4		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.4		
1,3-Butadiene	ug/m3	ND	<0.65		
1,3-Dichlorobenzene	ug/m3	ND	<1.8		
1,4-Dichlorobenzene	ug/m3	ND	<4.4		
2-Butanone (MEK)	ug/m3	ND	<4.3		
2-Hexanone	ug/m3	ND	<6.0		
2-Propanol	ug/m3	ND	<3.6		
4-Ethyltoluene	ug/m3	ND	<3.6		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<6.0		
Acetone	ug/m3	17.3	16.0	8	
Benzene	ug/m3	0.55	0.54	1	
Benzyl chloride	ug/m3	ND	<3.8		
Bromodichloromethane	ug/m3	ND	<2.0		
Bromoform	ug/m3	ND	<7.6		
Bromomethane	ug/m3	ND	<1.1		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

SAMPLE DUPLICATE: 3594858

Parameter	Units	10514773003 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	ND	<0.91		
Carbon tetrachloride	ug/m3	ND	<1.8		
Chlorobenzene	ug/m3	ND	<1.3		
Chloroethane	ug/m3	ND	<0.77		
Chloroform	ug/m3	ND	<0.71		
Chloromethane	ug/m3	1.1	0.92	15	
cis-1,2-Dichloroethene	ug/m3	ND	<1.2		
cis-1,3-Dichloropropene	ug/m3	ND	<1.3		
Cyclohexane	ug/m3	ND	<2.5		
Dibromochloromethane	ug/m3	ND	<2.5		
Dichlorodifluoromethane	ug/m3	2.5	2.4	5	
Dichlorotetrafluoroethane	ug/m3	ND	<2.0		
Ethanol	ug/m3	5.4	4.9	10	SS
Ethyl acetate	ug/m3	2.5	2.4	0	
Ethylbenzene	ug/m3	ND	<1.3		
Hexachloro-1,3-butadiene	ug/m3	ND	<7.8		
m&p-Xylene	ug/m3	ND	<2.5		
Methyl-tert-butyl ether	ug/m3	ND	<5.3		
Methylene Chloride	ug/m3	ND	<5.1		
n-Heptane	ug/m3	ND	<1.2		
n-Hexane	ug/m3	ND	<2.6		
Naphthalene	ug/m3	ND	<3.8		
o-Xylene	ug/m3	ND	<1.3		
Propylene	ug/m3	ND	<0.50		
Styrene	ug/m3	ND	<1.2		
Tetrachloroethene	ug/m3	9.7	10.7	10	
Tetrahydrofuran	ug/m3	ND	<0.86		
Toluene	ug/m3	3.6	3.6	2	
trans-1,2-Dichloroethene	ug/m3	ND	<1.2		
trans-1,3-Dichloropropene	ug/m3	ND	<1.3		
Trichloroethene	ug/m3	ND	<0.79		
Trichlorofluoromethane	ug/m3	ND	<1.6		
Vinyl acetate	ug/m3	ND	<1.0		
Vinyl chloride	ug/m3	ND	<0.37		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

MN	The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN 4/8
Pace Project No.: 70127698

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70127698001	**PRE CARBON SP-401**	TO-15	670792		
70127698002	**MID CARBON SP-402**	TO-15	670792		
70127698003	**POST CARBON SP-403**	TO-15	670792		
70127698004	**PRE CARBON SP-301**	TO-15	670792		
70127698005	**MID CARON SP-302**	TO-15	670792		
70127698006	**POST CARBON SP-303**	TO-15	670792		

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WO# : 70127698

70127698

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

44773

Page: 1 of 1

Section A Required Client Information:

Company: TeTratech INC
Address: 661 Anderson dr
Pittsburgh, PA 15220
Email To: Glenn.Netuschil@tetratech.com
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Glenn Netuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed Martin
Project Number:

Section C Invoice Information:

Attention: Glenn Netuschil
Company Name: TeTra Tech
Address: Same
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 38541

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level: II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - In Hg)	Canister Pressure (Final Field - In Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Pre Carbon SP-401	1LC		4/8/20	1:25			30	10	3484						X					
2	mid carbon SP-402	1LC		4/8/20	1:26			30	10	0276						X					
3	Post Carbon SP-403	1LC		4/8/20	1:30			25	10	2725						X					
4																					
5																/					
6	Pre carbon SP-301	1LC		4/8/20	12:30			30	10	0617						X					
7	mid Carbon SP-302	1LC		4/8/20	12:35			30	10	0236						X					
8	Post Carbon SP-303	1LC		4/8/20	1240			30	10	0513						X					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	4/9/20	8:00		4-8-20	8:05
	4/9	1700	Pace	4/10/20	0945

SAMPLE CONDITIONS

Temp In °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
-	(Y) N	(Y) N	(Y) N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: Steve McCarthy DATE Signed (MM / DD / YY): 4/9/20

ORIGINAL

Pace Analytical®	Document Name: Pending Log-in Process	Document Revised: 07Feb2019 Page 1 of 1
	Document No.: F-MN-C-097 Rev.05	Issuing Authority: Pace Minnesota Quality Office

SR Tech Rory Date Initiated 4/10 PM JMR Client Name Pace-NY Profile # 38541 Pink shelf ☐ #1 ☐ #2

Issue Type (check all that apply)*	Client Name/Project Name on containers (if no COC)
[ ] COC Issue FRWO Date/Time Received	
EPIC Issue (check one) [ ] Client not in Epic [ ] Profile not in Epic [ ] Add acode [ ] Other	**Resolution** PM/Date

Sample Line Item	BP1U	BP2U	BP3U	BP3S	BP3N	AG1U	AG1H	AG3S	AGIT	JGFU	JGCU	BJFU	WPDU	VG9M	VG9H	GN	SP5T	DWC
	Check the box to the left to indicate that the container(s) received for line items 1 - 4 are identical to the container(s) documented for line item 1 for this CoC.																	
1	☒																	
2	☒																	
3	☒																	
4	☒																	
5	☒																	
6	☒																	
7	☒																	
8	☒																	
9	☒																	
10	☒																	
11	☒																	
12	☒																	

Comments:

Logged in by (initial)_____ **Date**_____ **WO** _____

Pace Analytical®	Document Name: **Air Sample Condition Upon Receipt**	Document Revised: 19Nov2019 Page 1 of 1
	Document No.: **F-MN-A-106-rev.20**	Pace Analytical Services - **Minneapolis**

Air Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #:

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☒

Tracking Number:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): - **Corrected Temp (°C):** -

Thermometer Used: ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** -

Date & Initials of Person Examining Contents: CEG 4/10/20

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☒ Yes	☐ No		1.
Chain of Custody Filled Out?	☒ Yes	☐ No		2.
Chain of Custody Relinquished?	☒ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		6.
Rush Turn Around Time Requested?	☐ Yes	☒ No		7.
Sufficient Volume?	☒ Yes	☐ No		8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☒ Yes ☒ Yes	☐ No ☐ No		9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☒ Yes	☐ No		10.
Media: Air Can Airbag Filter TDT Passive				11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒ Yes	☐ No		12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒ Yes	☐ No		13.

Gauge # ☐ 10AIR26 ☒ 10AIR34 ☐ 10AIR35 ☐ 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SP 401	3484	-	-12.5	5	"	0081	-	-30	-
SP 402	0276	-	-11	5	"	0706	-	-30	-
SP 403	2725	-	-11.5	5	"	3496	-	-30	-
SP 301	0617	-	-12	5	"	2153	-	-27	-
SP 302	0236	-	-11	5	"	2720	-	-29	-
SP 303	0513	-	-11.5	5	"	1723	-	-30	-
Unused	1122	-	-29.5	-					
"	2417	-	-29	-					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:**

WO#: 70127698

PM: DJF Due Date: 04/24/20

CLIENT: TETRA

Document Name: SCUR Exception Form	Document Revised: 06Feb2020 Page 1 of 1
Document No.: F-MN-C-298-Rev.03	Pace Analytical Services - Minneapolis

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank		
Read Temp	Corrected Temp	Average Temp

Tracking Number/Temperature	
7702 0958 8206	
" " 8100	
" " 8180	
" " 8114	

Other Issues		
Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

July 20, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on July 10, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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CERTIFICATIONS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Pace Analytical Services - Minneapolis MN

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70137938001	**SP-401 PRE CARBON**	TO-15	NCK	61	PASI-M
70137938002	**SP-402 MID CARBON**	TO-15	NCK	61	PASI-M
70137938003	**SP-403 POST CARBON**	TO-15	MJL	61	PASI-M
70137938004	**MID CARBON SP-302**	TO-15	MJL	61	PASI-M
70137938005	**EFFLEUNT POST CARBON (SP-303)**	TO-15	MJL	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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PROJECT NARRATIVE

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: July 20, 2020

General Information:
5 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-401 PRE CARBON **Lab ID: 70137938001** Collected: 07/06/20 11:40 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<14.2**	ug/m3	14.2	2.35		07/17/20 19:17	67-64-1	
Benzene	**<0.76**	ug/m3	0.76	2.35		07/17/20 19:17	71-43-2	
Benzyl chloride	**<6.2**	ug/m3	6.2	2.35		07/17/20 19:17	100-44-7	
Bromodichloromethane	**<3.2**	ug/m3	3.2	2.35		07/17/20 19:17	75-27-4	
Bromoform	**<12.3**	ug/m3	12.3	2.35		07/17/20 19:17	75-25-2	
Bromomethane	**<1.9**	ug/m3	1.9	2.35		07/17/20 19:17	74-83-9	
1,3-Butadiene	**<1.1**	ug/m3	1.1	2.35		07/17/20 19:17	106-99-0	
2-Butanone (MEK)	**<7.0**	ug/m3	7.0	2.35		07/17/20 19:17	78-93-3	
Carbon disulfide	**2.5**	ug/m3	1.5	2.35		07/17/20 19:17	75-15-0	
Carbon tetrachloride	**<3.0**	ug/m3	3.0	2.35		07/17/20 19:17	56-23-5	
Chlorobenzene	**<2.2**	ug/m3	2.2	2.35		07/17/20 19:17	108-90-7	
Chloroethane	**<1.3**	ug/m3	1.3	2.35		07/17/20 19:17	75-00-3	
Chloroform	**<1.2**	ug/m3	1.2	2.35		07/17/20 19:17	67-66-3	
Chloromethane	**1.3**	ug/m3	0.99	2.35		07/17/20 19:17	74-87-3	
Cyclohexane	**<4.1**	ug/m3	4.1	2.35		07/17/20 19:17	110-82-7	
Dibromochloromethane	**<4.1**	ug/m3	4.1	2.35		07/17/20 19:17	124-48-1	
1,2-Dibromoethane (EDB)	**<1.8**	ug/m3	1.8	2.35		07/17/20 19:17	106-93-4	
1,2-Dichlorobenzene	**<2.9**	ug/m3	2.9	2.35		07/17/20 19:17	95-50-1	
1,3-Dichlorobenzene	**<2.9**	ug/m3	2.9	2.35		07/17/20 19:17	541-73-1	
1,4-Dichlorobenzene	**<7.2**	ug/m3	7.2	2.35		07/17/20 19:17	106-46-7	
Dichlorodifluoromethane	**<2.4**	ug/m3	2.4	2.35		07/17/20 19:17	75-71-8	
1,1-Dichloroethane	**14.8**	ug/m3	1.9	2.35		07/17/20 19:17	75-34-3	
1,2-Dichloroethane	**<0.97**	ug/m3	0.97	2.35		07/17/20 19:17	107-06-2	
1,1-Dichloroethene	**<1.9**	ug/m3	1.9	2.35		07/17/20 19:17	75-35-4	
cis-1,2-Dichloroethene	**141**	ug/m3	1.9	2.35		07/17/20 19:17	156-59-2	
trans-1,2-Dichloroethene	**<1.9**	ug/m3	1.9	2.35		07/17/20 19:17	156-60-5	
1,2-Dichloropropane	**<2.2**	ug/m3	2.2	2.35		07/17/20 19:17	78-87-5	
cis-1,3-Dichloropropene	**<2.2**	ug/m3	2.2	2.35		07/17/20 19:17	10061-01-5	
trans-1,3-Dichloropropene	**<2.2**	ug/m3	2.2	2.35		07/17/20 19:17	10061-02-6	
Dichlorotetrafluoroethane	**<3.3**	ug/m3	3.3	2.35		07/17/20 19:17	76-14-2	
Ethanol	**15.8**	ug/m3	4.5	2.35		07/17/20 19:17	64-17-5	
Ethyl acetate	**<1.7**	ug/m3	1.7	2.35		07/17/20 19:17	141-78-6	
Ethylbenzene	**<2.1**	ug/m3	2.1	2.35		07/17/20 19:17	100-41-4	
4-Ethyltoluene	**7.8**	ug/m3	5.9	2.35		07/17/20 19:17	622-96-8	
n-Heptane	**<2.0**	ug/m3	2.0	2.35		07/17/20 19:17	142-82-5	
Hexachloro-1,3-butadiene	**<12.7**	ug/m3	12.7	2.35		07/17/20 19:17	87-68-3	
n-Hexane	**<1.7**	ug/m3	1.7	2.35		07/17/20 19:17	110-54-3	
2-Hexanone	**<9.8**	ug/m3	9.8	2.35		07/17/20 19:17	591-78-6	
Methylene Chloride	**<8.3**	ug/m3	8.3	2.35		07/17/20 19:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.8**	ug/m3	9.8	2.35		07/17/20 19:17	108-10-1	
Methyl-tert-butyl ether	**<8.6**	ug/m3	8.6	2.35		07/17/20 19:17	1634-04-4	
Naphthalene	**<6.3**	ug/m3	6.3	2.35		07/17/20 19:17	91-20-3	
2-Propanol	**<5.9**	ug/m3	5.9	2.35		07/17/20 19:17	67-63-0	
Propylene	**<0.82**	ug/m3	0.82	2.35		07/17/20 19:17	115-07-1	
Styrene	**<2.0**	ug/m3	2.0	2.35		07/17/20 19:17	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.35		07/17/20 19:17	79-34-5	

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-401 PRE CARBON **Lab ID: 70137938001** Collected: 07/06/20 11:40 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**108**	ug/m3	1.6	2.35		07/17/20 19:17	127-18-4	
Tetrahydrofuran	**<1.4**	ug/m3	1.4	2.35		07/17/20 19:17	109-99-9	
Toluene	**5.6**	ug/m3	1.8	2.35		07/17/20 19:17	108-88-3	
1,2,4-Trichlorobenzene	**<17.7**	ug/m3	17.7	2.35		07/17/20 19:17	120-82-1	
1,1,1-Trichloroethane	**<2.6**	ug/m3	2.6	2.35		07/17/20 19:17	71-55-6	
1,1,2-Trichloroethane	**<1.3**	ug/m3	1.3	2.35		07/17/20 19:17	79-00-5	
Trichloroethene	**155**	ug/m3	1.3	2.35		07/17/20 19:17	79-01-6	
Trichlorofluoromethane	**<2.7**	ug/m3	2.7	2.35		07/17/20 19:17	75-69-4	
1,1,2-Trichlorotrifluoroethane	**44.5**	ug/m3	3.7	2.35		07/17/20 19:17	76-13-1	
1,2,4-Trimethylbenzene	**24.1**	ug/m3	2.3	2.35		07/17/20 19:17	95-63-6	
1,3,5-Trimethylbenzene	**8.4**	ug/m3	2.3	2.35		07/17/20 19:17	108-67-8	
Vinyl acetate	**<1.7**	ug/m3	1.7	2.35		07/17/20 19:17	108-05-4	
Vinyl chloride	**<0.61**	ug/m3	0.61	2.35		07/17/20 19:17	75-01-4	
m&p-Xylene	**<4.2**	ug/m3	4.2	2.35		07/17/20 19:17	179601-23-1	
o-Xylene	**<2.1**	ug/m3	2.1	2.35		07/17/20 19:17	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-402 MID CARBON **Lab ID: 70137938002** Collected: 07/06/20 11:44 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**13.9**	ug/m3	13.5	2.24		07/17/20 20:11	67-64-1	
Benzene	**1.4**	ug/m3	0.73	2.24		07/17/20 20:11	71-43-2	
Benzyl chloride	**<5.9**	ug/m3	5.9	2.24		07/17/20 20:11	100-44-7	
Bromodichloromethane	**<3.0**	ug/m3	3.0	2.24		07/17/20 20:11	75-27-4	
Bromoform	**<11.8**	ug/m3	11.8	2.24		07/17/20 20:11	75-25-2	
Bromomethane	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	74-83-9	
1,3-Butadiene	**<1.0**	ug/m3	1.0	2.24		07/17/20 20:11	106-99-0	
2-Butanone (MEK)	**<6.7**	ug/m3	6.7	2.24		07/17/20 20:11	78-93-3	
Carbon disulfide	**23.9**	ug/m3	1.4	2.24		07/17/20 20:11	75-15-0	
Carbon tetrachloride	**<2.9**	ug/m3	2.9	2.24		07/17/20 20:11	56-23-5	
Chlorobenzene	**<2.1**	ug/m3	2.1	2.24		07/17/20 20:11	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.24		07/17/20 20:11	75-00-3	
Chloroform	**<1.1**	ug/m3	1.1	2.24		07/17/20 20:11	67-66-3	
Chloromethane	**1.5**	ug/m3	0.94	2.24		07/17/20 20:11	74-87-3	
Cyclohexane	**<3.9**	ug/m3	3.9	2.24		07/17/20 20:11	110-82-7	
Dibromochloromethane	**<3.9**	ug/m3	3.9	2.24		07/17/20 20:11	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.24		07/17/20 20:11	106-93-4	
1,2-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.24		07/17/20 20:11	95-50-1	
1,3-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.24		07/17/20 20:11	541-73-1	
1,4-Dichlorobenzene	**<6.9**	ug/m3	6.9	2.24		07/17/20 20:11	106-46-7	
Dichlorodifluoromethane	**2.4**	ug/m3	2.3	2.24		07/17/20 20:11	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	75-34-3	
1,2-Dichloroethane	**<0.92**	ug/m3	0.92	2.24		07/17/20 20:11	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.24		07/17/20 20:11	156-60-5	
1,2-Dichloropropane	**<2.1**	ug/m3	2.1	2.24		07/17/20 20:11	78-87-5	
cis-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.24		07/17/20 20:11	10061-01-5	
trans-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.24		07/17/20 20:11	10061-02-6	
Dichlorotetrafluoroethane	**<3.2**	ug/m3	3.2	2.24		07/17/20 20:11	76-14-2	
Ethanol	**203**	ug/m3	4.3	2.24		07/17/20 20:11	64-17-5	
Ethyl acetate	**<1.6**	ug/m3	1.6	2.24		07/17/20 20:11	141-78-6	
Ethylbenzene	**2.1**	ug/m3	2.0	2.24		07/17/20 20:11	100-41-4	
4-Ethyltoluene	**<5.6**	ug/m3	5.6	2.24		07/17/20 20:11	622-96-8	
n-Heptane	**<1.9**	ug/m3	1.9	2.24		07/17/20 20:11	142-82-5	
Hexachloro-1,3-butadiene	**<12.1**	ug/m3	12.1	2.24		07/17/20 20:11	87-68-3	
n-Hexane	**<1.6**	ug/m3	1.6	2.24		07/17/20 20:11	110-54-3	
2-Hexanone	**<9.3**	ug/m3	9.3	2.24		07/17/20 20:11	591-78-6	
Methylene Chloride	**8.5**	ug/m3	7.9	2.24		07/17/20 20:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.3**	ug/m3	9.3	2.24		07/17/20 20:11	108-10-1	
Methyl-tert-butyl ether	**<8.2**	ug/m3	8.2	2.24		07/17/20 20:11	1634-04-4	
Naphthalene	**<6.0**	ug/m3	6.0	2.24		07/17/20 20:11	91-20-3	
2-Propanol	**<5.6**	ug/m3	5.6	2.24		07/17/20 20:11	67-63-0	
Propylene	**<0.78**	ug/m3	0.78	2.24		07/17/20 20:11	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.24		07/17/20 20:11	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.24		07/17/20 20:11	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-402 MID CARBON **Lab ID: 70137938002** Collected: 07/06/20 11:44 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**1.6**	ug/m3	1.5	2.24		07/17/20 20:11	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.24		07/17/20 20:11	109-99-9	
Toluene	**106**	ug/m3	1.7	2.24		07/17/20 20:11	108-88-3	
1,2,4-Trichlorobenzene	**<16.9**	ug/m3	16.9	2.24		07/17/20 20:11	120-82-1	
1,1,1-Trichloroethane	**<2.5**	ug/m3	2.5	2.24		07/17/20 20:11	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.24		07/17/20 20:11	79-00-5	
Trichloroethene	**1.4**	ug/m3	1.2	2.24		07/17/20 20:11	79-01-6	
Trichlorofluoromethane	**<2.6**	ug/m3	2.6	2.24		07/17/20 20:11	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.5**	ug/m3	3.5	2.24		07/17/20 20:11	76-13-1	
1,2,4-Trimethylbenzene	**13.1**	ug/m3	2.2	2.24		07/17/20 20:11	95-63-6	
1,3,5-Trimethylbenzene	**5.1**	ug/m3	2.2	2.24		07/17/20 20:11	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.24		07/17/20 20:11	108-05-4	
Vinyl chloride	**<0.58**	ug/m3	0.58	2.24		07/17/20 20:11	75-01-4	
m&p-Xylene	**10.5**	ug/m3	4.0	2.24		07/17/20 20:11	179601-23-1	
o-Xylene	**<2.0**	ug/m3	2.0	2.24		07/17/20 20:11	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-403 POST CARBON **Lab ID: 70137938003** Collected: 07/06/20 11:47 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**34.1**	ug/m3	13.8	2.29		07/17/20 23:59	67-64-1	
Benzene	**<0.74**	ug/m3	0.74	2.29		07/17/20 23:59	71-43-2	
Benzyl chloride	**<6.0**	ug/m3	6.0	2.29		07/17/20 23:59	100-44-7	
Bromodichloromethane	**<3.1**	ug/m3	3.1	2.29		07/17/20 23:59	75-27-4	
Bromoform	**<12.0**	ug/m3	12.0	2.29		07/17/20 23:59	75-25-2	
Bromomethane	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	74-83-9	
1,3-Butadiene	**<1.0**	ug/m3	1.0	2.29		07/17/20 23:59	106-99-0	
2-Butanone (MEK)	**57.0**	ug/m3	6.9	2.29		07/17/20 23:59	78-93-3	
Carbon disulfide	**13.4**	ug/m3	1.4	2.29		07/17/20 23:59	75-15-0	
Carbon tetrachloride	**<2.9**	ug/m3	2.9	2.29		07/17/20 23:59	56-23-5	
Chlorobenzene	**<2.1**	ug/m3	2.1	2.29		07/17/20 23:59	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.29		07/17/20 23:59	75-00-3	
Chloroform	**1.3**	ug/m3	1.1	2.29		07/17/20 23:59	67-66-3	
Chloromethane	**1.2**	ug/m3	0.96	2.29		07/17/20 23:59	74-87-3	
Cyclohexane	**<4.0**	ug/m3	4.0	2.29		07/17/20 23:59	110-82-7	
Dibromochloromethane	**<4.0**	ug/m3	4.0	2.29		07/17/20 23:59	124-48-1	
1,2-Dibromoethane (EDB)	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	106-93-4	
1,2-Dichlorobenzene	**<2.8**	ug/m3	2.8	2.29		07/17/20 23:59	95-50-1	
1,3-Dichlorobenzene	**<2.8**	ug/m3	2.8	2.29		07/17/20 23:59	541-73-1	
1,4-Dichlorobenzene	**<7.0**	ug/m3	7.0	2.29		07/17/20 23:59	106-46-7	
Dichlorodifluoromethane	**4.8**	ug/m3	2.3	2.29		07/17/20 23:59	75-71-8	
1,1-Dichloroethane	**<1.9**	ug/m3	1.9	2.29		07/17/20 23:59	75-34-3	
1,2-Dichloroethane	**<0.94**	ug/m3	0.94	2.29		07/17/20 23:59	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.29		07/17/20 23:59	156-60-5	
1,2-Dichloropropane	**<2.2**	ug/m3	2.2	2.29		07/17/20 23:59	78-87-5	
cis-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.29		07/17/20 23:59	10061-01-5	
trans-1,3-Dichloropropene	**<2.1**	ug/m3	2.1	2.29		07/17/20 23:59	10061-02-6	
Dichlorotetrafluoroethane	**<3.3**	ug/m3	3.3	2.29		07/17/20 23:59	76-14-2	
Ethanol	**60.1**	ug/m3	4.4	2.29		07/17/20 23:59	64-17-5	
Ethyl acetate	**<1.7**	ug/m3	1.7	2.29		07/17/20 23:59	141-78-6	
Ethylbenzene	**<2.0**	ug/m3	2.0	2.29		07/17/20 23:59	100-41-4	
4-Ethyltoluene	**<5.7**	ug/m3	5.7	2.29		07/17/20 23:59	622-96-8	
n-Heptane	**<1.9**	ug/m3	1.9	2.29		07/17/20 23:59	142-82-5	
Hexachloro-1,3-butadiene	**<12.4**	ug/m3	12.4	2.29		07/17/20 23:59	87-68-3	
n-Hexane	**<1.6**	ug/m3	1.6	2.29		07/17/20 23:59	110-54-3	
2-Hexanone	**<9.5**	ug/m3	9.5	2.29		07/17/20 23:59	591-78-6	
Methylene Chloride	**<8.1**	ug/m3	8.1	2.29		07/17/20 23:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<9.5**	ug/m3	9.5	2.29		07/17/20 23:59	108-10-1	
Methyl-tert-butyl ether	**<8.4**	ug/m3	8.4	2.29		07/17/20 23:59	1634-04-4	
Naphthalene	**<6.1**	ug/m3	6.1	2.29		07/17/20 23:59	91-20-3	
2-Propanol	**<5.7**	ug/m3	5.7	2.29		07/17/20 23:59	67-63-0	
Propylene	**<0.80**	ug/m3	0.80	2.29		07/17/20 23:59	115-07-1	
Styrene	**<2.0**	ug/m3	2.0	2.29		07/17/20 23:59	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.6**	ug/m3	1.6	2.29		07/17/20 23:59	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: SP-403 POST CARBON **Lab ID: 70137938003** Collected: 07/06/20 11:47 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**<1.6**	ug/m3	1.6	2.29		07/17/20 23:59	127-18-4	
Tetrahydrofuran	**79.3**	ug/m3	1.4	2.29		07/17/20 23:59	109-99-9	
Toluene	**2.6**	ug/m3	1.8	2.29		07/17/20 23:59	108-88-3	
1,2,4-Trichlorobenzene	**<17.3**	ug/m3	17.3	2.29		07/17/20 23:59	120-82-1	
1,1,1-Trichloroethane	**<2.5**	ug/m3	2.5	2.29		07/17/20 23:59	71-55-6	
1,1,2-Trichloroethane	**<1.3**	ug/m3	1.3	2.29		07/17/20 23:59	79-00-5	
Trichloroethene	**<1.3**	ug/m3	1.3	2.29		07/17/20 23:59	79-01-6	
Trichlorofluoromethane	**<2.6**	ug/m3	2.6	2.29		07/17/20 23:59	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.6**	ug/m3	3.6	2.29		07/17/20 23:59	76-13-1	
1,2,4-Trimethylbenzene	**14.2**	ug/m3	2.3	2.29		07/17/20 23:59	95-63-6	
1,3,5-Trimethylbenzene	**4.0**	ug/m3	2.3	2.29		07/17/20 23:59	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.29		07/17/20 23:59	108-05-4	
Vinyl chloride	**0.89**	ug/m3	0.60	2.29		07/17/20 23:59	75-01-4	
m&p-Xylene	**<4.1**	ug/m3	4.1	2.29		07/17/20 23:59	179601-23-1	
o-Xylene	**<2.0**	ug/m3	2.0	2.29		07/17/20 23:59	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: MID CARBON SP-302 **Lab ID: 70137938004** Collected: 07/07/20 01:38 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**52.5**	ug/m3	15.6	2.59		07/18/20 00:34	67-64-1	
Benzene	**1.5**	ug/m3	0.84	2.59		07/18/20 00:34	71-43-2	
Benzyl chloride	**<6.8**	ug/m3	6.8	2.59		07/18/20 00:34	100-44-7	
Bromodichloromethane	**<3.5**	ug/m3	3.5	2.59		07/18/20 00:34	75-27-4	
Bromoform	**<13.6**	ug/m3	13.6	2.59		07/18/20 00:34	75-25-2	
Bromomethane	**<2.0**	ug/m3	2.0	2.59		07/18/20 00:34	74-83-9	
1,3-Butadiene	**<1.2**	ug/m3	1.2	2.59		07/18/20 00:34	106-99-0	
2-Butanone (MEK)	**49.2**	ug/m3	7.8	2.59		07/18/20 00:34	78-93-3	
Carbon disulfide	**2.7**	ug/m3	1.6	2.59		07/18/20 00:34	75-15-0	
Carbon tetrachloride	**<3.3**	ug/m3	3.3	2.59		07/18/20 00:34	56-23-5	
Chlorobenzene	**<2.4**	ug/m3	2.4	2.59		07/18/20 00:34	108-90-7	
Chloroethane	**<1.4**	ug/m3	1.4	2.59		07/18/20 00:34	75-00-3	
Chloroform	**10.6**	ug/m3	1.3	2.59		07/18/20 00:34	67-66-3	
Chloromethane	**2.5**	ug/m3	1.1	2.59		07/18/20 00:34	74-87-3	
Cyclohexane	**<4.5**	ug/m3	4.5	2.59		07/18/20 00:34	110-82-7	
Dibromochloromethane	**<4.5**	ug/m3	4.5	2.59		07/18/20 00:34	124-48-1	
1,2-Dibromoethane (EDB)	**<2.0**	ug/m3	2.0	2.59		07/18/20 00:34	106-93-4	
1,2-Dichlorobenzene	**<3.2**	ug/m3	3.2	2.59		07/18/20 00:34	95-50-1	
1,3-Dichlorobenzene	**<3.2**	ug/m3	3.2	2.59		07/18/20 00:34	541-73-1	
1,4-Dichlorobenzene	**<7.9**	ug/m3	7.9	2.59		07/18/20 00:34	106-46-7	
Dichlorodifluoromethane	**3.5**	ug/m3	2.6	2.59		07/18/20 00:34	75-71-8	
1,1-Dichloroethane	**<2.1**	ug/m3	2.1	2.59		07/18/20 00:34	75-34-3	
1,2-Dichloroethane	**<1.1**	ug/m3	1.1	2.59		07/18/20 00:34	107-06-2	
1,1-Dichloroethene	**<2.1**	ug/m3	2.1	2.59		07/18/20 00:34	75-35-4	
cis-1,2-Dichloroethene	**<2.1**	ug/m3	2.1	2.59		07/18/20 00:34	156-59-2	
trans-1,2-Dichloroethene	**<2.1**	ug/m3	2.1	2.59		07/18/20 00:34	156-60-5	
1,2-Dichloropropane	**<2.4**	ug/m3	2.4	2.59		07/18/20 00:34	78-87-5	
cis-1,3-Dichloropropene	**<2.4**	ug/m3	2.4	2.59		07/18/20 00:34	10061-01-5	
trans-1,3-Dichloropropene	**<2.4**	ug/m3	2.4	2.59		07/18/20 00:34	10061-02-6	
Dichlorotetrafluoroethane	**<3.7**	ug/m3	3.7	2.59		07/18/20 00:34	76-14-2	
Ethanol	**54.8**	ug/m3	5.0	2.59		07/18/20 00:34	64-17-5	
Ethyl acetate	**<1.9**	ug/m3	1.9	2.59		07/18/20 00:34	141-78-6	
Ethylbenzene	**<2.3**	ug/m3	2.3	2.59		07/18/20 00:34	100-41-4	
4-Ethyltoluene	**6.6**	ug/m3	6.5	2.59		07/18/20 00:34	622-96-8	
n-Heptane	**<2.2**	ug/m3	2.2	2.59		07/18/20 00:34	142-82-5	
Hexachloro-1,3-butadiene	**<14.0**	ug/m3	14.0	2.59		07/18/20 00:34	87-68-3	
n-Hexane	**<1.9**	ug/m3	1.9	2.59		07/18/20 00:34	110-54-3	
2-Hexanone	**<10.8**	ug/m3	10.8	2.59		07/18/20 00:34	591-78-6	
Methylene Chloride	**63.5**	ug/m3	9.1	2.59		07/18/20 00:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<10.8**	ug/m3	10.8	2.59		07/18/20 00:34	108-10-1	
Methyl-tert-butyl ether	**<9.5**	ug/m3	9.5	2.59		07/18/20 00:34	1634-04-4	
Naphthalene	**<6.9**	ug/m3	6.9	2.59		07/18/20 00:34	91-20-3	
2-Propanol	**179**	ug/m3	6.5	2.59		07/18/20 00:34	67-63-0	
Propylene	**1.1**	ug/m3	0.91	2.59		07/18/20 00:34	115-07-1	
Styrene	**<2.2**	ug/m3	2.2	2.59		07/18/20 00:34	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.8**	ug/m3	1.8	2.59		07/18/20 00:34	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: MID CARBON SP-302 **Lab ID: 70137938004** Collected: 07/07/20 01:38 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**<1.8**	ug/m3	1.8	2.59		07/18/20 00:34	127-18-4	
Tetrahydrofuran	**1.9**	ug/m3	1.6	2.59		07/18/20 00:34	109-99-9	
Toluene	**67.9**	ug/m3	2.0	2.59		07/18/20 00:34	108-88-3	
1,2,4-Trichlorobenzene	**<19.5**	ug/m3	19.5	2.59		07/18/20 00:34	120-82-1	
1,1,1-Trichloroethane	**<2.9**	ug/m3	2.9	2.59		07/18/20 00:34	71-55-6	
1,1,2-Trichloroethane	**<1.4**	ug/m3	1.4	2.59		07/18/20 00:34	79-00-5	
Trichloroethene	**2.6**	ug/m3	1.4	2.59		07/18/20 00:34	79-01-6	
Trichlorofluoromethane	**<3.0**	ug/m3	3.0	2.59		07/18/20 00:34	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<4.0**	ug/m3	4.0	2.59		07/18/20 00:34	76-13-1	
1,2,4-Trimethylbenzene	**16.8**	ug/m3	2.6	2.59		07/18/20 00:34	95-63-6	
1,3,5-Trimethylbenzene	**5.1**	ug/m3	2.6	2.59		07/18/20 00:34	108-67-8	
Vinyl acetate	**<1.9**	ug/m3	1.9	2.59		07/18/20 00:34	108-05-4	
Vinyl chloride	**<0.67**	ug/m3	0.67	2.59		07/18/20 00:34	75-01-4	
m&p-Xylene	**<4.6**	ug/m3	4.6	2.59		07/18/20 00:34	179601-23-1	
o-Xylene	**<2.3**	ug/m3	2.3	2.59		07/18/20 00:34	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: EFFLEUNT POST CARBON (SP-303) **Lab ID: 70137938005** Collected: 07/07/20 01:41 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**45.7**	ug/m3	12.2	2.02		07/18/20 01:10	67-64-1	
Benzene	**1.5**	ug/m3	0.66	2.02		07/18/20 01:10	71-43-2	
Benzyl chloride	**<5.3**	ug/m3	5.3	2.02		07/18/20 01:10	100-44-7	
Bromodichloromethane	**<2.7**	ug/m3	2.7	2.02		07/18/20 01:10	75-27-4	
Bromoform	**<10.6**	ug/m3	10.6	2.02		07/18/20 01:10	75-25-2	
Bromomethane	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	74-83-9	
1,3-Butadiene	**<0.91**	ug/m3	0.91	2.02		07/18/20 01:10	106-99-0	
2-Butanone (MEK)	**14.6**	ug/m3	6.1	2.02		07/18/20 01:10	78-93-3	
Carbon disulfide	**23.7**	ug/m3	1.3	2.02		07/18/20 01:10	75-15-0	
Carbon tetrachloride	**<2.6**	ug/m3	2.6	2.02		07/18/20 01:10	56-23-5	
Chlorobenzene	**<1.9**	ug/m3	1.9	2.02		07/18/20 01:10	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.02		07/18/20 01:10	75-00-3	
Chloroform	**6.4**	ug/m3	1.0	2.02		07/18/20 01:10	67-66-3	
Chloromethane	**1.8**	ug/m3	0.85	2.02		07/18/20 01:10	74-87-3	
Cyclohexane	**<3.5**	ug/m3	3.5	2.02		07/18/20 01:10	110-82-7	
Dibromochloromethane	**<3.5**	ug/m3	3.5	2.02		07/18/20 01:10	124-48-1	
1,2-Dibromoethane (EDB)	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	106-93-4	
1,2-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.02		07/18/20 01:10	95-50-1	
1,3-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.02		07/18/20 01:10	541-73-1	
1,4-Dichlorobenzene	**<6.2**	ug/m3	6.2	2.02		07/18/20 01:10	106-46-7	
Dichlorodifluoromethane	**3.4**	ug/m3	2.0	2.02		07/18/20 01:10	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.02		07/18/20 01:10	75-34-3	
1,2-Dichloroethane	**<0.83**	ug/m3	0.83	2.02		07/18/20 01:10	107-06-2	
1,1-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	75-35-4	
cis-1,2-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	156-59-2	
trans-1,2-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		07/18/20 01:10	156-60-5	
1,2-Dichloropropane	**<1.9**	ug/m3	1.9	2.02		07/18/20 01:10	78-87-5	
cis-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.02		07/18/20 01:10	10061-01-5	
trans-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.02		07/18/20 01:10	10061-02-6	
Dichlorotetrafluoroethane	**<2.9**	ug/m3	2.9	2.02		07/18/20 01:10	76-14-2	
Ethanol	**122**	ug/m3	3.9	2.02		07/18/20 01:10	64-17-5	
Ethyl acetate	**<1.5**	ug/m3	1.5	2.02		07/18/20 01:10	141-78-6	
Ethylbenzene	**<1.8**	ug/m3	1.8	2.02		07/18/20 01:10	100-41-4	
4-Ethyltoluene	**<5.0**	ug/m3	5.0	2.02		07/18/20 01:10	622-96-8	
n-Heptane	**<1.7**	ug/m3	1.7	2.02		07/18/20 01:10	142-82-5	
Hexachloro-1,3-butadiene	**<10.9**	ug/m3	10.9	2.02		07/18/20 01:10	87-68-3	
n-Hexane	**<1.4**	ug/m3	1.4	2.02		07/18/20 01:10	110-54-3	
2-Hexanone	**<8.4**	ug/m3	8.4	2.02		07/18/20 01:10	591-78-6	
Methylene Chloride	**49.6**	ug/m3	7.1	2.02		07/18/20 01:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.4**	ug/m3	8.4	2.02		07/18/20 01:10	108-10-1	
Methyl-tert-butyl ether	**<7.4**	ug/m3	7.4	2.02		07/18/20 01:10	1634-04-4	
Naphthalene	**<5.4**	ug/m3	5.4	2.02		07/18/20 01:10	91-20-3	
2-Propanol	**72.0**	ug/m3	5.0	2.02		07/18/20 01:10	67-63-0	
Propylene	**0.89**	ug/m3	0.71	2.02		07/18/20 01:10	115-07-1	
Styrene	**<1.7**	ug/m3	1.7	2.02		07/18/20 01:10	100-42-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Sample: EFFLEUNT POST CARBON (SP-303) **Lab ID: 70137938005** Collected: 07/07/20 01:41 Received: 07/10/20 09:35 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
1,1,2,2-Tetrachloroethane	**<1.4**	ug/m3	1.4	2.02		07/18/20 01:10	79-34-5	
Tetrachloroethene	**1.5**	ug/m3	1.4	2.02		07/18/20 01:10	127-18-4	
Tetrahydrofuran	**3.2**	ug/m3	1.2	2.02		07/18/20 01:10	109-99-9	
Toluene	**16.7**	ug/m3	1.5	2.02		07/18/20 01:10	108-88-3	
1,2,4-Trichlorobenzene	**<15.2**	ug/m3	15.2	2.02		07/18/20 01:10	120-82-1	
1,1,1-Trichloroethane	**<2.2**	ug/m3	2.2	2.02		07/18/20 01:10	71-55-6	
1,1,2-Trichloroethane	**<1.1**	ug/m3	1.1	2.02		07/18/20 01:10	79-00-5	
Trichloroethene	**3.2**	ug/m3	1.1	2.02		07/18/20 01:10	79-01-6	
Trichlorofluoromethane	**2.3**	ug/m3	2.3	2.02		07/18/20 01:10	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.2**	ug/m3	3.2	2.02		07/18/20 01:10	76-13-1	
1,2,4-Trimethylbenzene	**8.9**	ug/m3	2.0	2.02		07/18/20 01:10	95-63-6	
1,3,5-Trimethylbenzene	**3.1**	ug/m3	2.0	2.02		07/18/20 01:10	108-67-8	
Vinyl acetate	**<1.4**	ug/m3	1.4	2.02		07/18/20 01:10	108-05-4	
Vinyl chloride	**<0.53**	ug/m3	0.53	2.02		07/18/20 01:10	75-01-4	
m&p-Xylene	**7.2**	ug/m3	3.6	2.02		07/18/20 01:10	179601-23-1	
o-Xylene	**2.2**	ug/m3	1.8	2.02		07/18/20 01:10	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

QC Batch: 687469
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 70137938003, 70137938004, 70137938005

METHOD BLANK: 3676503 Matrix: Air
Associated Lab Samples: 70137938003, 70137938004, 70137938005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.1	1.1	07/17/20 10:44	
1,1,2,2-Tetrachloroethane	ug/m3	<0.70	0.70	07/17/20 10:44	
1,1,2-Trichloroethane	ug/m3	<0.56	0.56	07/17/20 10:44	
1,1,2-Trichlorotrifluoroethane	ug/m3	<1.6	1.6	07/17/20 10:44	
1,1-Dichloroethane	ug/m3	<0.82	0.82	07/17/20 10:44	
1,1-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:44	
1,2,4-Trichlorobenzene	ug/m3	<7.5	7.5	07/17/20 10:44	
1,2,4-Trimethylbenzene	ug/m3	<1.0	1.0	07/17/20 10:44	
1,2-Dibromoethane (EDB)	ug/m3	<0.78	0.78	07/17/20 10:44	
1,2-Dichlorobenzene	ug/m3	<1.2	1.2	07/17/20 10:44	
1,2-Dichloroethane	ug/m3	<0.41	0.41	07/17/20 10:44	
1,2-Dichloropropane	ug/m3	<0.94	0.94	07/17/20 10:44	
1,3,5-Trimethylbenzene	ug/m3	<1.0	1.0	07/17/20 10:44	
1,3-Butadiene	ug/m3	<0.45	0.45	07/17/20 10:44	
1,3-Dichlorobenzene	ug/m3	<1.2	1.2	07/17/20 10:44	
1,4-Dichlorobenzene	ug/m3	<3.1	3.1	07/17/20 10:44	
2-Butanone (MEK)	ug/m3	<3.0	3.0	07/17/20 10:44	
2-Hexanone	ug/m3	<4.2	4.2	07/17/20 10:44	
2-Propanol	ug/m3	<2.5	2.5	07/17/20 10:44	
4-Ethyltoluene	ug/m3	<2.5	2.5	07/17/20 10:44	
4-Methyl-2-pentanone (MIBK)	ug/m3	<4.2	4.2	07/17/20 10:44	
Acetone	ug/m3	<6.0	6.0	07/17/20 10:44	
Benzene	ug/m3	<0.32	0.32	07/17/20 10:44	
Benzyl chloride	ug/m3	<2.6	2.6	07/17/20 10:44	
Bromodichloromethane	ug/m3	<1.4	1.4	07/17/20 10:44	
Bromoform	ug/m3	<5.2	5.2	07/17/20 10:44	
Bromomethane	ug/m3	<0.79	0.79	07/17/20 10:44	
Carbon disulfide	ug/m3	<0.63	0.63	07/17/20 10:44	
Carbon tetrachloride	ug/m3	<1.3	1.3	07/17/20 10:44	
Chlorobenzene	ug/m3	<0.94	0.94	07/17/20 10:44	
Chloroethane	ug/m3	<0.54	0.54	07/17/20 10:44	
Chloroform	ug/m3	<0.50	0.50	07/17/20 10:44	
Chloromethane	ug/m3	<0.42	0.42	07/17/20 10:44	
cis-1,2-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:44	
cis-1,3-Dichloropropene	ug/m3	<0.92	0.92	07/17/20 10:44	
Cyclohexane	ug/m3	<1.8	1.8	07/17/20 10:44	
Dibromochloromethane	ug/m3	<1.7	1.7	07/17/20 10:44	
Dichlorodifluoromethane	ug/m3	<1.0	1.0	07/17/20 10:44	
Dichlorotetrafluoroethane	ug/m3	<1.4	1.4	07/17/20 10:44	
Ethanol	ug/m3	<1.9	1.9	07/17/20 10:44	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

METHOD BLANK: 3676503 Matrix: Air
Associated Lab Samples: 70137938003, 70137938004, 70137938005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.73	0.73	07/17/20 10:44	
Ethylbenzene	ug/m3	<0.88	0.88	07/17/20 10:44	
Hexachloro-1,3-butadiene	ug/m3	<5.4	5.4	07/17/20 10:44	
m&p-Xylene	ug/m3	<1.8	1.8	07/17/20 10:44	
Methyl-tert-butyl ether	ug/m3	<3.7	3.7	07/17/20 10:44	
Methylene Chloride	ug/m3	<3.5	3.5	07/17/20 10:44	
n-Heptane	ug/m3	<0.83	0.83	07/17/20 10:44	
n-Hexane	ug/m3	<0.72	0.72	07/17/20 10:44	
Naphthalene	ug/m3	<2.7	2.7	07/17/20 10:44	
o-Xylene	ug/m3	<0.88	0.88	07/17/20 10:44	
Propylene	ug/m3	<0.35	0.35	07/17/20 10:44	
Styrene	ug/m3	<0.87	0.87	07/17/20 10:44	
Tetrachloroethene	ug/m3	<0.69	0.69	07/17/20 10:44	
Tetrahydrofuran	ug/m3	<0.60	0.60	07/17/20 10:44	
Toluene	ug/m3	<0.77	0.77	07/17/20 10:44	
trans-1,2-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:44	
trans-1,3-Dichloropropene	ug/m3	<0.92	0.92	07/17/20 10:44	
Trichloroethene	ug/m3	<0.55	0.55	07/17/20 10:44	
Trichlorofluoromethane	ug/m3	<1.1	1.1	07/17/20 10:44	
Vinyl acetate	ug/m3	<0.72	0.72	07/17/20 10:44	
Vinyl chloride	ug/m3	<0.26	0.26	07/17/20 10:44	

LABORATORY CONTROL SAMPLE: 3676504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	56.7	99	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	66.4	92	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	54.9	96	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	75.3	94	70-130	
1,1-Dichloroethane	ug/m3	42.7	41.3	97	70-130	
1,1-Dichloroethene	ug/m3	41.4	40.4	97	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	152	98	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	50.4	98	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	77.9	97	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	57.8	92	70-136	
1,2-Dichloroethane	ug/m3	42.4	41.0	97	70-130	
1,2-Dichloropropane	ug/m3	48.6	46.3	95	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	49.6	96	70-136	
1,3-Butadiene	ug/m3	23.3	22.0	94	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	60.7	96	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	62.5	99	70-145	
2-Butanone (MEK)	ug/m3	31.4	33.8	108	61-130	
2-Hexanone	ug/m3	42.8	46.3	108	70-138	
2-Propanol	ug/m3	119	109	91	70-136	

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REPORT OF LABORATORY ANALYSIS

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(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

LABORATORY CONTROL SAMPLE: 3676504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	52.6	100	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	45.6	105	70-134	
Acetone	ug/m3	126	125	99	59-137	
Benzene	ug/m3	33.5	31.9	95	70-133	
Benzyl chloride	ug/m3	55.1	53.9	98	70-139	
Bromodichloromethane	ug/m3	71.5	72.1	101	70-130	
Bromoform	ug/m3	110	116	106	60-140	
Bromomethane	ug/m3	41.3	38.9	94	70-131	
Carbon disulfide	ug/m3	33.3	33.8	101	70-130	
Carbon tetrachloride	ug/m3	66.2	67.6	102	70-133	
Chlorobenzene	ug/m3	48.3	43.6	90	70-131	
Chloroethane	ug/m3	28.1	26.5	94	70-141	
Chloroform	ug/m3	51.1	48.9	96	70-130	
Chloromethane	ug/m3	21.9	19.8	90	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	40.2	97	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	49.3	104	70-138	
Cyclohexane	ug/m3	36.7	38.3	104	70-133	
Dibromochloromethane	ug/m3	90.7	93.0	102	70-139	
Dichlorodifluoromethane	ug/m3	51.6	49.7	96	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	70.0	96	65-133	
Ethanol	ug/m3	103	91.6	89	65-135	
Ethyl acetate	ug/m3	38.6	37.4	97	70-135	
Ethylbenzene	ug/m3	45.6	43.8	96	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	93.3	84	70-134	
m&p-Xylene	ug/m3	91.2	88.1	97	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	38.3	100	70-131	
Methylene Chloride	ug/m3	182	193	106	69-130	
n-Heptane	ug/m3	43.6	41.8	96	70-130	
n-Hexane	ug/m3	37.6	39.9	106	70-131	
Naphthalene	ug/m3	57.7	59.8	104	63-130	
o-Xylene	ug/m3	45.5	43.2	95	70-135	
Propylene	ug/m3	18.2	17.4	96	63-139	
Styrene	ug/m3	44.9	47.1	105	70-143	
Tetrachloroethene	ug/m3	71	65.7	93	70-136	
Tetrahydrofuran	ug/m3	31.5	30.8	98	70-137	
Toluene	ug/m3	39.5	37.3	95	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	42.1	100	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	51.8	109	70-139	
Trichloroethene	ug/m3	56.3	54.5	97	70-132	
Trichlorofluoromethane	ug/m3	59.7	56.7	95	65-136	
Vinyl acetate	ug/m3	34.5	36.2	105	66-140	
Vinyl chloride	ug/m3	26.7	25.2	95	68-141	

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(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

SAMPLE DUPLICATE: 3678209

Parameter	Units	70137938005 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<2.2	<2.2		
1,1,2,2-Tetrachloroethane	ug/m3	<1.4	<1.4		
1,1,2-Trichloroethane	ug/m3	<1.1	<1.1		
1,1,2-Trichlorotrifluoroethane	ug/m3	<3.2	<3.2		
1,1-Dichloroethane	ug/m3	<1.7	<1.7		
1,1-Dichloroethene	ug/m3	<1.6	<1.6		
1,2,4-Trichlorobenzene	ug/m3	<15.2	<15.2		
1,2,4-Trimethylbenzene	ug/m3	8.9	8.9	0	
1,2-Dibromoethane (EDB)	ug/m3	<1.6	<1.6		
1,2-Dichlorobenzene	ug/m3	<2.5	<2.5		
1,2-Dichloroethane	ug/m3	<0.83	<0.83		
1,2-Dichloropropane	ug/m3	<1.9	<1.9		
1,3,5-Trimethylbenzene	ug/m3	3.1	3.0	4	
1,3-Butadiene	ug/m3	<0.91	<0.91		
1,3-Dichlorobenzene	ug/m3	<2.5	<2.5		
1,4-Dichlorobenzene	ug/m3	<6.2	<6.2		
2-Butanone (MEK)	ug/m3	14.6	14.3	2	
2-Hexanone	ug/m3	<8.4	<8.4		
2-Propanol	ug/m3	72.0	75.2	4	
4-Ethyltoluene	ug/m3	<5.0	<5.0		
4-Methyl-2-pentanone (MIBK)	ug/m3	<8.4	<8.4		
Acetone	ug/m3	45.7	49.4	8	
Benzene	ug/m3	1.5	1.6	5	
Benzyl chloride	ug/m3	<5.3	<5.3		
Bromodichloromethane	ug/m3	<2.7	<2.7		
Bromoform	ug/m3	<10.6	<10.6		
Bromomethane	ug/m3	<1.6	<1.6		
Carbon disulfide	ug/m3	23.7	23.7	0	
Carbon tetrachloride	ug/m3	<2.6	<2.6		
Chlorobenzene	ug/m3	<1.9	<1.9		
Chloroethane	ug/m3	<1.1	<1.1		
Chloroform	ug/m3	6.4	6.4	0	
Chloromethane	ug/m3	1.8	1.8	4	
cis-1,2-Dichloroethene	ug/m3	<1.6	<1.6		
cis-1,3-Dichloropropene	ug/m3	<1.9	<1.9		
Cyclohexane	ug/m3	<3.5	<3.5		
Dibromochloromethane	ug/m3	<3.5	<3.5		
Dichlorodifluoromethane	ug/m3	3.4	3.3	4	
Dichlorotetrafluoroethane	ug/m3	<2.9	<2.9		
Ethanol	ug/m3	122	120	1	
Ethyl acetate	ug/m3	<1.5	<1.5		
Ethylbenzene	ug/m3	<1.8	<1.8		
Hexachloro-1,3-butadiene	ug/m3	<10.9	<10.9		
m&p-Xylene	ug/m3	7.2	7.3	2	
Methyl-tert-butyl ether	ug/m3	<7.4	<7.4		
Methylene Chloride	ug/m3	49.6	50.0	1	
n-Heptane	ug/m3	<1.7	<1.7		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

SAMPLE DUPLICATE: 3678209

Parameter	Units	70137938005 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	<1.4	<1.4		
Naphthalene	ug/m3	<5.4	<5.4		
o-Xylene	ug/m3	2.2	2.2	2	
Propylene	ug/m3	0.89	0.86	4	
Styrene	ug/m3	<1.7	<1.7		
Tetrachloroethene	ug/m3	1.5	1.6	7	
Tetrahydrofuran	ug/m3	3.2	3.1	4	
Toluene	ug/m3	16.7	17.0	2	
trans-1,2-Dichloroethene	ug/m3	<1.6	<1.6		
trans-1,3-Dichloropropene	ug/m3	<1.9	<1.9		
Trichloroethene	ug/m3	3.2	3.0	8	
Trichlorofluoromethane	ug/m3	2.3	<2.3		
Vinyl acetate	ug/m3	<1.4	<1.4		
Vinyl chloride	ug/m3	<0.53	<0.53		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

QC Batch: 687486
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 70137938001, 70137938002

METHOD BLANK: 3676573 Matrix: Air
Associated Lab Samples: 70137938001, 70137938002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.1	1.1	07/17/20 10:08	
1,1,2,2-Tetrachloroethane	ug/m3	<0.70	0.70	07/17/20 10:08	
1,1,2-Trichloroethane	ug/m3	<0.56	0.56	07/17/20 10:08	
1,1,2-Trichlorotrifluoroethane	ug/m3	<1.6	1.6	07/17/20 10:08	
1,1-Dichloroethane	ug/m3	<0.82	0.82	07/17/20 10:08	
1,1-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:08	
1,2,4-Trichlorobenzene	ug/m3	<7.5	7.5	07/17/20 10:08	
1,2,4-Trimethylbenzene	ug/m3	<1.0	1.0	07/17/20 10:08	
1,2-Dibromoethane (EDB)	ug/m3	<0.78	0.78	07/17/20 10:08	
1,2-Dichlorobenzene	ug/m3	<1.2	1.2	07/17/20 10:08	
1,2-Dichloroethane	ug/m3	<0.41	0.41	07/17/20 10:08	
1,2-Dichloropropane	ug/m3	<0.94	0.94	07/17/20 10:08	
1,3,5-Trimethylbenzene	ug/m3	<1.0	1.0	07/17/20 10:08	
1,3-Butadiene	ug/m3	<0.45	0.45	07/17/20 10:08	
1,3-Dichlorobenzene	ug/m3	<1.2	1.2	07/17/20 10:08	
1,4-Dichlorobenzene	ug/m3	<3.1	3.1	07/17/20 10:08	
2-Butanone (MEK)	ug/m3	<3.0	3.0	07/17/20 10:08	
2-Hexanone	ug/m3	<4.2	4.2	07/17/20 10:08	
2-Propanol	ug/m3	<2.5	2.5	07/17/20 10:08	
4-Ethyltoluene	ug/m3	<2.5	2.5	07/17/20 10:08	
4-Methyl-2-pentanone (MIBK)	ug/m3	<4.2	4.2	07/17/20 10:08	
Acetone	ug/m3	<6.0	6.0	07/17/20 10:08	
Benzene	ug/m3	<0.32	0.32	07/17/20 10:08	
Benzyl chloride	ug/m3	<2.6	2.6	07/17/20 10:08	
Bromodichloromethane	ug/m3	<1.4	1.4	07/17/20 10:08	
Bromoform	ug/m3	<5.2	5.2	07/17/20 10:08	
Bromomethane	ug/m3	<0.79	0.79	07/17/20 10:08	
Carbon disulfide	ug/m3	<0.63	0.63	07/17/20 10:08	
Carbon tetrachloride	ug/m3	<1.3	1.3	07/17/20 10:08	
Chlorobenzene	ug/m3	<0.94	0.94	07/17/20 10:08	
Chloroethane	ug/m3	<0.54	0.54	07/17/20 10:08	
Chloroform	ug/m3	<0.50	0.50	07/17/20 10:08	
Chloromethane	ug/m3	<0.42	0.42	07/17/20 10:08	
cis-1,2-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:08	
cis-1,3-Dichloropropene	ug/m3	<0.92	0.92	07/17/20 10:08	
Cyclohexane	ug/m3	<1.8	1.8	07/17/20 10:08	
Dibromochloromethane	ug/m3	<1.7	1.7	07/17/20 10:08	
Dichlorodifluoromethane	ug/m3	<1.0	1.0	07/17/20 10:08	
Dichlorotetrafluoroethane	ug/m3	<1.4	1.4	07/17/20 10:08	
Ethanol	ug/m3	<1.9	1.9	07/17/20 10:08	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

METHOD BLANK: 3676573 Matrix: Air
Associated Lab Samples: 70137938001, 70137938002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.73	0.73	07/17/20 10:08	
Ethylbenzene	ug/m3	<0.88	0.88	07/17/20 10:08	
Hexachloro-1,3-butadiene	ug/m3	<5.4	5.4	07/17/20 10:08	
m&p-Xylene	ug/m3	<1.8	1.8	07/17/20 10:08	
Methyl-tert-butyl ether	ug/m3	<3.7	3.7	07/17/20 10:08	
Methylene Chloride	ug/m3	<3.5	3.5	07/17/20 10:08	
n-Heptane	ug/m3	<0.83	0.83	07/17/20 10:08	
n-Hexane	ug/m3	<0.72	0.72	07/17/20 10:08	
Naphthalene	ug/m3	<2.7	2.7	07/17/20 10:08	
o-Xylene	ug/m3	<0.88	0.88	07/17/20 10:08	
Propylene	ug/m3	<0.35	0.35	07/17/20 10:08	
Styrene	ug/m3	<0.87	0.87	07/17/20 10:08	
Tetrachloroethene	ug/m3	<0.69	0.69	07/17/20 10:08	
Tetrahydrofuran	ug/m3	<0.60	0.60	07/17/20 10:08	
Toluene	ug/m3	<0.77	0.77	07/17/20 10:08	
trans-1,2-Dichloroethene	ug/m3	<0.81	0.81	07/17/20 10:08	
trans-1,3-Dichloropropene	ug/m3	<0.92	0.92	07/17/20 10:08	
Trichloroethene	ug/m3	<0.55	0.55	07/17/20 10:08	
Trichlorofluoromethane	ug/m3	<1.1	1.1	07/17/20 10:08	
Vinyl acetate	ug/m3	<0.72	0.72	07/17/20 10:08	
Vinyl chloride	ug/m3	<0.26	0.26	07/17/20 10:08	

LABORATORY CONTROL SAMPLE: 3676574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	57.7	101	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	61.1	85	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	53.7	94	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	80.1	100	70-130	
1,1-Dichloroethane	ug/m3	42.7	41.1	96	70-130	
1,1-Dichloroethene	ug/m3	41.4	41.2	99	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	142	91	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	44.3	86	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	74.6	93	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	52.0	82	70-136	
1,2-Dichloroethane	ug/m3	42.4	42.7	101	70-130	
1,2-Dichloropropane	ug/m3	48.6	46.8	96	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	45.3	88	70-136	
1,3-Butadiene	ug/m3	23.3	23.4	100	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	54.1	85	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	55.4	87	70-145	
2-Butanone (MEK)	ug/m3	31.4	26.9	86	61-130	
2-Hexanone	ug/m3	42.8	43.8	102	70-138	
2-Propanol	ug/m3	119	107	90	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

LABORATORY CONTROL SAMPLE: 3676574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	48.5	93	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	42.9	98	70-134	
Acetone	ug/m3	126	106	83	59-137	
Benzene	ug/m3	33.5	31.9	95	70-133	
Benzyl chloride	ug/m3	55.1	56.5	102	70-139	
Bromodichloromethane	ug/m3	71.5	69.8	98	70-130	
Bromoform	ug/m3	110	101	92	60-140	
Bromomethane	ug/m3	41.3	38.2	93	70-131	
Carbon disulfide	ug/m3	33.3	33.1	99	70-130	
Carbon tetrachloride	ug/m3	66.2	66.0	100	70-133	
Chlorobenzene	ug/m3	48.3	42.0	87	70-131	
Chloroethane	ug/m3	28.1	26.9	96	70-141	
Chloroform	ug/m3	51.1	49.6	97	70-130	
Chloromethane	ug/m3	21.9	20.6	94	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	43.0	103	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	49.3	103	70-138	
Cyclohexane	ug/m3	36.7	37.9	103	70-133	
Dibromochloromethane	ug/m3	90.7	85.9	95	70-139	
Dichlorodifluoromethane	ug/m3	51.6	50.6	98	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	67.5	93	65-133	
Ethanol	ug/m3	103	91.4	89	65-135	
Ethyl acetate	ug/m3	38.6	38.0	98	70-135	
Ethylbenzene	ug/m3	45.6	43.8	96	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	90.2	81	70-134	
m&p-Xylene	ug/m3	91.2	88.0	96	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	39.2	102	70-131	
Methylene Chloride	ug/m3	182	162	89	69-130	
n-Heptane	ug/m3	43.6	45.1	103	70-130	
n-Hexane	ug/m3	37.6	37.8	100	70-131	
Naphthalene	ug/m3	57.7	53.1	92	63-130	
o-Xylene	ug/m3	45.5	40.2	88	70-135	
Propylene	ug/m3	18.2	18.0	99	63-139	
Styrene	ug/m3	44.9	44.8	100	70-143	
Tetrachloroethene	ug/m3	71	63.6	90	70-136	
Tetrahydrofuran	ug/m3	31.5	31.0	98	70-137	
Toluene	ug/m3	39.5	40.3	102	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	42.2	100	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	51.0	107	70-139	
Trichloroethene	ug/m3	56.3	55.1	98	70-132	
Trichlorofluoromethane	ug/m3	59.7	55.5	93	65-136	
Vinyl acetate	ug/m3	34.5	37.4	108	66-140	
Vinyl chloride	ug/m3	26.7	25.9	97	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

SAMPLE DUPLICATE: 3678443

Parameter	Units	10524983001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.6	<1.6		
1,1,2,2-Tetrachloroethane	ug/m3	<1.0	<1.0		
1,1,2-Trichloroethane	ug/m3	<0.80	<0.80		
1,1,2-Trichlorotrifluoroethane	ug/m3	<2.2	<2.2		
1,1-Dichloroethane	ug/m3	<1.2	<1.2		
1,1-Dichloroethene	ug/m3	<1.2	<1.2		
1,2,4-Trichlorobenzene	ug/m3	<10.9	<10.9		
1,2,4-Trimethylbenzene	ug/m3	<1.4	<1.4		
1,2-Dibromoethane (EDB)	ug/m3	<1.1	<1.1		
1,2-Dichlorobenzene	ug/m3	<1.8	<1.8		
1,2-Dichloroethane	ug/m3	<0.59	<0.59		
1,2-Dichloropropane	ug/m3	<1.4	<1.4		
1,3,5-Trimethylbenzene	ug/m3	<1.4	<1.4		
1,3-Butadiene	ug/m3	<0.65	<0.65		
1,3-Dichlorobenzene	ug/m3	<1.8	<1.8		
1,4-Dichlorobenzene	ug/m3	<4.4	<4.4		
2-Butanone (MEK)	ug/m3	<4.3	<4.3		
2-Hexanone	ug/m3	<6.0	<6.0		
2-Propanol	ug/m3	<3.6	<3.6		
4-Ethyltoluene	ug/m3	<3.6	<3.6		
4-Methyl-2-pentanone (MIBK)	ug/m3	<6.0	<6.0		
Acetone	ug/m3	17.8	19.1	7	
Benzene	ug/m3	<0.47	<0.47		
Benzyl chloride	ug/m3	<3.8	<3.8		
Bromodichloromethane	ug/m3	<2.0	<2.0		
Bromoform	ug/m3	<7.6	<7.6		
Bromomethane	ug/m3	<1.1	<1.1		
Carbon disulfide	ug/m3	2.7	2.8	5	
Carbon tetrachloride	ug/m3	<1.8	<1.8		
Chlorobenzene	ug/m3	<1.3	<1.3		
Chloroethane	ug/m3	<0.77	<0.77		
Chloroform	ug/m3	<0.71	<0.71		
Chloromethane	ug/m3	<0.60	<0.60		
cis-1,2-Dichloroethene	ug/m3	<1.2	<1.2		
cis-1,3-Dichloropropene	ug/m3	<1.3	<1.3		
Cyclohexane	ug/m3	<2.5	<2.5		
Dibromochloromethane	ug/m3	<2.5	<2.5		
Dichlorodifluoromethane	ug/m3	2.4	2.3	0	
Dichlorotetrafluoroethane	ug/m3	<2.0	<2.0		
Ethanol	ug/m3	10.8	11.7	8	
Ethyl acetate	ug/m3	<1.1	<1.1		
Ethylbenzene	ug/m3	<1.3	<1.3		
Hexachloro-1,3-butadiene	ug/m3	<7.8	<7.8		
m&p-Xylene	ug/m3	<2.5	<2.5		
Methyl-tert-butyl ether	ug/m3	<5.3	<5.3		
Methylene Chloride	ug/m3	13.2	14.1	6	
n-Heptane	ug/m3	1.4	1.4	1	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

SAMPLE DUPLICATE: 3678443

Parameter	Units	10524983001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	1.0	1.0	0	
Naphthalene	ug/m3	<3.8	<3.8		
o-Xylene	ug/m3	<1.3	<1.3		
Propylene	ug/m3	<0.50	<0.50		
Styrene	ug/m3	<1.2	<1.2		
Tetrachloroethene	ug/m3	1.0	1.0	2	
Tetrahydrofuran	ug/m3	<0.86	<0.86		
Toluene	ug/m3	1.6	1.7	3	
trans-1,2-Dichloroethene	ug/m3	<1.2	<1.2		
trans-1,3-Dichloropropene	ug/m3	<1.3	<1.3		
Trichloroethene	ug/m3	<0.79	<0.79		
Trichlorofluoromethane	ug/m3	<1.6	<1.6		
Vinyl acetate	ug/m3	<1.0	<1.0		
Vinyl chloride	ug/m3	<0.37	<0.37		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN AIR 7/7
Pace Project No.: 70137938

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70137938001	**SP-401 PRE CARBON**	TO-15	687486		
70137938002	**SP-402 MID CARBON**	TO-15	687486		
70137938003	**SP-403 POST CARBON**	TO-15	687469		
70137938004	**MID CARBON SP-302**	TO-15	687469		
70137938005	**EFFLEUNT POST CARBON (SP-303)**	TO-15	687469		

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WO#: 70137938

70137938

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

47498

Page: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: TeTraTech	Report To: Glen Nutuschil	Attention: Glen Nutuschil
Address: 175 N Corporate Ave Brookfield WI	Copy To:	Company Name: TeTratech
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Lockheed Martin	Pace Project Manager/Sales Rep.
Requested Due Date/TAT:	Project Number:	Pace Profile #: 38541

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other____

Location of Sampling by State _____

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level II.___ III.___ IV.___ Other___

Section D Required Client Information

AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

Method: PM10, 3C - Fixed Gas (%), TO-3 BTEX, TO-3M (Methane), TO-14, TO-15 Full List VOCs, TO-15 Short List BTEX, TO-15 Short List Chlorinated, TO-15 Short List (other)

ITEM #	Section D Required Client Information: AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	SP-401 Pre carbon	1LC		7/6/20	11:40			17	10	1421						X					
2	SP-402 mid Carbon	1LC		7/6/20	11:44			20	10	1426						X					
3	SP-403 Post Carbon	1LC		7/6/20	11:47			20	10	1440						X					
4																					
5																					
6	mid Carbon SP-302	1LC		7/7/20	1:38			18	10	1416						X					
7	Effluent Post Carbon (SP-303)	1LC		7/7/20	1:41			20	10	1431						X					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	7/8/20	17:10	[signature]	7-8-20	17:10
[signature]	7-8	1700			
			[signature] Pace	71020	935

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
/	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY) 7/8/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

FC046Rev.01, 03Feb2010

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services

WO#: 70137938

PM: KMM **Due Date: 07/24/2**

CLIENT: TETRA

Air Sample Condition Upon Receipt **Client Name:** Pace Long Island **Project #:**

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial See Exception ☐

Tracking Number: 1723 25437686

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No ① ML71020

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other:_____ **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): ✓ **Corrected Temp (°C):** ✓ **Thermometer Used:** ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** ✓ **Date & Initials of Person Examining Contents:** 71020 M

Type of ice Received ☐ Blue ☐ Wet ☒ None

		Comments:
Chain of Custody Present?	☒ Yes ☐ No	1.
Chain of Custody Filled Out?	☒ Yes ☐ No	2.
Chain of Custody Relinquished?	☒ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	7.
Sufficient Volume?	☒ Yes ☐ No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☒ Yes ☐ No ☒ Yes ☐ No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☒ Yes ☐ No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans, Y (N) (list which samples) No and time listed
Is sufficient information available to reconcile samples to the COC?	☒ Yes ☐ No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒ Yes ☐ No	13.

Gauge # ☒ 10AIR26 ☐ 10AIR34 ☐ 10AIR35 ☐ 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
401	1421	—	-8.5	10	Unused	1414	—	~~-28~~ -29	
402	1426	—	-7.5	10		1450	—	-28	
403	1440	—	-8	10		1390	—	-28	
302	1416	—	-10.5	10		3809	—	-28	
303	1431	—	-5	10		1356	—	-27.5	
Unused	1446	—	-28			3812	—	-28	
↓	1362	—	-28						
↓	1398	—	-28						

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

August 08, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on July 31, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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CERTIFICATIONS

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

Pace Analytical Services - Minneapolis MN

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70140313001	**SP-301**	TO-15	MLS	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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Melville, NY 11747
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PROJECT NARRATIVE

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: August 08, 2020

General Information:
1 sample was analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: 690894

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
- LCS (Lab ID: 3693796)
  - Bromoform
  - Vinyl acetate

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 690894

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
- LCS (Lab ID: 3693796)
  - Bromoform

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 690894

E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- DUP (Lab ID: 3694496)
  - Propylene

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Melville, NY 11747
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PROJECT NARRATIVE

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: August 08, 2020

This data package has been reviewed for quality and completeness and is approved for release.

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Melville, NY 11747
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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

Sample: SP-301 **Lab ID: 70140313001** Collected: 07/27/20 04:27 Received: 07/31/20 09:20 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**32.5**	ug/m3	13.2	2.19		08/05/20 16:54	67-64-1	
Benzene	**3.1**	ug/m3	0.71	2.19		08/05/20 16:54	71-43-2	
Benzyl chloride	**<5.8**	ug/m3	5.8	2.19		08/05/20 16:54	100-44-7	
Bromodichloromethane	**<3.0**	ug/m3	3.0	2.19		08/05/20 16:54	75-27-4	
Bromoform	**<11.5**	ug/m3	11.5	2.19		08/05/20 16:54	75-25-2	
Bromomethane	**1.9**	ug/m3	1.7	2.19		08/05/20 16:54	74-83-9	
1,3-Butadiene	**<0.99**	ug/m3	0.99	2.19		08/05/20 16:54	106-99-0	
2-Butanone (MEK)	**7.3**	ug/m3	6.6	2.19		08/05/20 16:54	78-93-3	
Carbon disulfide	**1.6**	ug/m3	1.4	2.19		08/05/20 16:54	75-15-0	
Carbon tetrachloride	**<2.8**	ug/m3	2.8	2.19		08/05/20 16:54	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.19		08/05/20 16:54	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.19		08/05/20 16:54	75-00-3	
Chloroform	**11.2**	ug/m3	1.1	2.19		08/05/20 16:54	67-66-3	
Chloromethane	**1.3**	ug/m3	0.92	2.19		08/05/20 16:54	74-87-3	
Cyclohexane	**10.9**	ug/m3	3.8	2.19		08/05/20 16:54	110-82-7	
Dibromochloromethane	**<3.8**	ug/m3	3.8	2.19		08/05/20 16:54	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.19		08/05/20 16:54	106-93-4	
1,2-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.19		08/05/20 16:54	95-50-1	
1,3-Dichlorobenzene	**<2.7**	ug/m3	2.7	2.19		08/05/20 16:54	541-73-1	
1,4-Dichlorobenzene	**<6.7**	ug/m3	6.7	2.19		08/05/20 16:54	106-46-7	
Dichlorodifluoromethane	**4.7**	ug/m3	2.2	2.19		08/05/20 16:54	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.19		08/05/20 16:54	75-34-3	
1,2-Dichloroethane	**<0.90**	ug/m3	0.90	2.19		08/05/20 16:54	107-06-2	
1,1-Dichloroethene	**<1.8**	ug/m3	1.8	2.19		08/05/20 16:54	75-35-4	
cis-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.19		08/05/20 16:54	156-59-2	
trans-1,2-Dichloroethene	**<1.8**	ug/m3	1.8	2.19		08/05/20 16:54	156-60-5	
1,2-Dichloropropane	**<2.1**	ug/m3	2.1	2.19		08/05/20 16:54	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.19		08/05/20 16:54	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.19		08/05/20 16:54	10061-02-6	
Dichlorotetrafluoroethane	**<3.1**	ug/m3	3.1	2.19		08/05/20 16:54	76-14-2	
Ethanol	**43.6**	ug/m3	4.2	2.19		08/05/20 16:54	64-17-5	
Ethyl acetate	**<1.6**	ug/m3	1.6	2.19		08/05/20 16:54	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.19		08/05/20 16:54	100-41-4	
4-Ethyltoluene	**<5.5**	ug/m3	5.5	2.19		08/05/20 16:54	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.19		08/05/20 16:54	142-82-5	
Hexachloro-1,3-butadiene	**<11.9**	ug/m3	11.9	2.19		08/05/20 16:54	87-68-3	
n-Hexane	**1.9**	ug/m3	1.6	2.19		08/05/20 16:54	110-54-3	
2-Hexanone	**<9.1**	ug/m3	9.1	2.19		08/05/20 16:54	591-78-6	
Methylene Chloride	**147**	ug/m3	7.7	2.19		08/05/20 16:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	**9.9**	ug/m3	9.1	2.19		08/05/20 16:54	108-10-1	
Methyl-tert-butyl ether	**<8.0**	ug/m3	8.0	2.19		08/05/20 16:54	1634-04-4	
Naphthalene	**<5.8**	ug/m3	5.8	2.19		08/05/20 16:54	91-20-3	
2-Propanol	**417**	ug/m3	5.5	2.19		08/05/20 16:54	67-63-0	
Propylene	**<0.77**	ug/m3	0.77	2.19		08/05/20 16:54	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.19		08/05/20 16:54	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.19		08/05/20 16:54	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

Sample: SP-301 **Lab ID: 70140313001** Collected: 07/27/20 04:27 Received: 07/31/20 09:20 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**112**	ug/m3	1.5	2.19		08/05/20 16:54	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.19		08/05/20 16:54	109-99-9	
Toluene	**7.8**	ug/m3	1.7	2.19		08/05/20 16:54	108-88-3	
1,2,4-Trichlorobenzene	**<16.5**	ug/m3	16.5	2.19		08/05/20 16:54	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.19		08/05/20 16:54	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.19		08/05/20 16:54	79-00-5	
Trichloroethene	**16.1**	ug/m3	1.2	2.19		08/05/20 16:54	79-01-6	
Trichlorofluoromethane	**<2.5**	ug/m3	2.5	2.19		08/05/20 16:54	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.4**	ug/m3	3.4	2.19		08/05/20 16:54	76-13-1	
1,2,4-Trimethylbenzene	**5.0**	ug/m3	2.2	2.19		08/05/20 16:54	95-63-6	
1,3,5-Trimethylbenzene	**2.5**	ug/m3	2.2	2.19		08/05/20 16:54	108-67-8	
Vinyl acetate	**<1.6**	ug/m3	1.6	2.19		08/05/20 16:54	108-05-4	
Vinyl chloride	**<0.57**	ug/m3	0.57	2.19		08/05/20 16:54	75-01-4	
m&p-Xylene	**7.2**	ug/m3	3.9	2.19		08/05/20 16:54	179601-23-1	
o-Xylene	**3.0**	ug/m3	1.9	2.19		08/05/20 16:54	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

QC Batch: 690894
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 70140313001

METHOD BLANK: 3693795 Matrix: Air
Associated Lab Samples: 70140313001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.1	1.1	08/05/20 08:37	
1,1,2,2-Tetrachloroethane	ug/m3	<0.70	0.70	08/05/20 08:37	
1,1,2-Trichloroethane	ug/m3	<0.56	0.56	08/05/20 08:37	
1,1,2-Trichlorotrifluoroethane	ug/m3	<1.6	1.6	08/05/20 08:37	
1,1-Dichloroethane	ug/m3	<0.82	0.82	08/05/20 08:37	
1,1-Dichloroethene	ug/m3	<0.81	0.81	08/05/20 08:37	
1,2,4-Trichlorobenzene	ug/m3	<7.5	7.5	08/05/20 08:37	
1,2,4-Trimethylbenzene	ug/m3	<1.0	1.0	08/05/20 08:37	
1,2-Dibromoethane (EDB)	ug/m3	<0.78	0.78	08/05/20 08:37	
1,2-Dichlorobenzene	ug/m3	<1.2	1.2	08/05/20 08:37	
1,2-Dichloroethane	ug/m3	<0.41	0.41	08/05/20 08:37	
1,2-Dichloropropane	ug/m3	<0.94	0.94	08/05/20 08:37	
1,3,5-Trimethylbenzene	ug/m3	<1.0	1.0	08/05/20 08:37	
1,3-Butadiene	ug/m3	<0.45	0.45	08/05/20 08:37	
1,3-Dichlorobenzene	ug/m3	<1.2	1.2	08/05/20 08:37	
1,4-Dichlorobenzene	ug/m3	<3.1	3.1	08/05/20 08:37	
2-Butanone (MEK)	ug/m3	<3.0	3.0	08/05/20 08:37	
2-Hexanone	ug/m3	<4.2	4.2	08/05/20 08:37	
2-Propanol	ug/m3	<2.5	2.5	08/05/20 08:37	
4-Ethyltoluene	ug/m3	<2.5	2.5	08/05/20 08:37	
4-Methyl-2-pentanone (MIBK)	ug/m3	<4.2	4.2	08/05/20 08:37	
Acetone	ug/m3	<6.0	6.0	08/05/20 08:37	
Benzene	ug/m3	<0.32	0.32	08/05/20 08:37	
Benzyl chloride	ug/m3	<2.6	2.6	08/05/20 08:37	
Bromodichloromethane	ug/m3	<1.4	1.4	08/05/20 08:37	
Bromoform	ug/m3	<5.2	5.2	08/05/20 08:37	
Bromomethane	ug/m3	<0.79	0.79	08/05/20 08:37	
Carbon disulfide	ug/m3	<0.63	0.63	08/05/20 08:37	
Carbon tetrachloride	ug/m3	<1.3	1.3	08/05/20 08:37	
Chlorobenzene	ug/m3	<0.94	0.94	08/05/20 08:37	
Chloroethane	ug/m3	<0.54	0.54	08/05/20 08:37	
Chloroform	ug/m3	<0.50	0.50	08/05/20 08:37	
Chloromethane	ug/m3	<0.42	0.42	08/05/20 08:37	
cis-1,2-Dichloroethene	ug/m3	<0.81	0.81	08/05/20 08:37	
cis-1,3-Dichloropropene	ug/m3	<0.92	0.92	08/05/20 08:37	
Cyclohexane	ug/m3	<1.8	1.8	08/05/20 08:37	
Dibromochloromethane	ug/m3	<1.7	1.7	08/05/20 08:37	
Dichlorodifluoromethane	ug/m3	<1.0	1.0	08/05/20 08:37	
Dichlorotetrafluoroethane	ug/m3	<1.4	1.4	08/05/20 08:37	
Ethanol	ug/m3	<1.9	1.9	08/05/20 08:37	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

METHOD BLANK: 3693795 Matrix: Air
Associated Lab Samples: 70140313001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.73	0.73	08/05/20 08:37	
Ethylbenzene	ug/m3	<0.88	0.88	08/05/20 08:37	
Hexachloro-1,3-butadiene	ug/m3	<5.4	5.4	08/05/20 08:37	
m&p-Xylene	ug/m3	<1.8	1.8	08/05/20 08:37	
Methyl-tert-butyl ether	ug/m3	<3.7	3.7	08/05/20 08:37	
Methylene Chloride	ug/m3	<3.5	3.5	08/05/20 08:37	
n-Heptane	ug/m3	<0.83	0.83	08/05/20 08:37	
n-Hexane	ug/m3	<0.72	0.72	08/05/20 08:37	
Naphthalene	ug/m3	<2.7	2.7	08/05/20 08:37	
o-Xylene	ug/m3	<0.88	0.88	08/05/20 08:37	
Propylene	ug/m3	<0.35	0.35	08/05/20 08:37	
Styrene	ug/m3	<0.87	0.87	08/05/20 08:37	
Tetrachloroethene	ug/m3	<0.69	0.69	08/05/20 08:37	
Tetrahydrofuran	ug/m3	<0.60	0.60	08/05/20 08:37	
Toluene	ug/m3	<0.77	0.77	08/05/20 08:37	
trans-1,2-Dichloroethene	ug/m3	<0.81	0.81	08/05/20 08:37	
trans-1,3-Dichloropropene	ug/m3	<0.92	0.92	08/05/20 08:37	
Trichloroethene	ug/m3	<0.55	0.55	08/05/20 08:37	
Trichlorofluoromethane	ug/m3	<1.1	1.1	08/05/20 08:37	
Vinyl acetate	ug/m3	<0.72	0.72	08/05/20 08:37	
Vinyl chloride	ug/m3	<0.26	0.26	08/05/20 08:37	

LABORATORY CONTROL SAMPLE: 3693796

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	63.7	112	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	77.5	108	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	64.6	113	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	94.3	117	70-130	
1,1-Dichloroethane	ug/m3	42.7	49.1	115	70-130	
1,1-Dichloroethene	ug/m3	41.4	51.4	124	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	167	108	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	56.9	110	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	92.4	115	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	66.1	105	70-136	
1,2-Dichloroethane	ug/m3	42.4	46.6	110	70-130	
1,2-Dichloropropane	ug/m3	48.6	57.1	117	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	55.9	108	70-136	
1,3-Butadiene	ug/m3	23.3	28.0	120	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	68.5	108	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	69.3	109	70-145	
2-Butanone (MEK)	ug/m3	31.4	33.9	108	61-130	
2-Hexanone	ug/m3	42.8	53.0	124	70-138	
2-Propanol	ug/m3	119	130	109	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

LABORATORY CONTROL SAMPLE: 3693796

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	59.1	113	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	50.3	115	70-134	
Acetone	ug/m3	126	124	98	59-137	
Benzene	ug/m3	33.5	39.1	117	70-133	
Benzyl chloride	ug/m3	55.1	71.1	129	70-139	
Bromodichloromethane	ug/m3	71.5	80.3	112	70-130	
Bromoform	ug/m3	110	162	147	60-140	CH,L1
Bromomethane	ug/m3	41.3	47.3	115	70-131	
Carbon disulfide	ug/m3	33.3	40.6	122	70-130	
Carbon tetrachloride	ug/m3	66.2	74.6	113	70-133	
Chlorobenzene	ug/m3	48.3	52.7	109	70-131	
Chloroethane	ug/m3	28.1	34.1	121	70-141	
Chloroform	ug/m3	51.1	56.5	111	70-130	
Chloromethane	ug/m3	21.9	24.3	111	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	50.8	122	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	57.0	120	70-138	
Cyclohexane	ug/m3	36.7	44.0	120	70-133	
Dibromochloromethane	ug/m3	90.7	112	124	70-139	
Dichlorodifluoromethane	ug/m3	51.6	55.7	108	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	81.3	112	65-133	
Ethanol	ug/m3	103	109	106	65-135	
Ethyl acetate	ug/m3	38.6	44.2	115	70-135	
Ethylbenzene	ug/m3	45.6	51.2	112	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	137	123	70-134	
m&p-Xylene	ug/m3	91.2	102	112	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	44.8	117	70-131	
Methylene Chloride	ug/m3	182	206	113	69-130	
n-Heptane	ug/m3	43.6	48.3	111	70-130	
n-Hexane	ug/m3	37.6	43.2	115	70-131	
Naphthalene	ug/m3	57.7	64.1	111	63-130	
o-Xylene	ug/m3	45.5	49.6	109	70-135	
Propylene	ug/m3	18.2	20.3	112	63-139	
Styrene	ug/m3	44.9	53.9	120	70-143	
Tetrachloroethene	ug/m3	71	80.5	113	70-136	
Tetrahydrofuran	ug/m3	31.5	36.4	116	70-137	
Toluene	ug/m3	39.5	45.3	115	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	52.4	124	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	58.2	122	70-139	
Trichloroethene	ug/m3	56.3	64.7	115	70-132	
Trichlorofluoromethane	ug/m3	59.7	71.6	120	65-136	
Vinyl acetate	ug/m3	34.5	45.7	132	66-140	CH
Vinyl chloride	ug/m3	26.7	31.1	117	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

SAMPLE DUPLICATE: 3694496

Parameter	Units	10526676001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	0.53J	<1.8		
1,1,2,2-Tetrachloroethane	ug/m3	<1.1	<1.1		
1,1,2-Trichloroethane	ug/m3	<0.89	<0.89		
1,1,2-Trichlorotrifluoroethane	ug/m3	0.91J	<2.5		
1,1-Dichloroethane	ug/m3	<1.3	<1.3		
1,1-Dichloroethene	ug/m3	<1.3	<1.3		
1,2,4-Trichlorobenzene	ug/m3	<12.1	<12.1		
1,2,4-Trimethylbenzene	ug/m3	17.8	17.7	0	
1,2-Dibromoethane (EDB)	ug/m3	<1.3	<1.3		
1,2-Dichlorobenzene	ug/m3	<2.0	<2.0		
1,2-Dichloroethane	ug/m3	<0.66	<0.66		
1,2-Dichloropropane	ug/m3	<1.5	<1.5		
1,3,5-Trimethylbenzene	ug/m3	4.6	4.8	5	
1,3-Butadiene	ug/m3	<0.72	<0.72		
1,3-Dichlorobenzene	ug/m3	<2.0	<2.0		
1,4-Dichlorobenzene	ug/m3	<4.9	<4.9		
2-Butanone (MEK)	ug/m3	23.7	23.2	2	
2-Hexanone	ug/m3	2.8J	<6.7		
2-Propanol	ug/m3	<4.0	<4.0		
4-Ethyltoluene	ug/m3	5.7	5.9	4	
4-Methyl-2-pentanone (MIBK)	ug/m3	1.6J	<6.7		
Acetone	ug/m3	76.8	73.2	5	
Benzene	ug/m3	7.1	7.1	1	
Benzyl chloride	ug/m3	<4.2	<4.2		
Bromodichloromethane	ug/m3	<2.2	<2.2		
Bromoform	ug/m3	<8.5	<8.5		
Bromomethane	ug/m3	<1.3	<1.3		
Carbon disulfide	ug/m3	3.0	2.9	4	
Carbon tetrachloride	ug/m3	<2.1	<2.1		
Chlorobenzene	ug/m3	<1.5	<1.5		
Chloroethane	ug/m3	<0.86	<0.86		
Chloroform	ug/m3	<0.80	<0.80		
Chloromethane	ug/m3	0.17J	<0.68		
cis-1,2-Dichloroethene	ug/m3	<1.3	<1.3		
cis-1,3-Dichloropropene	ug/m3	<1.5	<1.5		
Cyclohexane	ug/m3	7.5	7.2	4	
Dibromochloromethane	ug/m3	<2.8	<2.8		
Dichlorodifluoromethane	ug/m3	2.8	2.8	2	
Dichlorotetrafluoroethane	ug/m3	<2.3	<2.3		
Ethanol	ug/m3	7.4	6.9	7	
Ethyl acetate	ug/m3	<1.2	<1.2		
Ethylbenzene	ug/m3	6.2	6.1	2	
Hexachloro-1,3-butadiene	ug/m3	<8.7	<8.7		
m&p-Xylene	ug/m3	29.5	29.5	0	
Methyl-tert-butyl ether	ug/m3	<5.9	<5.9		
Methylene Chloride	ug/m3	2.5J	<5.7		
n-Heptane	ug/m3	8.0	7.5	6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

SAMPLE DUPLICATE: 3694496

Parameter	Units	10526676001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	14.8	13.9	6	
Naphthalene	ug/m3	5.1	5.0	2	
o-Xylene	ug/m3	9.8	9.9	1	
Propylene	ug/m3	198	190	4	E
Styrene	ug/m3	1.7	1.7	0	
Tetrachloroethene	ug/m3	4.2	4.0	4	
Tetrahydrofuran	ug/m3	<0.97	<0.97		
Toluene	ug/m3	27.1	26.3	3	
trans-1,2-Dichloroethene	ug/m3	<1.3	<1.3		
trans-1,3-Dichloropropene	ug/m3	<1.5	<1.5		
Trichloroethene	ug/m3	63.2	62.2	2	
Trichlorofluoromethane	ug/m3	80.9	78.3	3	
Vinyl acetate	ug/m3	<1.2	<1.2		
Vinyl chloride	ug/m3	<0.42	<0.42		

SAMPLE DUPLICATE: 3694969

Parameter	Units	10527086001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.20	<1.6		
1,1,2,2-Tetrachloroethane	ug/m3	<0.44	<1.0		
1,1,2-Trichloroethane	ug/m3	<0.33	<0.81		
1,1,2-Trichlorotrifluoroethane	ug/m3	0.51J	<2.3		
1,1-Dichloroethane	ug/m3	<0.18	<1.2		
1,1-Dichloroethene	ug/m3	<0.21	<1.2		
1,2,4-Trichlorobenzene	ug/m3	<4.8	<11.0		
1,2,4-Trimethylbenzene	ug/m3	<0.59	<1.5		
1,2-Dibromoethane (EDB)	ug/m3	<0.47	<1.1		
1,2-Dichlorobenzene	ug/m3	<0.55	<1.8		
1,2-Dichloroethane	ug/m3	<0.26	<0.60		
1,2-Dichloropropane	ug/m3	<0.25	<1.4		
1,3,5-Trimethylbenzene	ug/m3	<0.44	<1.5		
1,3-Butadiene	ug/m3	<0.15	<0.66		
1,3-Dichlorobenzene	ug/m3	<0.69	<1.8		
1,4-Dichlorobenzene	ug/m3	<1.2	<4.5		
2-Butanone (MEK)	ug/m3	9.3	9.4	0	
2-Hexanone	ug/m3	0.88J	<6.1		
2-Propanol	ug/m3	16.5	16.0	3	
4-Ethyltoluene	ug/m3	<0.69	<3.6		
4-Methyl-2-pentanone (MIBK)	ug/m3	0.73J	<6.1		
Acetone	ug/m3	18.4	20.7	12	
Benzene	ug/m3	0.38J	<0.47		
Benzyl chloride	ug/m3	<0.48	<3.8		
Bromodichloromethane	ug/m3	<0.39	<2.0		
Bromoform	ug/m3	<2.1	<7.7		
Bromomethane	ug/m3	<0.26	<1.2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

SAMPLE DUPLICATE: 3694969

Parameter	Units	10527086001 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	0.31J	<0.92		
Carbon tetrachloride	ug/m3	0.31J	<1.9		
Chlorobenzene	ug/m3	<0.22	<1.4		
Chloroethane	ug/m3	<0.19	<0.78		
Chloroform	ug/m3	<0.28	<0.72		
Chloromethane	ug/m3	1.1	1.1	4	
cis-1,2-Dichloroethene	ug/m3	<0.24	<1.2		
cis-1,3-Dichloropropene	ug/m3	<0.32	<1.3		
Cyclohexane	ug/m3	0.74J	<2.6		
Dibromochloromethane	ug/m3	<0.43	<2.5		
Dichlorodifluoromethane	ug/m3	2.6	2.6	0	
Dichlorotetrafluoroethane	ug/m3	<0.48	<2.1		
Ethanol	ug/m3	187	186	1	
Ethyl acetate	ug/m3	3.4	3.2	5	
Ethylbenzene	ug/m3	0.34J	<1.3		
Hexachloro-1,3-butadiene	ug/m3	<1.2	<7.9		
m&p-Xylene	ug/m3	1.0J	<2.6		
Methyl-tert-butyl ether	ug/m3	<0.20	<5.3		
Methylene Chloride	ug/m3	3.5J	<5.2		
n-Heptane	ug/m3	0.71J	<1.2		
n-Hexane	ug/m3	1.0J	<1.0		
Naphthalene	ug/m3	<1.8	<3.9		
o-Xylene	ug/m3	0.40J	<1.3		
Propylene	ug/m3	<0.14	<0.51		
Styrene	ug/m3	<0.54	<1.3		
Tetrachloroethene	ug/m3	<0.42	<1.0		
Tetrahydrofuran	ug/m3	<0.25	<0.88		
Toluene	ug/m3	2.3	2.3	2	
trans-1,2-Dichloroethene	ug/m3	<0.25	<1.2		
trans-1,3-Dichloropropene	ug/m3	<0.42	<1.3		
Trichloroethene	ug/m3	<0.26	<0.80		
Trichlorofluoromethane	ug/m3	0.69J	<1.7		
Vinyl acetate	ug/m3	<0.26	<1.0		
Vinyl chloride	ug/m3	<0.15	<0.38		

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REPORT OF LABORATORY ANALYSIS

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN 7/27
Pace Project No.: 70140313

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70140313001	**SP-301**	TO-15	690894		

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Pace Analytical
www.pacelabs.com

WO# : 70140313

70140313

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

41475

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: TeTraTech	Report To: Glen Nutuschil	Attention: Glen Nutuschil
Address: 175 N Corporate dr Brookfield WI	Copy To:	Company Name: TeTraTech
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name: Lockheed Martin	Pace Project Manager/Sales Rep.
Requested Due Date/TAT:	Project Number:	Pace Profile #: 38541

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other____

Location of Sampling by State _____

Reporting Units: ug/m³___ mg/m³___ PPBV___ PPMV___ Other___

Report Level II.___ III.___ IV.___ Other____

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	SP-301	1LC		7/27/20	4:27			15	10	1419						X					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	7/28/20	1640		7-29-20	0800
	7.29	1700	Jenny Pace	7/31/20	9:20

SAMPLE CONDITIONS

~	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy

SIGNATURE of SAMPLER: Steve McCarthy DATE Signed (MM / DD / YY): 7/28/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612 607 6386

Pace Analytical®	Document Name: **Pending Log-in Process**	Document Revised: 26Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0126 Rev.00**	Pace Analytical Services - **Minneapolis**

SR Tech RV Date Initiated 7/31/20 PM JMP Client Name Pasi-Liny Profile # 38541 Pink shelf ☐ #1 ☐ #2

Issue Type (check all that apply)*	**Client Name/Project Name on containers (if no COC)**
[ ] COC Issue IRWO **Date/Time Received**_____	
EPIC Issue (check one) [ ] Client not in Epic [ ] Profile not in Epic [ ] Add acode [ ] Other	**Resolution** PM/Date _____

Sample Line Item	BP1U	BP2U	BP3U	BP3S	BP3N	AG1U	AG1H	AG3S	AGIT	JGFU	JGCU	BJFU	WPDU	VG9M	VG9H	GN	SP5T	DWC
	Check the box to the left to indicate that the container(s) received for line items 1 - 1 are identical to the container(s) documented for line item 1 for this																	
1	☒																	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

Comments: IRWO

Logged in by (initial)_____ **Date**_____ **WO** _____

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - Air**	Document Revised: 24Mar2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0113 Rev.00**	Pace Analytical Services - **Minneapolis**

Air Sample Condition Upon Receipt

Client Name: Tetra Tech **Project #:**

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial **See Exception** [ ]

Tracking Number: 1723 2544 3740

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [X] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other:_____ **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): — **Corrected Temp (°C):** — **Thermometer Used:** [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** RD 7/31/20

Type of ice Received [ ] Blue [ ] Wet [X] None

			Comments:
Chain of Custody Present?	[X] Yes	[ ] No	1.
Chain of Custody Filled Out?	[X] Yes	[ ] No	2.
Chain of Custody Relinquished?	[X] Yes	[ ] No	3.
Sampler Name and/or Signature on COC?	[X] Yes	[ ] No [ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes	[ ] No	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes	[X] No	6.
Rush Turn Around Time Requested?	[ ] Yes	[X] No	7.
Sufficient Volume?	[X] Yes	[ ] No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	[X] Yes [X] Yes	[ ] No [ ] No	9.
Containers Intact? **(visual inspection, no leaks when pressurized)**	[X] Yes	[ ] No	10.
Media: Air Can Airbag Filter TDT Passive			11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes	[ ] No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	[X] Yes	[ ] No	13.

1 Gauge Gauge # [ ] 10AIR26 [ ] 10AIR34 [ ] 10AIR35 [ ] 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
301	1419		-7	+10					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** [ ] Yes [ ] No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

October 20, 2020

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on October 13, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
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CERTIFICATIONS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Pace Analytical Services - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70149325001	**PRE-CARBON-SP-301**	TO-15	CH1	61	PASI-M
70149325002	**MID-CARBON-SP-302**	TO-15	CH1	61	PASI-M
70149325003	**EFFLUENT-SP-303**	TO-15	CH1	61	PASI-M
70149325004	**PRE-CARBON-PI-401**	TO-15	CH1	61	PASI-M
70149325005	**MID-CARBON-PI-402**	TO-15	CH1	61	PASI-M
70149325006	**POST-CARBON-PI-403**	TO-15	MJL	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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PROJECT NARRATIVE

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: October 20, 2020

General Information:
6 samples were analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 705287

R1: RPD value was outside control limits.
- DUP (Lab ID: 3768988)
  - Dichlorodifluoromethane

Additional Comments:

Analyte Comments:

QC Batch: 705287

C8: Result may be biased high due to carryover from previously analyzed sample.
- POST-CARBON-PI-403 (Lab ID: 70149325006)
  - Tetrachloroethene

This data package has been reviewed for quality and completeness and is approved for release.

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Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: PRE-CARBON-SP-301 **Lab ID: 70149325001** Collected: 10/06/20 14:05 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**33.6**	ug/m3	13.0	2.15		10/18/20 19:14	67-64-1	
Benzene	**1.1**	ug/m3	0.70	2.15		10/18/20 19:14	71-43-2	
Benzyl chloride	**<5.7**	ug/m3	5.7	2.15		10/18/20 19:14	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.15		10/18/20 19:14	75-27-4	
Bromoform	**<11.3**	ug/m3	11.3	2.15		10/18/20 19:14	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	74-83-9	
1,3-Butadiene	**<0.97**	ug/m3	0.97	2.15		10/18/20 19:14	106-99-0	
2-Butanone (MEK)	**<6.4**	ug/m3	6.4	2.15		10/18/20 19:14	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.15		10/18/20 19:14	75-15-0	
Carbon tetrachloride	**<2.8**	ug/m3	2.8	2.15		10/18/20 19:14	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.15		10/18/20 19:14	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.15		10/18/20 19:14	75-00-3	
Chloroform	**13.6**	ug/m3	1.1	2.15		10/18/20 19:14	67-66-3	
Chloromethane	**<0.90**	ug/m3	0.90	2.15		10/18/20 19:14	74-87-3	
Cyclohexane	**7.8**	ug/m3	3.8	2.15		10/18/20 19:14	110-82-7	
Dibromochloromethane	**<3.7**	ug/m3	3.7	2.15		10/18/20 19:14	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.15		10/18/20 19:14	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.15		10/18/20 19:14	541-73-1	
1,4-Dichlorobenzene	**<6.6**	ug/m3	6.6	2.15		10/18/20 19:14	106-46-7	
Dichlorodifluoromethane	**6.4**	ug/m3	2.2	2.15		10/18/20 19:14	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.15		10/18/20 19:14	75-34-3	
1,2-Dichloroethane	**<0.88**	ug/m3	0.88	2.15		10/18/20 19:14	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 19:14	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.15		10/18/20 19:14	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.15		10/18/20 19:14	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.15		10/18/20 19:14	10061-02-6	
Dichlorotetrafluoroethane	**<3.1**	ug/m3	3.1	2.15		10/18/20 19:14	76-14-2	
Ethanol	**30.7**	ug/m3	4.1	2.15		10/18/20 19:14	64-17-5	
Ethyl acetate	**<1.6**	ug/m3	1.6	2.15		10/18/20 19:14	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.15		10/18/20 19:14	100-41-4	
4-Ethyltoluene	**<5.4**	ug/m3	5.4	2.15		10/18/20 19:14	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.15		10/18/20 19:14	142-82-5	
Hexachloro-1,3-butadiene	**<11.7**	ug/m3	11.7	2.15		10/18/20 19:14	87-68-3	
n-Hexane	**<1.5**	ug/m3	1.5	2.15		10/18/20 19:14	110-54-3	
2-Hexanone	**<8.9**	ug/m3	8.9	2.15		10/18/20 19:14	591-78-6	
Methylene Chloride	**84.9**	ug/m3	7.6	2.15		10/18/20 19:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.9**	ug/m3	8.9	2.15		10/18/20 19:14	108-10-1	
Methyl-tert-butyl ether	**<7.9**	ug/m3	7.9	2.15		10/18/20 19:14	1634-04-4	
Naphthalene	**<5.7**	ug/m3	5.7	2.15		10/18/20 19:14	91-20-3	
2-Propanol	**275**	ug/m3	5.4	2.15		10/18/20 19:14	67-63-0	
Propylene	**1.5**	ug/m3	0.75	2.15		10/18/20 19:14	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.15		10/18/20 19:14	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.15		10/18/20 19:14	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: PRE-CARBON-SP-301 **Lab ID: 70149325001** Collected: 10/06/20 14:05 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**115**	ug/m3	1.5	2.15		10/18/20 19:14	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.15		10/18/20 19:14	109-99-9	
Toluene	**2.0**	ug/m3	1.6	2.15		10/18/20 19:14	108-88-3	
1,2,4-Trichlorobenzene	**<16.2**	ug/m3	16.2	2.15		10/18/20 19:14	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.15		10/18/20 19:14	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.15		10/18/20 19:14	79-00-5	
Trichloroethene	**15.0**	ug/m3	1.2	2.15		10/18/20 19:14	79-01-6	
Trichlorofluoromethane	**<2.5**	ug/m3	2.5	2.15		10/18/20 19:14	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.4**	ug/m3	3.4	2.15		10/18/20 19:14	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.15		10/18/20 19:14	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.15		10/18/20 19:14	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.15		10/18/20 19:14	108-05-4	
Vinyl chloride	**<0.56**	ug/m3	0.56	2.15		10/18/20 19:14	75-01-4	
m&p-Xylene	**<3.8**	ug/m3	3.8	2.15		10/18/20 19:14	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.15		10/18/20 19:14	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: MID-CARBON-SP-302 **Lab ID: 70149325002** Collected: 10/06/20 14:09 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<13.0**	ug/m3	13.0	2.15		10/18/20 20:10	67-64-1	
Benzene	**1.1**	ug/m3	0.70	2.15		10/18/20 20:10	71-43-2	
Benzyl chloride	**<5.7**	ug/m3	5.7	2.15		10/18/20 20:10	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.15		10/18/20 20:10	75-27-4	
Bromoform	**<11.3**	ug/m3	11.3	2.15		10/18/20 20:10	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	74-83-9	
1,3-Butadiene	**<0.97**	ug/m3	0.97	2.15		10/18/20 20:10	106-99-0	
2-Butanone (MEK)	**<6.4**	ug/m3	6.4	2.15		10/18/20 20:10	78-93-3	
Carbon disulfide	**<1.4**	ug/m3	1.4	2.15		10/18/20 20:10	75-15-0	
Carbon tetrachloride	**<2.8**	ug/m3	2.8	2.15		10/18/20 20:10	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.15		10/18/20 20:10	108-90-7	
Chloroethane	**<1.2**	ug/m3	1.2	2.15		10/18/20 20:10	75-00-3	
Chloroform	**20.5**	ug/m3	1.1	2.15		10/18/20 20:10	67-66-3	
Chloromethane	**<0.90**	ug/m3	0.90	2.15		10/18/20 20:10	74-87-3	
Cyclohexane	**<3.8**	ug/m3	3.8	2.15		10/18/20 20:10	110-82-7	
Dibromochloromethane	**<3.7**	ug/m3	3.7	2.15		10/18/20 20:10	124-48-1	
1,2-Dibromoethane (EDB)	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.15		10/18/20 20:10	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.15		10/18/20 20:10	541-73-1	
1,4-Dichlorobenzene	**<6.6**	ug/m3	6.6	2.15		10/18/20 20:10	106-46-7	
Dichlorodifluoromethane	**6.1**	ug/m3	2.2	2.15		10/18/20 20:10	75-71-8	
1,1-Dichloroethane	**<1.8**	ug/m3	1.8	2.15		10/18/20 20:10	75-34-3	
1,2-Dichloroethane	**<0.88**	ug/m3	0.88	2.15		10/18/20 20:10	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.15		10/18/20 20:10	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.15		10/18/20 20:10	78-87-5	
cis-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.15		10/18/20 20:10	10061-01-5	
trans-1,3-Dichloropropene	**<2.0**	ug/m3	2.0	2.15		10/18/20 20:10	10061-02-6	
Dichlorotetrafluoroethane	**<3.1**	ug/m3	3.1	2.15		10/18/20 20:10	76-14-2	
Ethanol	**35.7**	ug/m3	4.1	2.15		10/18/20 20:10	64-17-5	
Ethyl acetate	**<1.6**	ug/m3	1.6	2.15		10/18/20 20:10	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.15		10/18/20 20:10	100-41-4	
4-Ethyltoluene	**<5.4**	ug/m3	5.4	2.15		10/18/20 20:10	622-96-8	
n-Heptane	**<1.8**	ug/m3	1.8	2.15		10/18/20 20:10	142-82-5	
Hexachloro-1,3-butadiene	**<11.7**	ug/m3	11.7	2.15		10/18/20 20:10	87-68-3	
n-Hexane	**<1.5**	ug/m3	1.5	2.15		10/18/20 20:10	110-54-3	
2-Hexanone	**<8.9**	ug/m3	8.9	2.15		10/18/20 20:10	591-78-6	
Methylene Chloride	**66.8**	ug/m3	7.6	2.15		10/18/20 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.9**	ug/m3	8.9	2.15		10/18/20 20:10	108-10-1	
Methyl-tert-butyl ether	**<7.9**	ug/m3	7.9	2.15		10/18/20 20:10	1634-04-4	
Naphthalene	**<5.7**	ug/m3	5.7	2.15		10/18/20 20:10	91-20-3	
2-Propanol	**360**	ug/m3	5.4	2.15		10/18/20 20:10	67-63-0	
Propylene	**<0.75**	ug/m3	0.75	2.15		10/18/20 20:10	115-07-1	
Styrene	**<1.9**	ug/m3	1.9	2.15		10/18/20 20:10	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.15		10/18/20 20:10	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: MID-CARBON-SP-302 **Lab ID: 70149325002** Collected: 10/06/20 14:09 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**1.6**	ug/m3	1.5	2.15		10/18/20 20:10	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.15		10/18/20 20:10	109-99-9	
Toluene	**<1.6**	ug/m3	1.6	2.15		10/18/20 20:10	108-88-3	
1,2,4-Trichlorobenzene	**<16.2**	ug/m3	16.2	2.15		10/18/20 20:10	120-82-1	
1,1,1-Trichloroethane	**<2.4**	ug/m3	2.4	2.15		10/18/20 20:10	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.15		10/18/20 20:10	79-00-5	
Trichloroethene	**<1.2**	ug/m3	1.2	2.15		10/18/20 20:10	79-01-6	
Trichlorofluoromethane	**3.3**	ug/m3	2.5	2.15		10/18/20 20:10	75-69-4	
1,1,2-Trichlorotrifluoroethane	**3.4**	ug/m3	3.4	2.15		10/18/20 20:10	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.15		10/18/20 20:10	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.15		10/18/20 20:10	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.15		10/18/20 20:10	108-05-4	
Vinyl chloride	**<0.56**	ug/m3	0.56	2.15		10/18/20 20:10	75-01-4	
m&p-Xylene	**<3.8**	ug/m3	3.8	2.15		10/18/20 20:10	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.15		10/18/20 20:10	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: EFFLUENT-SP-303 **Lab ID: 70149325003** Collected: 10/06/20 14:10 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**<12.2**	ug/m3	12.2	2.02		10/18/20 21:05	67-64-1	
Benzene	**<0.66**	ug/m3	0.66	2.02		10/18/20 21:05	71-43-2	
Benzyl chloride	**<5.3**	ug/m3	5.3	2.02		10/18/20 21:05	100-44-7	
Bromodichloromethane	**<2.7**	ug/m3	2.7	2.02		10/18/20 21:05	75-27-4	
Bromoform	**<10.6**	ug/m3	10.6	2.02		10/18/20 21:05	75-25-2	
Bromomethane	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	74-83-9	
1,3-Butadiene	**<0.91**	ug/m3	0.91	2.02		10/18/20 21:05	106-99-0	
2-Butanone (MEK)	**<6.1**	ug/m3	6.1	2.02		10/18/20 21:05	78-93-3	
Carbon disulfide	**<1.3**	ug/m3	1.3	2.02		10/18/20 21:05	75-15-0	
Carbon tetrachloride	**<2.6**	ug/m3	2.6	2.02		10/18/20 21:05	56-23-5	
Chlorobenzene	**<1.9**	ug/m3	1.9	2.02		10/18/20 21:05	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.02		10/18/20 21:05	75-00-3	
Chloroform	**12.5**	ug/m3	1.0	2.02		10/18/20 21:05	67-66-3	
Chloromethane	**<0.85**	ug/m3	0.85	2.02		10/18/20 21:05	74-87-3	
Cyclohexane	**<3.5**	ug/m3	3.5	2.02		10/18/20 21:05	110-82-7	
Dibromochloromethane	**<3.5**	ug/m3	3.5	2.02		10/18/20 21:05	124-48-1	
1,2-Dibromoethane (EDB)	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	106-93-4	
1,2-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.02		10/18/20 21:05	95-50-1	
1,3-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.02		10/18/20 21:05	541-73-1	
1,4-Dichlorobenzene	**<6.2**	ug/m3	6.2	2.02		10/18/20 21:05	106-46-7	
Dichlorodifluoromethane	**6.2**	ug/m3	2.0	2.02		10/18/20 21:05	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.02		10/18/20 21:05	75-34-3	
1,2-Dichloroethane	**<0.83**	ug/m3	0.83	2.02		10/18/20 21:05	107-06-2	
1,1-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	75-35-4	
cis-1,2-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	156-59-2	
trans-1,2-Dichloroethene	**<1.6**	ug/m3	1.6	2.02		10/18/20 21:05	156-60-5	
1,2-Dichloropropane	**<1.9**	ug/m3	1.9	2.02		10/18/20 21:05	78-87-5	
cis-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.02		10/18/20 21:05	10061-01-5	
trans-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.02		10/18/20 21:05	10061-02-6	
Dichlorotetrafluoroethane	**<2.9**	ug/m3	2.9	2.02		10/18/20 21:05	76-14-2	
Ethanol	**42.7**	ug/m3	3.9	2.02		10/18/20 21:05	64-17-5	
Ethyl acetate	**<1.5**	ug/m3	1.5	2.02		10/18/20 21:05	141-78-6	
Ethylbenzene	**<1.8**	ug/m3	1.8	2.02		10/18/20 21:05	100-41-4	
4-Ethyltoluene	**<5.0**	ug/m3	5.0	2.02		10/18/20 21:05	622-96-8	
n-Heptane	**<1.7**	ug/m3	1.7	2.02		10/18/20 21:05	142-82-5	
Hexachloro-1,3-butadiene	**<10.9**	ug/m3	10.9	2.02		10/18/20 21:05	87-68-3	
n-Hexane	**<1.4**	ug/m3	1.4	2.02		10/18/20 21:05	110-54-3	
2-Hexanone	**<8.4**	ug/m3	8.4	2.02		10/18/20 21:05	591-78-6	
Methylene Chloride	**75.9**	ug/m3	7.1	2.02		10/18/20 21:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.4**	ug/m3	8.4	2.02		10/18/20 21:05	108-10-1	
Methyl-tert-butyl ether	**<7.4**	ug/m3	7.4	2.02		10/18/20 21:05	1634-04-4	
Naphthalene	**<5.4**	ug/m3	5.4	2.02		10/18/20 21:05	91-20-3	
2-Propanol	**154**	ug/m3	5.0	2.02		10/18/20 21:05	67-63-0	
Propylene	**<0.71**	ug/m3	0.71	2.02		10/18/20 21:05	115-07-1	
Styrene	**<1.7**	ug/m3	1.7	2.02		10/18/20 21:05	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.4**	ug/m3	1.4	2.02		10/18/20 21:05	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: EFFLUENT-SP-303 **Lab ID: 70149325003** Collected: 10/06/20 14:10 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**<1.4**	ug/m3	1.4	2.02		10/18/20 21:05	127-18-4	
Tetrahydrofuran	**<1.2**	ug/m3	1.2	2.02		10/18/20 21:05	109-99-9	
Toluene	**<1.5**	ug/m3	1.5	2.02		10/18/20 21:05	108-88-3	
1,2,4-Trichlorobenzene	**<15.2**	ug/m3	15.2	2.02		10/18/20 21:05	120-82-1	
1,1,1-Trichloroethane	**<2.2**	ug/m3	2.2	2.02		10/18/20 21:05	71-55-6	
1,1,2-Trichloroethane	**<1.1**	ug/m3	1.1	2.02		10/18/20 21:05	79-00-5	
Trichloroethene	**<1.1**	ug/m3	1.1	2.02		10/18/20 21:05	79-01-6	
Trichlorofluoromethane	**3.9**	ug/m3	2.3	2.02		10/18/20 21:05	75-69-4	
1,1,2-Trichlorotrifluoroethane	**3.8**	ug/m3	3.2	2.02		10/18/20 21:05	76-13-1	
1,2,4-Trimethylbenzene	**<2.0**	ug/m3	2.0	2.02		10/18/20 21:05	95-63-6	
1,3,5-Trimethylbenzene	**<2.0**	ug/m3	2.0	2.02		10/18/20 21:05	108-67-8	
Vinyl acetate	**<1.4**	ug/m3	1.4	2.02		10/18/20 21:05	108-05-4	
Vinyl chloride	**<0.53**	ug/m3	0.53	2.02		10/18/20 21:05	75-01-4	
m&p-Xylene	**<3.6**	ug/m3	3.6	2.02		10/18/20 21:05	179601-23-1	
o-Xylene	**<1.8**	ug/m3	1.8	2.02		10/18/20 21:05	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: PRE-CARBON-PI-401 **Lab ID: 70149325004** Collected: 10/05/20 10:08 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**38.3**	ug/m3	12.7	2.1		10/18/20 21:33	67-64-1	
Benzene	**<0.68**	ug/m3	0.68	2.1		10/18/20 21:33	71-43-2	
Benzyl chloride	**<5.5**	ug/m3	5.5	2.1		10/18/20 21:33	100-44-7	
Bromodichloromethane	**<2.9**	ug/m3	2.9	2.1		10/18/20 21:33	75-27-4	
Bromoform	**<11.0**	ug/m3	11.0	2.1		10/18/20 21:33	75-25-2	
Bromomethane	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	74-83-9	
1,3-Butadiene	**<0.94**	ug/m3	0.94	2.1		10/18/20 21:33	106-99-0	
2-Butanone (MEK)	**<6.3**	ug/m3	6.3	2.1		10/18/20 21:33	78-93-3	
Carbon disulfide	**2.1**	ug/m3	1.3	2.1		10/18/20 21:33	75-15-0	
Carbon tetrachloride	**<2.7**	ug/m3	2.7	2.1		10/18/20 21:33	56-23-5	
Chlorobenzene	**<2.0**	ug/m3	2.0	2.1		10/18/20 21:33	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.1		10/18/20 21:33	75-00-3	
Chloroform	**<1.0**	ug/m3	1.0	2.1		10/18/20 21:33	67-66-3	
Chloromethane	**2.8**	ug/m3	0.88	2.1		10/18/20 21:33	74-87-3	
Cyclohexane	**<3.7**	ug/m3	3.7	2.1		10/18/20 21:33	110-82-7	
Dibromochloromethane	**<3.6**	ug/m3	3.6	2.1		10/18/20 21:33	124-48-1	
1,2-Dibromoethane (EDB)	**<1.6**	ug/m3	1.6	2.1		10/18/20 21:33	106-93-4	
1,2-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.1		10/18/20 21:33	95-50-1	
1,3-Dichlorobenzene	**<2.6**	ug/m3	2.6	2.1		10/18/20 21:33	541-73-1	
1,4-Dichlorobenzene	**<6.4**	ug/m3	6.4	2.1		10/18/20 21:33	106-46-7	
Dichlorodifluoromethane	**2.3**	ug/m3	2.1	2.1		10/18/20 21:33	75-71-8	
1,1-Dichloroethane	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	75-34-3	
1,2-Dichloroethane	**<0.86**	ug/m3	0.86	2.1		10/18/20 21:33	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	75-35-4	
cis-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	156-60-5	
1,2-Dichloropropane	**<2.0**	ug/m3	2.0	2.1		10/18/20 21:33	78-87-5	
cis-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.1		10/18/20 21:33	10061-01-5	
trans-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.1		10/18/20 21:33	10061-02-6	
Dichlorotetrafluoroethane	**<3.0**	ug/m3	3.0	2.1		10/18/20 21:33	76-14-2	
Ethanol	**5.4**	ug/m3	4.0	2.1		10/18/20 21:33	64-17-5	
Ethyl acetate	**<1.5**	ug/m3	1.5	2.1		10/18/20 21:33	141-78-6	
Ethylbenzene	**<1.9**	ug/m3	1.9	2.1		10/18/20 21:33	100-41-4	
4-Ethyltoluene	**<5.2**	ug/m3	5.2	2.1		10/18/20 21:33	622-96-8	
n-Heptane	**<1.7**	ug/m3	1.7	2.1		10/18/20 21:33	142-82-5	
Hexachloro-1,3-butadiene	**<11.4**	ug/m3	11.4	2.1		10/18/20 21:33	87-68-3	
n-Hexane	**<1.5**	ug/m3	1.5	2.1		10/18/20 21:33	110-54-3	
2-Hexanone	**<8.7**	ug/m3	8.7	2.1		10/18/20 21:33	591-78-6	
Methylene Chloride	**<7.4**	ug/m3	7.4	2.1		10/18/20 21:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.7**	ug/m3	8.7	2.1		10/18/20 21:33	108-10-1	
Methyl-tert-butyl ether	**<7.7**	ug/m3	7.7	2.1		10/18/20 21:33	1634-04-4	
Naphthalene	**<5.6**	ug/m3	5.6	2.1		10/18/20 21:33	91-20-3	
2-Propanol	**<5.2**	ug/m3	5.2	2.1		10/18/20 21:33	67-63-0	
Propylene	**<0.74**	ug/m3	0.74	2.1		10/18/20 21:33	115-07-1	
Styrene	**<1.8**	ug/m3	1.8	2.1		10/18/20 21:33	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.5**	ug/m3	1.5	2.1		10/18/20 21:33	79-34-5	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: PRE-CARBON-PI-401 **Lab ID: 70149325004** Collected: 10/05/20 10:08 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**<1.4**	ug/m3	1.4	2.1		10/18/20 21:33	127-18-4	
Tetrahydrofuran	**<1.3**	ug/m3	1.3	2.1		10/18/20 21:33	109-99-9	
Toluene	**<1.6**	ug/m3	1.6	2.1		10/18/20 21:33	108-88-3	
1,2,4-Trichlorobenzene	**<15.8**	ug/m3	15.8	2.1		10/18/20 21:33	120-82-1	
1,1,1-Trichloroethane	**<2.3**	ug/m3	2.3	2.1		10/18/20 21:33	71-55-6	
1,1,2-Trichloroethane	**<1.2**	ug/m3	1.2	2.1		10/18/20 21:33	79-00-5	
Trichloroethene	**<1.1**	ug/m3	1.1	2.1		10/18/20 21:33	79-01-6	
Trichlorofluoromethane	**<2.4**	ug/m3	2.4	2.1		10/18/20 21:33	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<3.3**	ug/m3	3.3	2.1		10/18/20 21:33	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.1		10/18/20 21:33	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.1		10/18/20 21:33	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.1		10/18/20 21:33	108-05-4	
Vinyl chloride	**<0.55**	ug/m3	0.55	2.1		10/18/20 21:33	75-01-4	
m&p-Xylene	**<3.7**	ug/m3	3.7	2.1		10/18/20 21:33	179601-23-1	
o-Xylene	**<1.9**	ug/m3	1.9	2.1		10/18/20 21:33	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: MID-CARBON-PI-402 **Lab ID: 70149325005** Collected: 10/05/20 00:00 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**87.7**	ug/m3	14.5	2.4		10/18/20 22:00	67-64-1	
Benzene	**<0.78**	ug/m3	0.78	2.4		10/18/20 22:00	71-43-2	
Benzyl chloride	**<6.3**	ug/m3	6.3	2.4		10/18/20 22:00	100-44-7	
Bromodichloromethane	**<3.3**	ug/m3	3.3	2.4		10/18/20 22:00	75-27-4	
Bromoform	**<12.6**	ug/m3	12.6	2.4		10/18/20 22:00	75-25-2	
Bromomethane	**<1.9**	ug/m3	1.9	2.4		10/18/20 22:00	74-83-9	
1,3-Butadiene	**<1.1**	ug/m3	1.1	2.4		10/18/20 22:00	106-99-0	
2-Butanone (MEK)	**16.2**	ug/m3	7.2	2.4		10/18/20 22:00	78-93-3	
Carbon disulfide	**<1.5**	ug/m3	1.5	2.4		10/18/20 22:00	75-15-0	
Carbon tetrachloride	**<3.1**	ug/m3	3.1	2.4		10/18/20 22:00	56-23-5	
Chlorobenzene	**<2.2**	ug/m3	2.2	2.4		10/18/20 22:00	108-90-7	
Chloroethane	**<1.3**	ug/m3	1.3	2.4		10/18/20 22:00	75-00-3	
Chloroform	**<1.2**	ug/m3	1.2	2.4		10/18/20 22:00	67-66-3	
Chloromethane	**<1.0**	ug/m3	1.0	2.4		10/18/20 22:00	74-87-3	
Cyclohexane	**<4.2**	ug/m3	4.2	2.4		10/18/20 22:00	110-82-7	
Dibromochloromethane	**<4.2**	ug/m3	4.2	2.4		10/18/20 22:00	124-48-1	
1,2-Dibromoethane (EDB)	**<1.9**	ug/m3	1.9	2.4		10/18/20 22:00	106-93-4	
1,2-Dichlorobenzene	**<2.9**	ug/m3	2.9	2.4		10/18/20 22:00	95-50-1	
1,3-Dichlorobenzene	**<2.9**	ug/m3	2.9	2.4		10/18/20 22:00	541-73-1	
1,4-Dichlorobenzene	**<7.3**	ug/m3	7.3	2.4		10/18/20 22:00	106-46-7	
Dichlorodifluoromethane	**2.6**	ug/m3	2.4	2.4		10/18/20 22:00	75-71-8	
1,1-Dichloroethane	**15.0**	ug/m3	2.0	2.4		10/18/20 22:00	75-34-3	
1,2-Dichloroethane	**<0.99**	ug/m3	0.99	2.4		10/18/20 22:00	107-06-2	
1,1-Dichloroethene	**<1.9**	ug/m3	1.9	2.4		10/18/20 22:00	75-35-4	
cis-1,2-Dichloroethene	**20.1**	ug/m3	1.9	2.4		10/18/20 22:00	156-59-2	
trans-1,2-Dichloroethene	**<1.9**	ug/m3	1.9	2.4		10/18/20 22:00	156-60-5	
1,2-Dichloropropane	**<2.3**	ug/m3	2.3	2.4		10/18/20 22:00	78-87-5	
cis-1,3-Dichloropropene	**<2.2**	ug/m3	2.2	2.4		10/18/20 22:00	10061-01-5	
trans-1,3-Dichloropropene	**<2.2**	ug/m3	2.2	2.4		10/18/20 22:00	10061-02-6	
Dichlorotetrafluoroethane	**<3.4**	ug/m3	3.4	2.4		10/18/20 22:00	76-14-2	
Ethanol	**14.3**	ug/m3	4.6	2.4		10/18/20 22:00	64-17-5	
Ethyl acetate	**<1.8**	ug/m3	1.8	2.4		10/18/20 22:00	141-78-6	
Ethylbenzene	**<2.1**	ug/m3	2.1	2.4		10/18/20 22:00	100-41-4	
4-Ethyltoluene	**<6.0**	ug/m3	6.0	2.4		10/18/20 22:00	622-96-8	
n-Heptane	**<2.0**	ug/m3	2.0	2.4		10/18/20 22:00	142-82-5	
Hexachloro-1,3-butadiene	**<13.0**	ug/m3	13.0	2.4		10/18/20 22:00	87-68-3	
n-Hexane	**<1.7**	ug/m3	1.7	2.4		10/18/20 22:00	110-54-3	
2-Hexanone	**<10**	ug/m3	10	2.4		10/18/20 22:00	591-78-6	
Methylene Chloride	**<8.5**	ug/m3	8.5	2.4		10/18/20 22:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<10**	ug/m3	10	2.4		10/18/20 22:00	108-10-1	
Methyl-tert-butyl ether	**<8.8**	ug/m3	8.8	2.4		10/18/20 22:00	1634-04-4	
Naphthalene	**<6.4**	ug/m3	6.4	2.4		10/18/20 22:00	91-20-3	
2-Propanol	**<6.0**	ug/m3	6.0	2.4		10/18/20 22:00	67-63-0	
Propylene	**<0.84**	ug/m3	0.84	2.4		10/18/20 22:00	115-07-1	
Styrene	**<2.1**	ug/m3	2.1	2.4		10/18/20 22:00	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.7**	ug/m3	1.7	2.4		10/18/20 22:00	79-34-5	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: MID-CARBON-PI-402 **Lab ID: 70149325005** Collected: 10/05/20 00:00 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**2.5**	ug/m3	1.7	2.4		10/18/20 22:00	127-18-4	
Tetrahydrofuran	**<1.4**	ug/m3	1.4	2.4		10/18/20 22:00	109-99-9	
Toluene	**<1.8**	ug/m3	1.8	2.4		10/18/20 22:00	108-88-3	
1,2,4-Trichlorobenzene	**<18.1**	ug/m3	18.1	2.4		10/18/20 22:00	120-82-1	
1,1,1-Trichloroethane	**<2.7**	ug/m3	2.7	2.4		10/18/20 22:00	71-55-6	
1,1,2-Trichloroethane	**<1.3**	ug/m3	1.3	2.4		10/18/20 22:00	79-00-5	
Trichloroethene	**<1.3**	ug/m3	1.3	2.4		10/18/20 22:00	79-01-6	
Trichlorofluoromethane	**<2.7**	ug/m3	2.7	2.4		10/18/20 22:00	75-69-4	
1,1,2-Trichlorotrifluoroethane	**35.6**	ug/m3	3.7	2.4		10/18/20 22:00	76-13-1	
1,2,4-Trimethylbenzene	**<2.4**	ug/m3	2.4	2.4		10/18/20 22:00	95-63-6	
1,3,5-Trimethylbenzene	**<2.4**	ug/m3	2.4	2.4		10/18/20 22:00	108-67-8	
Vinyl acetate	**<1.7**	ug/m3	1.7	2.4		10/18/20 22:00	108-05-4	
Vinyl chloride	**<0.62**	ug/m3	0.62	2.4		10/18/20 22:00	75-01-4	
m&p-Xylene	**<4.2**	ug/m3	4.2	2.4		10/18/20 22:00	179601-23-1	
o-Xylene	**<2.1**	ug/m3	2.1	2.4		10/18/20 22:00	95-47-6	

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ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: POST-CARBON-PI-403 **Lab ID: 70149325006** Collected: 10/05/20 00:00 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Acetone	**<20.3**	ug/m3	20.3	3.36		10/19/20 21:51	67-64-1	
Benzene	**<1.1**	ug/m3	1.1	3.36		10/19/20 21:51	71-43-2	
Benzyl chloride	**<8.8**	ug/m3	8.8	3.36		10/19/20 21:51	100-44-7	
Bromodichloromethane	**<4.6**	ug/m3	4.6	3.36		10/19/20 21:51	75-27-4	
Bromoform	**<17.6**	ug/m3	17.6	3.36		10/19/20 21:51	75-25-2	
Bromomethane	**<2.7**	ug/m3	2.7	3.36		10/19/20 21:51	74-83-9	
1,3-Butadiene	**<1.5**	ug/m3	1.5	3.36		10/19/20 21:51	106-99-0	
2-Butanone (MEK)	**<10.1**	ug/m3	10.1	3.36		10/19/20 21:51	78-93-3	
Carbon disulfide	**<2.1**	ug/m3	2.1	3.36		10/19/20 21:51	75-15-0	
Carbon tetrachloride	**<4.3**	ug/m3	4.3	3.36		10/19/20 21:51	56-23-5	
Chlorobenzene	**<3.1**	ug/m3	3.1	3.36		10/19/20 21:51	108-90-7	
Chloroethane	**<1.8**	ug/m3	1.8	3.36		10/19/20 21:51	75-00-3	
Chloroform	**<1.7**	ug/m3	1.7	3.36		10/19/20 21:51	67-66-3	
Chloromethane	**<1.4**	ug/m3	1.4	3.36		10/19/20 21:51	74-87-3	
Cyclohexane	**<5.9**	ug/m3	5.9	3.36		10/19/20 21:51	110-82-7	
Dibromochloromethane	**<5.8**	ug/m3	5.8	3.36		10/19/20 21:51	124-48-1	
1,2-Dibromoethane (EDB)	**<2.6**	ug/m3	2.6	3.36		10/19/20 21:51	106-93-4	
1,2-Dichlorobenzene	**<4.1**	ug/m3	4.1	3.36		10/19/20 21:51	95-50-1	
1,3-Dichlorobenzene	**<4.1**	ug/m3	4.1	3.36		10/19/20 21:51	541-73-1	
1,4-Dichlorobenzene	**<10.3**	ug/m3	10.3	3.36		10/19/20 21:51	106-46-7	
Dichlorodifluoromethane	**<3.4**	ug/m3	3.4	3.36		10/19/20 21:51	75-71-8	
1,1-Dichloroethane	**<2.8**	ug/m3	2.8	3.36		10/19/20 21:51	75-34-3	
1,2-Dichloroethane	**<1.4**	ug/m3	1.4	3.36		10/19/20 21:51	107-06-2	
1,1-Dichloroethene	**<2.7**	ug/m3	2.7	3.36		10/19/20 21:51	75-35-4	
cis-1,2-Dichloroethene	**<2.7**	ug/m3	2.7	3.36		10/19/20 21:51	156-59-2	
trans-1,2-Dichloroethene	**<2.7**	ug/m3	2.7	3.36		10/19/20 21:51	156-60-5	
1,2-Dichloropropane	**<3.2**	ug/m3	3.2	3.36		10/19/20 21:51	78-87-5	
cis-1,3-Dichloropropene	**<3.1**	ug/m3	3.1	3.36		10/19/20 21:51	10061-01-5	
trans-1,3-Dichloropropene	**<3.1**	ug/m3	3.1	3.36		10/19/20 21:51	10061-02-6	
Dichlorotetrafluoroethane	**<4.8**	ug/m3	4.8	3.36		10/19/20 21:51	76-14-2	
Ethanol	**<6.5**	ug/m3	6.5	3.36		10/19/20 21:51	64-17-5	
Ethyl acetate	**<2.5**	ug/m3	2.5	3.36		10/19/20 21:51	141-78-6	
Ethylbenzene	**<3.0**	ug/m3	3.0	3.36		10/19/20 21:51	100-41-4	
4-Ethyltoluene	**<8.4**	ug/m3	8.4	3.36		10/19/20 21:51	622-96-8	
n-Heptane	**<2.8**	ug/m3	2.8	3.36		10/19/20 21:51	142-82-5	
Hexachloro-1,3-butadiene	**<18.2**	ug/m3	18.2	3.36		10/19/20 21:51	87-68-3	
n-Hexane	**<2.4**	ug/m3	2.4	3.36		10/19/20 21:51	110-54-3	
2-Hexanone	**<14.0**	ug/m3	14.0	3.36		10/19/20 21:51	591-78-6	
Methylene Chloride	**<11.9**	ug/m3	11.9	3.36		10/19/20 21:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<14.0**	ug/m3	14.0	3.36		10/19/20 21:51	108-10-1	
Methyl-tert-butyl ether	**<12.3**	ug/m3	12.3	3.36		10/19/20 21:51	1634-04-4	
Naphthalene	**<8.9**	ug/m3	8.9	3.36		10/19/20 21:51	91-20-3	
2-Propanol	**<8.4**	ug/m3	8.4	3.36		10/19/20 21:51	67-63-0	
Propylene	**<1.2**	ug/m3	1.2	3.36		10/19/20 21:51	115-07-1	
Styrene	**<2.9**	ug/m3	2.9	3.36		10/19/20 21:51	100-42-5	
1,1,2,2-Tetrachloroethane	**<2.3**	ug/m3	2.3	3.36		10/19/20 21:51	79-34-5	

REPORT OF LABORATORY ANALYSIS

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Sample: POST-CARBON-PI-403 **Lab ID: 70149325006** Collected: 10/05/20 00:00 Received: 10/13/20 14:50 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis							
Tetrachloroethene	**4.6**	ug/m3	2.3	3.36		10/19/20 21:51	127-18-4	C8
Tetrahydrofuran	**<2.0**	ug/m3	2.0	3.36		10/19/20 21:51	109-99-9	
Toluene	**<2.6**	ug/m3	2.6	3.36		10/19/20 21:51	108-88-3	
1,2,4-Trichlorobenzene	**<25.3**	ug/m3	25.3	3.36		10/19/20 21:51	120-82-1	
1,1,1-Trichloroethane	**<3.7**	ug/m3	3.7	3.36		10/19/20 21:51	71-55-6	
1,1,2-Trichloroethane	**<1.9**	ug/m3	1.9	3.36		10/19/20 21:51	79-00-5	
Trichloroethene	**<1.8**	ug/m3	1.8	3.36		10/19/20 21:51	79-01-6	
Trichlorofluoromethane	**4.1**	ug/m3	3.8	3.36		10/19/20 21:51	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<5.2**	ug/m3	5.2	3.36		10/19/20 21:51	76-13-1	
1,2,4-Trimethylbenzene	**<3.4**	ug/m3	3.4	3.36		10/19/20 21:51	95-63-6	
1,3,5-Trimethylbenzene	**<3.4**	ug/m3	3.4	3.36		10/19/20 21:51	108-67-8	
Vinyl acetate	**<2.4**	ug/m3	2.4	3.36		10/19/20 21:51	108-05-4	
Vinyl chloride	**<0.87**	ug/m3	0.87	3.36		10/19/20 21:51	75-01-4	
m&p-Xylene	**<5.9**	ug/m3	5.9	3.36		10/19/20 21:51	179601-23-1	
o-Xylene	**<3.0**	ug/m3	3.0	3.36		10/19/20 21:51	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

QC Batch: 705120
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 70149325001, 70149325002, 70149325003, 70149325004, 70149325005

METHOD BLANK: 3767744 Matrix: Air
Associated Lab Samples: 70149325001, 70149325002, 70149325003, 70149325004, 70149325005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.56	0.56	10/18/20 10:36	
1,1,2,2-Tetrachloroethane	ug/m3	<0.35	0.35	10/18/20 10:36	
1,1,2-Trichloroethane	ug/m3	<0.28	0.28	10/18/20 10:36	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.78	0.78	10/18/20 10:36	
1,1-Dichloroethane	ug/m3	<0.41	0.41	10/18/20 10:36	
1,1-Dichloroethene	ug/m3	<0.40	0.40	10/18/20 10:36	
1,2,4-Trichlorobenzene	ug/m3	<3.8	3.8	10/18/20 10:36	
1,2,4-Trimethylbenzene	ug/m3	<0.50	0.50	10/18/20 10:36	
1,2-Dibromoethane (EDB)	ug/m3	<0.39	0.39	10/18/20 10:36	
1,2-Dichlorobenzene	ug/m3	<0.61	0.61	10/18/20 10:36	
1,2-Dichloroethane	ug/m3	<0.21	0.21	10/18/20 10:36	
1,2-Dichloropropane	ug/m3	<0.47	0.47	10/18/20 10:36	
1,3,5-Trimethylbenzene	ug/m3	<0.50	0.50	10/18/20 10:36	
1,3-Butadiene	ug/m3	<0.22	0.22	10/18/20 10:36	
1,3-Dichlorobenzene	ug/m3	<0.61	0.61	10/18/20 10:36	
1,4-Dichlorobenzene	ug/m3	<1.5	1.5	10/18/20 10:36	
2-Butanone (MEK)	ug/m3	<1.5	1.5	10/18/20 10:36	
2-Hexanone	ug/m3	<2.1	2.1	10/18/20 10:36	
2-Propanol	ug/m3	<1.2	1.2	10/18/20 10:36	
4-Ethyltoluene	ug/m3	<1.2	1.2	10/18/20 10:36	
4-Methyl-2-pentanone (MIBK)	ug/m3	<2.1	2.1	10/18/20 10:36	
Acetone	ug/m3	<3.0	3.0	10/18/20 10:36	
Benzene	ug/m3	<0.16	0.16	10/18/20 10:36	
Benzyl chloride	ug/m3	<1.3	1.3	10/18/20 10:36	
Bromodichloromethane	ug/m3	<0.68	0.68	10/18/20 10:36	
Bromoform	ug/m3	<2.6	2.6	10/18/20 10:36	
Bromomethane	ug/m3	<0.39	0.39	10/18/20 10:36	
Carbon disulfide	ug/m3	<0.32	0.32	10/18/20 10:36	
Carbon tetrachloride	ug/m3	<0.64	0.64	10/18/20 10:36	
Chlorobenzene	ug/m3	<0.47	0.47	10/18/20 10:36	
Chloroethane	ug/m3	<0.27	0.27	10/18/20 10:36	
Chloroform	ug/m3	<0.25	0.25	10/18/20 10:36	
Chloromethane	ug/m3	<0.21	0.21	10/18/20 10:36	
cis-1,2-Dichloroethene	ug/m3	<0.40	0.40	10/18/20 10:36	
cis-1,3-Dichloropropene	ug/m3	<0.46	0.46	10/18/20 10:36	
Cyclohexane	ug/m3	<0.88	0.88	10/18/20 10:36	
Dibromochloromethane	ug/m3	<0.86	0.86	10/18/20 10:36	
Dichlorodifluoromethane	ug/m3	<0.50	0.50	10/18/20 10:36	
Dichlorotetrafluoroethane	ug/m3	<0.71	0.71	10/18/20 10:36	
Ethanol	ug/m3	<0.96	0.96	10/18/20 10:36	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

METHOD BLANK: 3767744 Matrix: Air
Associated Lab Samples: 70149325001, 70149325002, 70149325003, 70149325004, 70149325005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.37	0.37	10/18/20 10:36	
Ethylbenzene	ug/m3	<0.44	0.44	10/18/20 10:36	
Hexachloro-1,3-butadiene	ug/m3	<2.7	2.7	10/18/20 10:36	
m&p-Xylene	ug/m3	<0.88	0.88	10/18/20 10:36	
Methyl-tert-butyl ether	ug/m3	<1.8	1.8	10/18/20 10:36	
Methylene Chloride	ug/m3	<1.8	1.8	10/18/20 10:36	
n-Heptane	ug/m3	<0.42	0.42	10/18/20 10:36	
n-Hexane	ug/m3	<0.36	0.36	10/18/20 10:36	
Naphthalene	ug/m3	<1.3	1.3	10/18/20 10:36	
o-Xylene	ug/m3	<0.44	0.44	10/18/20 10:36	
Propylene	ug/m3	<0.18	0.18	10/18/20 10:36	
Styrene	ug/m3	<0.43	0.43	10/18/20 10:36	
Tetrachloroethene	ug/m3	<0.34	0.34	10/18/20 10:36	
Tetrahydrofuran	ug/m3	<0.30	0.30	10/18/20 10:36	
Toluene	ug/m3	<0.38	0.38	10/18/20 10:36	
trans-1,2-Dichloroethene	ug/m3	<0.40	0.40	10/18/20 10:36	
trans-1,3-Dichloropropene	ug/m3	<0.46	0.46	10/18/20 10:36	
Trichloroethene	ug/m3	<0.27	0.27	10/18/20 10:36	
Trichlorofluoromethane	ug/m3	<0.57	0.57	10/18/20 10:36	
Vinyl acetate	ug/m3	<0.36	0.36	10/18/20 10:36	
Vinyl chloride	ug/m3	<0.13	0.13	10/18/20 10:36	

LABORATORY CONTROL SAMPLE: 3767745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	53.1	93	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	61.2	85	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	51.8	90	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	72.8	91	70-130	
1,1-Dichloroethane	ug/m3	42.7	39.8	93	70-130	
1,1-Dichloroethene	ug/m3	41.4	38.2	92	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	176	113	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	48.2	94	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	72.4	90	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	55.0	87	70-136	
1,2-Dichloroethane	ug/m3	42.4	39.0	92	70-130	
1,2-Dichloropropane	ug/m3	48.6	45.2	93	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	48.5	94	70-136	
1,3-Butadiene	ug/m3	23.3	23.6	101	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	55.9	88	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	59.5	94	70-145	
2-Butanone (MEK)	ug/m3	31.4	33.2	106	61-130	
2-Hexanone	ug/m3	42.8	44.0	103	70-138	
2-Propanol	ug/m3	119	117	99	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

LABORATORY CONTROL SAMPLE: 3767745

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	51.5	98	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	43.0	99	70-134	
Acetone	ug/m3	126	129	102	59-137	
Benzene	ug/m3	33.5	31.0	92	70-133	
Benzyl chloride	ug/m3	55.1	55.7	101	70-139	
Bromodichloromethane	ug/m3	71.5	66.9	94	70-130	
Bromoform	ug/m3	110	113	103	60-140	
Bromomethane	ug/m3	41.3	39.2	95	70-131	
Carbon disulfide	ug/m3	33.3	31.8	95	70-130	
Carbon tetrachloride	ug/m3	66.2	66.0	100	70-133	
Chlorobenzene	ug/m3	48.3	40.1	83	70-131	
Chloroethane	ug/m3	28.1	26.4	94	70-141	
Chloroform	ug/m3	51.1	47.4	93	70-130	
Chloromethane	ug/m3	21.9	19.6	90	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	39.4	95	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	47.2	99	70-138	
Cyclohexane	ug/m3	36.7	39.2	107	70-133	
Dibromochloromethane	ug/m3	90.7	82.9	91	70-139	
Dichlorodifluoromethane	ug/m3	51.6	48.9	95	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	68.0	93	65-133	
Ethanol	ug/m3	103	109	106	65-135	
Ethyl acetate	ug/m3	38.6	37.0	96	70-135	
Ethylbenzene	ug/m3	45.6	44.0	97	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	117	105	70-134	
m&p-Xylene	ug/m3	91.2	87.3	96	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	37.9	99	70-131	
Methylene Chloride	ug/m3	182	157	86	69-130	
n-Heptane	ug/m3	43.6	41.5	95	70-130	
n-Hexane	ug/m3	37.6	34.9	93	70-131	
Naphthalene	ug/m3	57.7	59.8	104	63-130	
o-Xylene	ug/m3	45.5	41.9	92	70-135	
Propylene	ug/m3	18.2	17.6	97	63-139	
Styrene	ug/m3	44.9	46.0	102	70-143	
Tetrachloroethene	ug/m3	71	59.5	84	70-136	
Tetrahydrofuran	ug/m3	31.5	31.6	100	70-137	
Toluene	ug/m3	39.5	37.5	95	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	38.3	91	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	49.5	104	70-139	
Trichloroethene	ug/m3	56.3	50.0	89	70-132	
Trichlorofluoromethane	ug/m3	59.7	54.5	91	65-136	
Vinyl acetate	ug/m3	34.5	35.4	102	66-140	
Vinyl chloride	ug/m3	26.7	25.4	95	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768080

Parameter	Units	70149325001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<2.4	<2.4		
1,1,2,2-Tetrachloroethane	ug/m3	<1.5	<1.5		
1,1,2-Trichloroethane	ug/m3	<1.2	<1.2		
1,1,2-Trichlorotrifluoroethane	ug/m3	<3.4	<3.4		
1,1-Dichloroethane	ug/m3	<1.8	<1.8		
1,1-Dichloroethene	ug/m3	<1.7	<1.7		
1,2,4-Trichlorobenzene	ug/m3	<16.2	<16.2		
1,2,4-Trimethylbenzene	ug/m3	<2.1	<2.1		
1,2-Dibromoethane (EDB)	ug/m3	<1.7	<1.7		
1,2-Dichlorobenzene	ug/m3	<2.6	<2.6		
1,2-Dichloroethane	ug/m3	<0.88	<0.88		
1,2-Dichloropropane	ug/m3	<2.0	<2.0		
1,3,5-Trimethylbenzene	ug/m3	<2.1	<2.1		
1,3-Butadiene	ug/m3	<0.97	<0.97		
1,3-Dichlorobenzene	ug/m3	<2.6	<2.6		
1,4-Dichlorobenzene	ug/m3	<6.6	<6.6		
2-Butanone (MEK)	ug/m3	<6.4	<6.4		
2-Hexanone	ug/m3	<8.9	<8.9		
2-Propanol	ug/m3	275	267	3	
4-Ethyltoluene	ug/m3	<5.4	<5.4		
4-Methyl-2-pentanone (MIBK)	ug/m3	<8.9	<8.9		
Acetone	ug/m3	33.6	35.0	4	
Benzene	ug/m3	1.1	1.1	3	
Benzyl chloride	ug/m3	<5.7	<5.7		
Bromodichloromethane	ug/m3	<2.9	<2.9		
Bromoform	ug/m3	<11.3	<11.3		
Bromomethane	ug/m3	<1.7	<1.7		
Carbon disulfide	ug/m3	<1.4	<1.4		
Carbon tetrachloride	ug/m3	<2.8	<2.8		
Chlorobenzene	ug/m3	<2.0	<2.0		
Chloroethane	ug/m3	<1.2	<1.2		
Chloroform	ug/m3	13.6	13.4	1	
Chloromethane	ug/m3	<0.90	<0.90		
cis-1,2-Dichloroethene	ug/m3	<1.7	<1.7		
cis-1,3-Dichloropropene	ug/m3	<2.0	<2.0		
Cyclohexane	ug/m3	7.8	7.8	1	
Dibromochloromethane	ug/m3	<3.7	<3.7		
Dichlorodifluoromethane	ug/m3	6.4	5.8	9	
Dichlorotetrafluoroethane	ug/m3	<3.1	<3.1		
Ethanol	ug/m3	30.7	29.3	5	
Ethyl acetate	ug/m3	<1.6	<1.6		
Ethylbenzene	ug/m3	<1.9	<1.9		
Hexachloro-1,3-butadiene	ug/m3	<11.7	<11.7		
m&p-Xylene	ug/m3	<3.8	<3.8		
Methyl-tert-butyl ether	ug/m3	<7.9	<7.9		
Methylene Chloride	ug/m3	84.9	82.3	3	
n-Heptane	ug/m3	<1.8	<1.8		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768080

Parameter	Units	70149325001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	<1.5	<1.5		
Naphthalene	ug/m3	<5.7	<5.7		
o-Xylene	ug/m3	<1.9	<1.9		
Propylene	ug/m3	1.5	<0.75		
Styrene	ug/m3	<1.9	<1.9		
Tetrachloroethene	ug/m3	115	115	0	
Tetrahydrofuran	ug/m3	<1.3	<1.3		
Toluene	ug/m3	2.0	2.0	0	
trans-1,2-Dichloroethene	ug/m3	<1.7	<1.7		
trans-1,3-Dichloropropene	ug/m3	<2.0	<2.0		
Trichloroethene	ug/m3	15.0	14.9	0	
Trichlorofluoromethane	ug/m3	<2.5	<2.5		
Vinyl acetate	ug/m3	<1.5	<1.5		
Vinyl chloride	ug/m3	<0.56	<0.56		

SAMPLE DUPLICATE: 3768081

Parameter	Units	70149325002 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<2.4	<2.4		
1,1,2,2-Tetrachloroethane	ug/m3	<1.5	<1.5		
1,1,2-Trichloroethane	ug/m3	<1.2	<1.2		
1,1,2-Trichlorotrifluoroethane	ug/m3	3.4	<3.4		
1,1-Dichloroethane	ug/m3	<1.8	<1.8		
1,1-Dichloroethene	ug/m3	<1.7	<1.7		
1,2,4-Trichlorobenzene	ug/m3	<16.2	<16.2		
1,2,4-Trimethylbenzene	ug/m3	<2.1	<2.1		
1,2-Dibromoethane (EDB)	ug/m3	<1.7	<1.7		
1,2-Dichlorobenzene	ug/m3	<2.6	<2.6		
1,2-Dichloroethane	ug/m3	<0.88	<0.88		
1,2-Dichloropropane	ug/m3	<2.0	<2.0		
1,3,5-Trimethylbenzene	ug/m3	<2.1	<2.1		
1,3-Butadiene	ug/m3	<0.97	<0.97		
1,3-Dichlorobenzene	ug/m3	<2.6	<2.6		
1,4-Dichlorobenzene	ug/m3	<6.6	<6.6		
2-Butanone (MEK)	ug/m3	<6.4	<6.4		
2-Hexanone	ug/m3	<8.9	<8.9		
2-Propanol	ug/m3	360	335	7	
4-Ethyltoluene	ug/m3	<5.4	<5.4		
4-Methyl-2-pentanone (MIBK)	ug/m3	<8.9	<8.9		
Acetone	ug/m3	<13.0	<13.0		
Benzene	ug/m3	1.1	1.1	5	
Benzyl chloride	ug/m3	<5.7	<5.7		
Bromodichloromethane	ug/m3	<2.9	<2.9		
Bromoform	ug/m3	<11.3	<11.3		
Bromomethane	ug/m3	<1.7	<1.7		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768081

Parameter	Units	70149325002 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	<1.4	<1.4		
Carbon tetrachloride	ug/m3	<2.8	<2.8		
Chlorobenzene	ug/m3	<2.0	<2.0		
Chloroethane	ug/m3	<1.2	<1.2		
Chloroform	ug/m3	20.5	19.1	7	
Chloromethane	ug/m3	<0.90	<0.90		
cis-1,2-Dichloroethene	ug/m3	<1.7	<1.7		
cis-1,3-Dichloropropene	ug/m3	<2.0	<2.0		
Cyclohexane	ug/m3	<3.8	<3.8		
Dibromochloromethane	ug/m3	<3.7	<3.7		
Dichlorodifluoromethane	ug/m3	6.1	5.9	3	
Dichlorotetrafluoroethane	ug/m3	<3.1	<3.1		
Ethanol	ug/m3	35.7	33.6	6	
Ethyl acetate	ug/m3	<1.6	<1.6		
Ethylbenzene	ug/m3	<1.9	<1.9		
Hexachloro-1,3-butadiene	ug/m3	<11.7	<11.7		
m&p-Xylene	ug/m3	<3.8	<3.8		
Methyl-tert-butyl ether	ug/m3	<7.9	<7.9		
Methylene Chloride	ug/m3	66.8	63.4	5	
n-Heptane	ug/m3	<1.8	<1.8		
n-Hexane	ug/m3	<1.5	<1.5		
Naphthalene	ug/m3	<5.7	<5.7		
o-Xylene	ug/m3	<1.9	<1.9		
Propylene	ug/m3	<0.75	<0.75		
Styrene	ug/m3	<1.9	<1.9		
Tetrachloroethene	ug/m3	1.6	<1.5		
Tetrahydrofuran	ug/m3	<1.3	<1.3		
Toluene	ug/m3	<1.6	<1.6		
trans-1,2-Dichloroethene	ug/m3	<1.7	<1.7		
trans-1,3-Dichloropropene	ug/m3	<2.0	<2.0		
Trichloroethene	ug/m3	<1.2	<1.2		
Trichlorofluoromethane	ug/m3	3.3	2.8	15	
Vinyl acetate	ug/m3	<1.5	<1.5		
Vinyl chloride	ug/m3	<0.56	<0.56		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

QC Batch: 705287
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 70149325006

METHOD BLANK: 3768242 Matrix: Air
Associated Lab Samples: 70149325006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.56	0.56	10/19/20 10:57	
1,1,2,2-Tetrachloroethane	ug/m3	<0.35	0.35	10/19/20 10:57	
1,1,2-Trichloroethane	ug/m3	<0.28	0.28	10/19/20 10:57	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.78	0.78	10/19/20 10:57	
1,1-Dichloroethane	ug/m3	<0.41	0.41	10/19/20 10:57	
1,1-Dichloroethene	ug/m3	<0.40	0.40	10/19/20 10:57	
1,2,4-Trichlorobenzene	ug/m3	<3.8	3.8	10/19/20 10:57	
1,2,4-Trimethylbenzene	ug/m3	<0.50	0.50	10/19/20 10:57	
1,2-Dibromoethane (EDB)	ug/m3	<0.39	0.39	10/19/20 10:57	
1,2-Dichlorobenzene	ug/m3	<0.61	0.61	10/19/20 10:57	
1,2-Dichloroethane	ug/m3	<0.21	0.21	10/19/20 10:57	
1,2-Dichloropropane	ug/m3	<0.47	0.47	10/19/20 10:57	
1,3,5-Trimethylbenzene	ug/m3	<0.50	0.50	10/19/20 10:57	
1,3-Butadiene	ug/m3	<0.22	0.22	10/19/20 10:57	
1,3-Dichlorobenzene	ug/m3	<0.61	0.61	10/19/20 10:57	
1,4-Dichlorobenzene	ug/m3	<1.5	1.5	10/19/20 10:57	
2-Butanone (MEK)	ug/m3	<1.5	1.5	10/19/20 10:57	
2-Hexanone	ug/m3	<2.1	2.1	10/19/20 10:57	
2-Propanol	ug/m3	<1.2	1.2	10/19/20 10:57	
4-Ethyltoluene	ug/m3	<1.2	1.2	10/19/20 10:57	
4-Methyl-2-pentanone (MIBK)	ug/m3	<2.1	2.1	10/19/20 10:57	
Acetone	ug/m3	<3.0	3.0	10/19/20 10:57	
Benzene	ug/m3	<0.16	0.16	10/19/20 10:57	
Benzyl chloride	ug/m3	<1.3	1.3	10/19/20 10:57	
Bromodichloromethane	ug/m3	<0.68	0.68	10/19/20 10:57	
Bromoform	ug/m3	<2.6	2.6	10/19/20 10:57	
Bromomethane	ug/m3	<0.39	0.39	10/19/20 10:57	
Carbon disulfide	ug/m3	<0.32	0.32	10/19/20 10:57	
Carbon tetrachloride	ug/m3	<0.64	0.64	10/19/20 10:57	
Chlorobenzene	ug/m3	<0.47	0.47	10/19/20 10:57	
Chloroethane	ug/m3	<0.27	0.27	10/19/20 10:57	
Chloroform	ug/m3	<0.25	0.25	10/19/20 10:57	
Chloromethane	ug/m3	<0.21	0.21	10/19/20 10:57	
cis-1,2-Dichloroethene	ug/m3	<0.40	0.40	10/19/20 10:57	
cis-1,3-Dichloropropene	ug/m3	<0.46	0.46	10/19/20 10:57	
Cyclohexane	ug/m3	<0.88	0.88	10/19/20 10:57	
Dibromochloromethane	ug/m3	<0.86	0.86	10/19/20 10:57	
Dichlorodifluoromethane	ug/m3	<0.50	0.50	10/19/20 10:57	
Dichlorotetrafluoroethane	ug/m3	<0.71	0.71	10/19/20 10:57	
Ethanol	ug/m3	<0.96	0.96	10/19/20 10:57	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

METHOD BLANK: 3768242 Matrix: Air
Associated Lab Samples: 70149325006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.37	0.37	10/19/20 10:57	
Ethylbenzene	ug/m3	<0.44	0.44	10/19/20 10:57	
Hexachloro-1,3-butadiene	ug/m3	<2.7	2.7	10/19/20 10:57	
m&p-Xylene	ug/m3	<0.88	0.88	10/19/20 10:57	
Methyl-tert-butyl ether	ug/m3	<1.8	1.8	10/19/20 10:57	
Methylene Chloride	ug/m3	<1.8	1.8	10/19/20 10:57	
n-Heptane	ug/m3	<0.42	0.42	10/19/20 10:57	
n-Hexane	ug/m3	<0.36	0.36	10/19/20 10:57	
Naphthalene	ug/m3	<1.3	1.3	10/19/20 10:57	
o-Xylene	ug/m3	<0.44	0.44	10/19/20 10:57	
Propylene	ug/m3	<0.18	0.18	10/19/20 10:57	
Styrene	ug/m3	<0.43	0.43	10/19/20 10:57	
Tetrachloroethene	ug/m3	<0.34	0.34	10/19/20 10:57	
Tetrahydrofuran	ug/m3	<0.30	0.30	10/19/20 10:57	
Toluene	ug/m3	<0.38	0.38	10/19/20 10:57	
trans-1,2-Dichloroethene	ug/m3	<0.40	0.40	10/19/20 10:57	
trans-1,3-Dichloropropene	ug/m3	<0.46	0.46	10/19/20 10:57	
Trichloroethene	ug/m3	<0.27	0.27	10/19/20 10:57	
Trichlorofluoromethane	ug/m3	<0.57	0.57	10/19/20 10:57	
Vinyl acetate	ug/m3	<0.36	0.36	10/19/20 10:57	
Vinyl chloride	ug/m3	<0.13	0.13	10/19/20 10:57	

LABORATORY CONTROL SAMPLE: 3768243

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57	53.2	93	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	71.9	63.0	88	70-132	
1,1,2-Trichloroethane	ug/m3	57.3	52.7	92	70-133	
1,1,2-Trichlorotrifluoroethane	ug/m3	80.3	71.2	89	70-130	
1,1-Dichloroethane	ug/m3	42.7	40.2	94	70-130	
1,1-Dichloroethene	ug/m3	41.4	37.5	91	69-137	
1,2,4-Trichlorobenzene	ug/m3	156	176	113	70-130	
1,2,4-Trimethylbenzene	ug/m3	51.5	48.7	94	70-137	
1,2-Dibromoethane (EDB)	ug/m3	80.3	71.6	89	70-138	
1,2-Dichlorobenzene	ug/m3	63.1	53.6	85	70-136	
1,2-Dichloroethane	ug/m3	42.4	39.2	92	70-130	
1,2-Dichloropropane	ug/m3	48.6	47.3	97	70-132	
1,3,5-Trimethylbenzene	ug/m3	51.6	48.6	94	70-136	
1,3-Butadiene	ug/m3	23.3	24.1	103	67-139	
1,3-Dichlorobenzene	ug/m3	63.4	54.4	86	70-138	
1,4-Dichlorobenzene	ug/m3	63.4	57.9	91	70-145	
2-Butanone (MEK)	ug/m3	31.4	33.8	108	61-130	
2-Hexanone	ug/m3	42.8	44.8	105	70-138	
2-Propanol	ug/m3	119	116	97	70-136	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

LABORATORY CONTROL SAMPLE: 3768243

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.4	51.9	99	70-142	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.6	44.4	102	70-134	
Acetone	ug/m3	126	127	101	59-137	
Benzene	ug/m3	33.5	32.2	96	70-133	
Benzyl chloride	ug/m3	55.1	55.2	100	70-139	
Bromodichloromethane	ug/m3	71.5	68.4	96	70-130	
Bromoform	ug/m3	110	103	94	60-140	
Bromomethane	ug/m3	41.3	38.9	94	70-131	
Carbon disulfide	ug/m3	33.3	32.0	96	70-130	
Carbon tetrachloride	ug/m3	66.2	64.4	97	70-133	
Chlorobenzene	ug/m3	48.3	39.7	82	70-131	
Chloroethane	ug/m3	28.1	27.1	96	70-141	
Chloroform	ug/m3	51.1	48.2	94	70-130	
Chloromethane	ug/m3	21.9	20.0	91	64-137	
cis-1,2-Dichloroethene	ug/m3	41.6	39.0	94	70-132	
cis-1,3-Dichloropropene	ug/m3	47.7	49.1	103	70-138	
Cyclohexane	ug/m3	36.7	41.6	113	70-133	
Dibromochloromethane	ug/m3	90.7	78.5	86	70-139	
Dichlorodifluoromethane	ug/m3	51.6	50.3	98	70-130	
Dichlorotetrafluoroethane	ug/m3	72.7	68.7	95	65-133	
Ethanol	ug/m3	103	107	104	65-135	
Ethyl acetate	ug/m3	38.6	37.0	96	70-135	
Ethylbenzene	ug/m3	45.6	44.8	98	70-142	
Hexachloro-1,3-butadiene	ug/m3	112	119	106	70-134	
m&p-Xylene	ug/m3	91.2	89.3	98	70-141	
Methyl-tert-butyl ether	ug/m3	38.4	39.2	102	70-131	
Methylene Chloride	ug/m3	182	153	84	69-130	
n-Heptane	ug/m3	43.6	42.7	98	70-130	
n-Hexane	ug/m3	37.6	34.9	93	70-131	
Naphthalene	ug/m3	57.7	60.9	106	63-130	
o-Xylene	ug/m3	45.5	42.6	94	70-135	
Propylene	ug/m3	18.2	18.5	102	63-139	
Styrene	ug/m3	44.9	46.2	103	70-143	
Tetrachloroethene	ug/m3	71	58.0	82	70-136	
Tetrahydrofuran	ug/m3	31.5	32.4	103	70-137	
Toluene	ug/m3	39.5	39.1	99	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	37.9	90	70-132	
trans-1,3-Dichloropropene	ug/m3	47.7	50.0	105	70-139	
Trichloroethene	ug/m3	56.3	49.1	87	70-132	
Trichlorofluoromethane	ug/m3	59.7	52.8	89	65-136	
Vinyl acetate	ug/m3	34.5	34.2	99	66-140	
Vinyl chloride	ug/m3	26.7	26.1	98	68-141	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768987

Parameter	Units	10535198008 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.7		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.0		
1,1,2-Trichloroethane	ug/m3	ND	<0.83		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.3		
1,1-Dichloroethane	ug/m3	ND	<1.2		
1,1-Dichloroethene	ug/m3	ND	<1.2		
1,2,4-Trichlorobenzene	ug/m3	ND	<11.2		
1,2,4-Trimethylbenzene	ug/m3	ND	<1.5		
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.2		
1,2-Dichlorobenzene	ug/m3	ND	<1.8		
1,2-Dichloroethane	ug/m3	ND	<0.61		
1,2-Dichloropropane	ug/m3	ND	<1.4		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.5		
1,3-Butadiene	ug/m3	ND	<0.67		
1,3-Dichlorobenzene	ug/m3	ND	<1.8		
1,4-Dichlorobenzene	ug/m3	ND	<4.6		
2-Butanone (MEK)	ug/m3	ND	<4.5		
2-Hexanone	ug/m3	ND	<6.2		
2-Propanol	ug/m3	54.0	52.8	2	
4-Ethyltoluene	ug/m3	ND	<3.7		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<6.2		
Acetone	ug/m3	50.2	50.1	0	
Benzene	ug/m3	10.1	9.9	3	
Benzyl chloride	ug/m3	ND	<3.9		
Bromodichloromethane	ug/m3	ND	<2.0		
Bromoform	ug/m3	ND	<7.8		
Bromomethane	ug/m3	ND	<1.2		
Carbon disulfide	ug/m3	ND	<0.94		
Carbon tetrachloride	ug/m3	ND	<1.9		
Chlorobenzene	ug/m3	ND	<1.4		
Chloroethane	ug/m3	ND	<0.80		
Chloroform	ug/m3	ND	<0.74		
Chloromethane	ug/m3	0.92	0.91	1	
cis-1,2-Dichloroethene	ug/m3	ND	<1.2		
cis-1,3-Dichloropropene	ug/m3	ND	<1.4		
Cyclohexane	ug/m3	ND	<2.6		
Dibromochloromethane	ug/m3	ND	<2.6		
Dichlorodifluoromethane	ug/m3	2.6	2.5	2	
Dichlorotetrafluoroethane	ug/m3	ND	<2.1		
Ethanol	ug/m3	246	243	1	
Ethyl acetate	ug/m3	1.9	1.9	1	
Ethylbenzene	ug/m3	ND	<1.3		
Hexachloro-1,3-butadiene	ug/m3	ND	<8.1		
m&p-Xylene	ug/m3	3.5	3.4	1	
Methyl-tert-butyl ether	ug/m3	ND	<5.5		
Methylene Chloride	ug/m3	10.1	10.1	0	
n-Heptane	ug/m3	ND	<1.2		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768987

Parameter	Units	10535198008 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	2.0	1.9	6	
Naphthalene	ug/m3	ND	<4.0		
o-Xylene	ug/m3	ND	<1.3		
Propylene	ug/m3	ND	<0.52		
Styrene	ug/m3	ND	<1.3		
Tetrachloroethene	ug/m3	1.3	1.3	1	
Tetrahydrofuran	ug/m3	ND	<0.89		
Toluene	ug/m3	6.9	7.0	1	
trans-1,2-Dichloroethene	ug/m3	ND	<1.2		
trans-1,3-Dichloropropene	ug/m3	ND	<1.4		
Trichloroethene	ug/m3	1.6	1.6	1	
Trichlorofluoromethane	ug/m3	ND	<1.7		
Vinyl acetate	ug/m3	ND	<1.1		
Vinyl chloride	ug/m3	ND	<0.39		

SAMPLE DUPLICATE: 3768988

Parameter	Units	10535913001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.8		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.1		
1,1,2-Trichloroethane	ug/m3	ND	<0.88		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.5		
1,1-Dichloroethane	ug/m3	ND	<1.3		
1,1-Dichloroethene	ug/m3	ND	<1.3		
1,2,4-Trichlorobenzene	ug/m3	ND	<11.9		
1,2,4-Trimethylbenzene	ug/m3	4.1	4.2	3	
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.2		
1,2-Dichlorobenzene	ug/m3	ND	<1.9		
1,2-Dichloroethane	ug/m3	ND	<0.65		
1,2-Dichloropropane	ug/m3	ND	<1.5		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.6		
1,3-Butadiene	ug/m3	ND	<0.71		
1,3-Dichlorobenzene	ug/m3	ND	<1.9		
1,4-Dichlorobenzene	ug/m3	ND	<4.8		
2-Butanone (MEK)	ug/m3	ND	<4.7		
2-Hexanone	ug/m3	ND	<6.6		
2-Propanol	ug/m3	172	166	4	
4-Ethyltoluene	ug/m3	ND	<4.0		
4-Methyl-2-pentanone (MIBK)	ug/m3	12.7	13.3	5	
Acetone	ug/m3	32.8	29.6	10	
Benzene	ug/m3	0.83	0.85	3	
Benzyl chloride	ug/m3	ND	<4.2		
Bromodichloromethane	ug/m3	ND	<2.1		
Bromoform	ug/m3	ND	<8.3		
Bromomethane	ug/m3	ND	<1.2		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

SAMPLE DUPLICATE: 3768988

Parameter	Units	10535913001 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	ND	<1.0		
Carbon tetrachloride	ug/m3	ND	<2.0		
Chlorobenzene	ug/m3	ND	<1.5		
Chloroethane	ug/m3	ND	<0.85		
Chloroform	ug/m3	ND	<0.78		
Chloromethane	ug/m3	0.77	<0.66		
cis-1,2-Dichloroethene	ug/m3	ND	<1.3		
cis-1,3-Dichloropropene	ug/m3	ND	<1.5		
Cyclohexane	ug/m3	ND	<2.8		
Dibromochloromethane	ug/m3	ND	<2.7		
Dichlorodifluoromethane	ug/m3	2.6	1.9	31	R1
Dichlorotetrafluoroethane	ug/m3	ND	<2.2		
Ethanol	ug/m3	156	139	11	
Ethyl acetate	ug/m3	ND	<1.2		
Ethylbenzene	ug/m3	179	186	4	
Hexachloro-1,3-butadiene	ug/m3	ND	<8.6		
m&p-Xylene	ug/m3	542	564	4	
Methyl-tert-butyl ether	ug/m3	ND	<5.8		
Methylene Chloride	ug/m3	ND	<5.6		
n-Heptane	ug/m3	2.7	2.7	1	
n-Hexane	ug/m3	ND	<1.1		
Naphthalene	ug/m3	ND	<4.2		
o-Xylene	ug/m3	141	147	4	
Propylene	ug/m3	ND	<0.55		
Styrene	ug/m3	ND	<1.4		
Tetrachloroethene	ug/m3	ND	<1.1		
Tetrahydrofuran	ug/m3	3.3	3.3	0	
Toluene	ug/m3	1.5	1.5	3	
trans-1,2-Dichloroethene	ug/m3	7.0	7.0	0	
trans-1,3-Dichloropropene	ug/m3	ND	<1.5		
Trichloroethene	ug/m3	2.4	2.4	0	
Trichlorofluoromethane	ug/m3	ND	<1.8		
Vinyl acetate	ug/m3	ND	<1.1		
Vinyl chloride	ug/m3	ND	<0.41		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

C8	Result may be biased high due to carryover from previously analyzed sample.
R1	RPD value was outside control limits.

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Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN 10/5-10/6
Pace Project No.: 70149325

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70149325001	**PRE-CARBON-SP-301**	TO-15	705120		
70149325002	**MID-CARBON-SP-302**	TO-15	705120		
70149325003	**EFFLUENT-SP-303**	TO-15	705120		
70149325004	**PRE-CARBON-PI-401**	TO-15	705120		
70149325005	**MID-CARBON-PI-402**	TO-15	705120		
70149325006	**POST-CARBON-PI-403**	TO-15	705287		

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AIR: CHAIN-OF-CUSTODY

The Chain-of-Custody is a LEGAL DOCUMENT. All rel

WO# : 70149325

70149325

Section A Required Client Information:

Company: TeTra Tech
Address: 175 N Corporate Dr
Brookfield WI
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Glenn Nutuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed Martin
Project Number:

Section C Invoice Information:

Attention: Glenn Nutuschil
Company Name: TeTra Tech
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 41249

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes: MEDIA / CODE — Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information / AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	Pre-Carbon - SP-301	1LC		10/6/20	2:05			28	7	3167						X					
2	Mid-Carbon - SP-302	1LC		10/6/20	2:09			25	7	2603						X					
3	Effluent - SP-303	1LC		10/6/20	2:10			26	7	2199						X					
4																					
5																					
6	Pre-Carbon - PI-401	1LC		10/5/20	10:08			28	7	2489						X					
7	Mid-Carbon - PI-402	1LC		10/5/20				25	7	2604						X					
8	Post-Carbon - PI-403	1LC		10/5/20				27	7	3282						X					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy NRC	10/9/20	1341	RBlan	10/9/20	1341
RBlan	10/9/20	1700	[signature] / Pace	10/10/20	9:00

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Steve McCarthy
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY) 10/9/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services - Minneapolis

Air Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #:

WO#: 70149325

PM: KMM **Due Date: 10/27/20**

CLIENT: TETRA

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exception** ☐

Tracking Number: 7717 5940 4514

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☐ No

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Tin Can ☐ Other:_____ **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermometer Used:** ☐ G87A9170600254 ☐ G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** 10-12-20 MZ

Type of Ice Received ☐ Blue ☐ Wet ☒ None

			Comments:
Chain of Custody Present?	☑ Yes	☐ No	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	7.
Sufficient Volume?	☑ Yes	☐ No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☑ Yes ☑ Yes	☐ No ☐ No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☑ Yes	☐ No	10.
Media: Air Can Airbag Filter TDT Passive			11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☑ Yes	☐ No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒ Yes	☐ No	13.

Gauge # ☑ 10AIR26 ☐ 10AIR34 ☐ 10AIR35 ☐ 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SP-301	3167	—	-6.5	+10					
" -302	2603	-	-6.5						
" -303	2199	—	-5						
PI-401	2489	—	-6						
" -402	2604	—	-9						
" -403	3282	—	-9						
Unused	2773	—	-27	-					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out o hold, incorrect preservative, out of temp, incorrect containers)

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AIR: CHAIN-OF-CUSTODY /

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO# : 70156965

70156965

Section A
Required Client Information:

Company: TetraTech
Address: 175 N. Corporate Dr
Brookfield WI
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: Glenn Netuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed Martin Utica
Project Number:

Section C
Invoice Information:

Attention: Glenn Netuschil
Company Name: TetraTech
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 41249

Program
☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act
☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State

Reporting Units
µg/m³ mg/m³
PPBV PPMV
Other

Report Level II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED: COMPOSITE START DATE	COLLECTED: COMPOSITE START TIME	COLLECTED: COMPOSITE - END/GRAB DATE	COLLECTED: COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	SP-401	1LC		12/11/20	3:35			25	7	1397							X				
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	12/11/20	7:00	[illegible] Pace	12/14/20	8:00
[illegible] Pace	12/14/20	17:00	Matt [illegible] Pace	12/15/20	10:05

SAMPLE CONDITIONS

—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: STeve McCarthy
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 12/11/20

ORIGINAL

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services -

Air Sample Condition Upon Receipt

Client Name: Tetra Tech

Project #:

WO#: 70156965

PM: KMM **Due Date: 12/30/20**

CLIENT: TETRA

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial **See Exception** [ ]

Tracking Number: 772360325 8940

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [ ] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other:_____ **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermometer Used:** [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** 12-16-20 MI

Type of ice Received [ ] Blue [ ] Wet [X] None

				Comments:
Chain of Custody Present?	[X] Yes	[ ] No		1.
Chain of Custody Filled Out?	[X] Yes	[ ] No		2.
Chain of Custody Relinquished?	[X] Yes	[ ] No		3.
Sampler Name and/or Signature on COC?	[X] Yes	[ ] No	[ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes	[ ] No		5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes	[X] No		6.
Rush Turn Around Time Requested?	[ ] Yes	[X] No		7.
Sufficient Volume?	[X] Yes	[ ] No		8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	[X] Yes [X] Yes	[ ] No [ ] No		9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	[X] Yes	[ ] No		10.
Media: (Air Can) Airbag Filter TDT Passive				11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes	[ ] No		12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	[X] Yes	[ ] No		13. 1 gauge attached

Gauge # [ ] 10AIR26 [X] 10AIR34 [ ] 10AIR35 [ ] 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SB-401	1397	-	-5.5	+10					

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ **Field Data Required?** [ ] Yes [ ] No

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

January 06, 2021

Glenn Netuschil
Tetra Tech Inc.
661 Andersen Drive
Plaza 7
Pittsburgh, PA 15220

RE: Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

Dear Glenn Netuschil:

Enclosed are the analytical results for sample(s) received by the laboratory on December 15, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Chris Coner, Tetra Tech
Pat McGuire, Tetra Tech
Peter Rich, Tetra Tech Inc.
Joseph Samchuck, Tetra Tech Inc.
Michelle Woeber, Tetra Tech Inc.

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Melville, NY 11747
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CERTIFICATIONS

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

Pace Analytical Services - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01*
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

SAMPLE ANALYTE COUNT

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70156965001	**SP-401**	TO-15	AFV	61	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

Date: January 06, 2021

SP-401 (Lab ID: 70156965001)

- Analysis performed at 1800 Elm Street.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

Method: **TO-15**
Description: TO15 MSV AIR
Client: Tetra Tech Inc.
Date: January 06, 2021

General Information:
1 sample was analyzed for TO-15 by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

Sample: SP-401 **Lab ID: 70156965001** Collected: 12/11/20 15:35 Received: 12/15/20 10:05 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Acetone	**<12.4**	ug/m3	12.4	2.06		01/05/21 22:41	67-64-1	
Benzene	**4.7**	ug/m3	0.67	2.06		01/05/21 22:41	71-43-2	
Benzyl chloride	**<5.4**	ug/m3	5.4	2.06		01/05/21 22:41	100-44-7	
Bromodichloromethane	**<2.8**	ug/m3	2.8	2.06		01/05/21 22:41	75-27-4	
Bromoform	**<10.8**	ug/m3	10.8	2.06		01/05/21 22:41	75-25-2	
Bromomethane	**<1.6**	ug/m3	1.6	2.06		01/05/21 22:41	74-83-9	
1,3-Butadiene	**<0.93**	ug/m3	0.93	2.06		01/05/21 22:41	106-99-0	
2-Butanone (MEK)	**<6.2**	ug/m3	6.2	2.06		01/05/21 22:41	78-93-3	
Carbon disulfide	**6.7**	ug/m3	1.3	2.06		01/05/21 22:41	75-15-0	
Carbon tetrachloride	**<2.6**	ug/m3	2.6	2.06		01/05/21 22:41	56-23-5	
Chlorobenzene	**<1.9**	ug/m3	1.9	2.06		01/05/21 22:41	108-90-7	
Chloroethane	**<1.1**	ug/m3	1.1	2.06		01/05/21 22:41	75-00-3	
Chloroform	**<1.0**	ug/m3	1.0	2.06		01/05/21 22:41	67-66-3	
Chloromethane	**1.4**	ug/m3	0.87	2.06		01/05/21 22:41	74-87-3	
Cyclohexane	**<3.6**	ug/m3	3.6	2.06		01/05/21 22:41	110-82-7	
Dibromochloromethane	**<3.6**	ug/m3	3.6	2.06		01/05/21 22:41	124-48-1	
1,2-Dibromoethane (EDB)	**<1.6**	ug/m3	1.6	2.06		01/05/21 22:41	106-93-4	
1,2-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.06		01/05/21 22:41	95-50-1	
1,3-Dichlorobenzene	**<2.5**	ug/m3	2.5	2.06		01/05/21 22:41	541-73-1	
1,4-Dichlorobenzene	**<6.3**	ug/m3	6.3	2.06		01/05/21 22:41	106-46-7	
Dichlorodifluoromethane	**2.5**	ug/m3	2.1	2.06		01/05/21 22:41	75-71-8	
1,1-Dichloroethane	**10.8**	ug/m3	1.7	2.06		01/05/21 22:41	75-34-3	
1,2-Dichloroethane	**<0.85**	ug/m3	0.85	2.06		01/05/21 22:41	107-06-2	
1,1-Dichloroethene	**<1.7**	ug/m3	1.7	2.06		01/05/21 22:41	75-35-4	
cis-1,2-Dichloroethene	**107**	ug/m3	1.7	2.06		01/05/21 22:41	156-59-2	
trans-1,2-Dichloroethene	**<1.7**	ug/m3	1.7	2.06		01/05/21 22:41	156-60-5	
1,2-Dichloropropane	**<1.9**	ug/m3	1.9	2.06		01/05/21 22:41	78-87-5	
cis-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.06		01/05/21 22:41	10061-01-5	
trans-1,3-Dichloropropene	**<1.9**	ug/m3	1.9	2.06		01/05/21 22:41	10061-02-6	
Dichlorotetrafluoroethane	**<2.9**	ug/m3	2.9	2.06		01/05/21 22:41	76-14-2	
Ethanol	**20.2**	ug/m3	4.0	2.06		01/05/21 22:41	64-17-5	
Ethyl acetate	**<1.5**	ug/m3	1.5	2.06		01/05/21 22:41	141-78-6	
Ethylbenzene	**<1.8**	ug/m3	1.8	2.06		01/05/21 22:41	100-41-4	
4-Ethyltoluene	**<5.2**	ug/m3	5.2	2.06		01/05/21 22:41	622-96-8	
n-Heptane	**<1.7**	ug/m3	1.7	2.06		01/05/21 22:41	142-82-5	
Hexachloro-1,3-butadiene	**<11.2**	ug/m3	11.2	2.06		01/05/21 22:41	87-68-3	
n-Hexane	**1.7**	ug/m3	1.5	2.06		01/05/21 22:41	110-54-3	
2-Hexanone	**<8.6**	ug/m3	8.6	2.06		01/05/21 22:41	591-78-6	
Methylene Chloride	**<7.3**	ug/m3	7.3	2.06		01/05/21 22:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<8.6**	ug/m3	8.6	2.06		01/05/21 22:41	108-10-1	
Methyl-tert-butyl ether	**<7.5**	ug/m3	7.5	2.06		01/05/21 22:41	1634-04-4	
Naphthalene	**<5.5**	ug/m3	5.5	2.06		01/05/21 22:41	91-20-3	
2-Propanol	**6.3**	ug/m3	5.2	2.06		01/05/21 22:41	67-63-0	
Propylene	**<0.72**	ug/m3	0.72	2.06		01/05/21 22:41	115-07-1	
Styrene	**<1.8**	ug/m3	1.8	2.06		01/05/21 22:41	100-42-5	
1,1,2,2-Tetrachloroethane	**<1.4**	ug/m3	1.4	2.06		01/05/21 22:41	79-34-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

Sample: SP-401 **Lab ID: 70156965001** Collected: 12/11/20 15:35 Received: 12/15/20 10:05 Matrix: Air

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
	Pace Analytical Services - Minneapolis							
Tetrachloroethene	**88.0**	ug/m3	1.4	2.06		01/05/21 22:41	127-18-4	
Tetrahydrofuran	**<1.2**	ug/m3	1.2	2.06		01/05/21 22:41	109-99-9	
Toluene	**12.7**	ug/m3	1.6	2.06		01/05/21 22:41	108-88-3	
1,2,4-Trichlorobenzene	**<15.5**	ug/m3	15.5	2.06		01/05/21 22:41	120-82-1	
1,1,1-Trichloroethane	**<2.3**	ug/m3	2.3	2.06		01/05/21 22:41	71-55-6	
1,1,2-Trichloroethane	**<1.1**	ug/m3	1.1	2.06		01/05/21 22:41	79-00-5	
Trichloroethene	**110**	ug/m3	1.1	2.06		01/05/21 22:41	79-01-6	
Trichlorofluoromethane	**<2.3**	ug/m3	2.3	2.06		01/05/21 22:41	75-69-4	
1,1,2-Trichlorotrifluoroethane	**45.2**	ug/m3	3.2	2.06		01/05/21 22:41	76-13-1	
1,2,4-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.06		01/05/21 22:41	95-63-6	
1,3,5-Trimethylbenzene	**<2.1**	ug/m3	2.1	2.06		01/05/21 22:41	108-67-8	
Vinyl acetate	**<1.5**	ug/m3	1.5	2.06		01/05/21 22:41	108-05-4	
Vinyl chloride	**1.0**	ug/m3	0.54	2.06		01/05/21 22:41	75-01-4	
m&p-Xylene	**4.5**	ug/m3	3.6	2.06		01/05/21 22:41	179601-23-1	
o-Xylene	**<1.8**	ug/m3	1.8	2.06		01/05/21 22:41	95-47-6	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

QC Batch: 718919
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 70156965001

METHOD BLANK: 3835723 Matrix: Air
Associated Lab Samples: 70156965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<1.1	1.1	01/05/21 13:20	
1,1,2,2-Tetrachloroethane	ug/m3	<0.70	0.70	01/05/21 13:20	
1,1,2-Trichloroethane	ug/m3	<0.56	0.56	01/05/21 13:20	
1,1,2-Trichlorotrifluoroethane	ug/m3	<1.6	1.6	01/05/21 13:20	
1,1-Dichloroethane	ug/m3	<0.82	0.82	01/05/21 13:20	
1,1-Dichloroethene	ug/m3	<0.81	0.81	01/05/21 13:20	
1,2,4-Trichlorobenzene	ug/m3	<7.5	7.5	01/05/21 13:20	
1,2,4-Trimethylbenzene	ug/m3	<1.0	1.0	01/05/21 13:20	
1,2-Dibromoethane (EDB)	ug/m3	<0.78	0.78	01/05/21 13:20	
1,2-Dichlorobenzene	ug/m3	<1.2	1.2	01/05/21 13:20	
1,2-Dichloroethane	ug/m3	<0.41	0.41	01/05/21 13:20	
1,2-Dichloropropane	ug/m3	<0.94	0.94	01/05/21 13:20	
1,3,5-Trimethylbenzene	ug/m3	<1.0	1.0	01/05/21 13:20	
1,3-Butadiene	ug/m3	<0.45	0.45	01/05/21 13:20	
1,3-Dichlorobenzene	ug/m3	<1.2	1.2	01/05/21 13:20	
1,4-Dichlorobenzene	ug/m3	<3.1	3.1	01/05/21 13:20	
2-Butanone (MEK)	ug/m3	<3.0	3.0	01/05/21 13:20	
2-Hexanone	ug/m3	<4.2	4.2	01/05/21 13:20	
2-Propanol	ug/m3	<2.5	2.5	01/05/21 13:20	
4-Ethyltoluene	ug/m3	<2.5	2.5	01/05/21 13:20	
4-Methyl-2-pentanone (MIBK)	ug/m3	<4.2	4.2	01/05/21 13:20	
Acetone	ug/m3	<6.0	6.0	01/05/21 13:20	
Benzene	ug/m3	<0.32	0.32	01/05/21 13:20	
Benzyl chloride	ug/m3	<2.6	2.6	01/05/21 13:20	
Bromodichloromethane	ug/m3	<1.4	1.4	01/05/21 13:20	
Bromoform	ug/m3	<5.2	5.2	01/05/21 13:20	
Bromomethane	ug/m3	<0.79	0.79	01/05/21 13:20	
Carbon disulfide	ug/m3	<0.63	0.63	01/05/21 13:20	
Carbon tetrachloride	ug/m3	<1.3	1.3	01/05/21 13:20	
Chlorobenzene	ug/m3	<0.94	0.94	01/05/21 13:20	
Chloroethane	ug/m3	<0.54	0.54	01/05/21 13:20	
Chloroform	ug/m3	<0.50	0.50	01/05/21 13:20	
Chloromethane	ug/m3	<0.42	0.42	01/05/21 13:20	
cis-1,2-Dichloroethene	ug/m3	<0.81	0.81	01/05/21 13:20	
cis-1,3-Dichloropropene	ug/m3	<0.92	0.92	01/05/21 13:20	
Cyclohexane	ug/m3	<1.8	1.8	01/05/21 13:20	
Dibromochloromethane	ug/m3	<1.7	1.7	01/05/21 13:20	
Dichlorodifluoromethane	ug/m3	<1.0	1.0	01/05/21 13:20	
Dichlorotetrafluoroethane	ug/m3	<1.4	1.4	01/05/21 13:20	
Ethanol	ug/m3	<1.9	1.9	01/05/21 13:20	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

METHOD BLANK: 3835723 Matrix: Air
Associated Lab Samples: 70156965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.73	0.73	01/05/21 13:20	
Ethylbenzene	ug/m3	<0.88	0.88	01/05/21 13:20	
Hexachloro-1,3-butadiene	ug/m3	<5.4	5.4	01/05/21 13:20	
m&p-Xylene	ug/m3	<1.8	1.8	01/05/21 13:20	
Methyl-tert-butyl ether	ug/m3	<3.7	3.7	01/05/21 13:20	
Methylene Chloride	ug/m3	<3.5	3.5	01/05/21 13:20	
n-Heptane	ug/m3	<0.83	0.83	01/05/21 13:20	
n-Hexane	ug/m3	<0.72	0.72	01/05/21 13:20	
Naphthalene	ug/m3	<2.7	2.7	01/05/21 13:20	
o-Xylene	ug/m3	<0.88	0.88	01/05/21 13:20	
Propylene	ug/m3	<0.35	0.35	01/05/21 13:20	
Styrene	ug/m3	<0.87	0.87	01/05/21 13:20	
Tetrachloroethene	ug/m3	<0.69	0.69	01/05/21 13:20	
Tetrahydrofuran	ug/m3	<0.60	0.60	01/05/21 13:20	
Toluene	ug/m3	<0.77	0.77	01/05/21 13:20	
trans-1,2-Dichloroethene	ug/m3	<0.81	0.81	01/05/21 13:20	
trans-1,3-Dichloropropene	ug/m3	<0.92	0.92	01/05/21 13:20	
Trichloroethene	ug/m3	<0.55	0.55	01/05/21 13:20	
Trichlorofluoromethane	ug/m3	<1.1	1.1	01/05/21 13:20	
Vinyl acetate	ug/m3	<0.72	0.72	01/05/21 13:20	
Vinyl chloride	ug/m3	<0.26	0.26	01/05/21 13:20	

LABORATORY CONTROL SAMPLE: 3835724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	56.7	57.8	102	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	73.4	79.5	108	70-132	
1,1,2-Trichloroethane	ug/m3	57.4	60.0	104	70-134	
1,1,2-Trichlorotrifluoroethane	ug/m3	81.1	76.8	95	70-130	
1,1-Dichloroethane	ug/m3	43	44.3	103	70-133	
1,1-Dichloroethene	ug/m3	43.2	39.8	92	70-130	
1,2,4-Trichlorobenzene	ug/m3	81.1	96.5	119	69-132	
1,2,4-Trimethylbenzene	ug/m3	52.3	58.8	113	70-142	
1,2-Dibromoethane (EDB)	ug/m3	82.1	89.3	109	70-138	
1,2-Dichlorobenzene	ug/m3	63.2	72.5	115	70-146	
1,2-Dichloroethane	ug/m3	42.8	42.7	100	70-132	
1,2-Dichloropropane	ug/m3	48.8	49.0	100	70-134	
1,3,5-Trimethylbenzene	ug/m3	53	54.8	103	70-143	
1,3-Butadiene	ug/m3	24.6	20.9	85	70-136	
1,3-Dichlorobenzene	ug/m3	60.3	71.2	118	70-145	
1,4-Dichlorobenzene	ug/m3	66	73.3	111	70-140	
2-Butanone (MEK)	ug/m3	30	31.3	104	50-139	
2-Hexanone	ug/m3	37.6	47.4	126	70-148	
2-Propanol	ug/m3	27.5	24.7	90	67-135	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

LABORATORY CONTROL SAMPLE: 3835724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	52.7	61.3	116	70-145	
4-Methyl-2-pentanone (MIBK)	ug/m3	42.1	45.6	108	70-139	
Acetone	ug/m3	26.2	30.1	115	64-130	
Benzene	ug/m3	34.4	32.8	95	70-131	
Benzyl chloride	ug/m3	52.4	58.7	112	70-130	
Bromodichloromethane	ug/m3	69.1	73.2	106	70-133	
Bromoform	ug/m3	108	119	110	70-137	
Bromomethane	ug/m3	41	40.7	99	64-134	
Carbon disulfide	ug/m3	34.3	34.1	99	70-131	
Carbon tetrachloride	ug/m3	65.5	74.5	114	70-131	
Chlorobenzene	ug/m3	49.5	50.2	101	70-130	
Chloroethane	ug/m3	28	23.7	85	69-141	
Chloroform	ug/m3	50	51.6	103	70-130	
Chloromethane	ug/m3	22.1	19.1	87	70-130	
cis-1,2-Dichloroethene	ug/m3	41.8	42.7	102	70-137	
cis-1,3-Dichloropropene	ug/m3	46	54.8	119	70-144	
Cyclohexane	ug/m3	36.4	36.7	101	70-137	
Dibromochloromethane	ug/m3	88.7	94.5	107	70-132	
Dichlorodifluoromethane	ug/m3	54.9	49.3	90	70-130	
Dichlorotetrafluoroethane	ug/m3	77.9	70.9	91	70-130	
Ethanol	ug/m3	21.1	18.4	87	63-133	
Ethyl acetate	ug/m3	37.7	39.8	106	70-136	
Ethylbenzene	ug/m3	46.3	49.4	107	70-142	
Hexachloro-1,3-butadiene	ug/m3	116	141	122	70-135	
m&p-Xylene	ug/m3	46	50.2	109	70-141	
Methyl-tert-butyl ether	ug/m3	34.9	39.7	114	70-143	
Methylene Chloride	ug/m3	38.8	46.3	119	70-130	
n-Heptane	ug/m3	42.8	44.0	103	70-137	
n-Hexane	ug/m3	36.8	37.1	101	70-135	
Naphthalene	ug/m3	58.3	72.2	124	67-132	
o-Xylene	ug/m3	46.5	49.2	106	70-141	
Propylene	ug/m3	18.3	16.7	91	70-130	
Styrene	ug/m3	45.2	52.0	115	70-142	
Tetrachloroethene	ug/m3	74.9	74.8	100	70-130	
Tetrahydrofuran	ug/m3	29.8	31.0	104	70-136	
Toluene	ug/m3	40.4	41.6	103	70-138	
trans-1,2-Dichloroethene	ug/m3	41.9	42.4	101	70-130	
trans-1,3-Dichloropropene	ug/m3	43.4	49.5	114	70-145	
Trichloroethene	ug/m3	56.7	59.1	104	70-130	
Trichlorofluoromethane	ug/m3	59.6	57.7	97	69-135	
Vinyl acetate	ug/m3	32.5	35.8	110	70-146	
Vinyl chloride	ug/m3	28.5	24.4	85	70-137	

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

SAMPLE DUPLICATE: 3836524

Parameter	Units	10542911001 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.6		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<1.0		
1,1,2-Trichloroethane	ug/m3	ND	<0.80		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.2		
1,1-Dichloroethane	ug/m3	ND	<1.2		
1,1-Dichloroethene	ug/m3	ND	<1.2		
1,2,4-Trichlorobenzene	ug/m3	ND	<10.9		
1,2,4-Trimethylbenzene	ug/m3	ND	<1.4		
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.1		
1,2-Dichlorobenzene	ug/m3	ND	<1.8		
1,2-Dichloroethane	ug/m3	ND	<0.59		
1,2-Dichloropropane	ug/m3	ND	<1.4		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.4		
1,3-Butadiene	ug/m3	ND	<0.65		
1,3-Dichlorobenzene	ug/m3	ND	<1.8		
1,4-Dichlorobenzene	ug/m3	ND	<4.4		
2-Butanone (MEK)	ug/m3	ND	<4.3		
2-Hexanone	ug/m3	ND	<6.0		
2-Propanol	ug/m3	3.8	3.9	1	
4-Ethyltoluene	ug/m3	ND	<3.6		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<6.0		
Acetone	ug/m3	ND	<8.7		
Benzene	ug/m3	0.65	0.67	3	
Benzyl chloride	ug/m3	ND	<3.8		
Bromodichloromethane	ug/m3	ND	<2.0		
Bromoform	ug/m3	ND	<7.6		
Bromomethane	ug/m3	ND	<1.1		
Carbon disulfide	ug/m3	ND	<0.91		
Carbon tetrachloride	ug/m3	ND	<1.8		
Chlorobenzene	ug/m3	ND	<1.3		
Chloroethane	ug/m3	ND	<0.77		
Chloroform	ug/m3	ND	<0.71		
Chloromethane	ug/m3	1.0	<0.60		
cis-1,2-Dichloroethene	ug/m3	ND	<1.2		
cis-1,3-Dichloropropene	ug/m3	ND	<1.3		
Cyclohexane	ug/m3	ND	<2.5		
Dibromochloromethane	ug/m3	ND	<2.5		
Dichlorodifluoromethane	ug/m3	2.5	2.7	6	
Dichlorotetrafluoroethane	ug/m3	ND	2.1		
Ethanol	ug/m3	19.7	19.8	1	
Ethyl acetate	ug/m3	ND	<1.1		
Ethylbenzene	ug/m3	ND	<1.3		
Hexachloro-1,3-butadiene	ug/m3	ND	<7.8		
m&p-Xylene	ug/m3	ND	<2.5		
Methyl-tert-butyl ether	ug/m3	ND	<5.3		
Methylene Chloride	ug/m3	ND	<5.1		
n-Heptane	ug/m3	ND	<1.2		

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QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

SAMPLE DUPLICATE: 3836524

Parameter	Units	10542911001 Result	Dup Result	RPD	Qualifiers
n-Hexane	ug/m3	ND	<1.0		
Naphthalene	ug/m3	ND	<3.8		
o-Xylene	ug/m3	ND	<1.3		
Propylene	ug/m3	ND	<0.50		
Styrene	ug/m3	ND	<1.2		
Tetrachloroethene	ug/m3	1.2	1.3	9	
Tetrahydrofuran	ug/m3	ND	<0.86		
Toluene	ug/m3	ND	<1.1		
trans-1,2-Dichloroethene	ug/m3	ND	<1.2		
trans-1,3-Dichloropropene	ug/m3	ND	<1.3		
Trichloroethene	ug/m3	ND	<0.79		
Trichlorofluoromethane	ug/m3	ND	<1.6		
Vinyl acetate	ug/m3	ND	<1.0		
Vinyl chloride	ug/m3	ND	<0.37		

SAMPLE DUPLICATE: 3836525

Parameter	Units	10542911002 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	<1.5		
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.94		
1,1,2-Trichloroethane	ug/m3	ND	<0.74		
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<2.1		
1,1-Dichloroethane	ug/m3	ND	<1.1		
1,1-Dichloroethene	ug/m3	ND	<1.1		
1,2,4-Trichlorobenzene	ug/m3	ND	<10.1		
1,2,4-Trimethylbenzene	ug/m3	ND	<1.3		
1,2-Dibromoethane (EDB)	ug/m3	ND	<1.0		
1,2-Dichlorobenzene	ug/m3	ND	<1.6		
1,2-Dichloroethane	ug/m3	ND	<0.55		
1,2-Dichloropropane	ug/m3	ND	<1.3		
1,3,5-Trimethylbenzene	ug/m3	ND	<1.3		
1,3-Butadiene	ug/m3	ND	<0.60		
1,3-Dichlorobenzene	ug/m3	ND	<1.6		
1,4-Dichlorobenzene	ug/m3	ND	<4.1		
2-Butanone (MEK)	ug/m3	ND	<4.0		
2-Hexanone	ug/m3	ND	<5.6		
2-Propanol	ug/m3	ND	<3.4		
4-Ethyltoluene	ug/m3	ND	<3.4		
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<5.6		
Acetone	ug/m3	8.2	8.6	5	
Benzene	ug/m3	0.58	0.59	1	
Benzyl chloride	ug/m3	ND	<3.5		
Bromodichloromethane	ug/m3	ND	<1.8		
Bromoform	ug/m3	ND	<7.0		
Bromomethane	ug/m3	ND	<1.1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

SAMPLE DUPLICATE: 3836525

Parameter	Units	10542911002 Result	Dup Result	RPD	Qualifiers
Carbon disulfide	ug/m3	ND	<0.85		
Carbon tetrachloride	ug/m3	ND	<1.7		
Chlorobenzene	ug/m3	ND	<1.3		
Chloroethane	ug/m3	ND	<0.72		
Chloroform	ug/m3	ND	<0.66		
Chloromethane	ug/m3	0.84	0.88	4	
cis-1,2-Dichloroethene	ug/m3	ND	<1.1		
cis-1,3-Dichloropropene	ug/m3	ND	<1.2		
Cyclohexane	ug/m3	ND	<2.3		
Dibromochloromethane	ug/m3	ND	<2.3		
Dichlorodifluoromethane	ug/m3	2.7	2.5	4	
Dichlorotetrafluoroethane	ug/m3	ND	<1.9		
Ethanol	ug/m3	18.9	19.0	1	
Ethyl acetate	ug/m3	ND	<0.98		
Ethylbenzene	ug/m3	ND	<1.2		
Hexachloro-1,3-butadiene	ug/m3	ND	<7.3		
m&p-Xylene	ug/m3	ND	<2.4		
Methyl-tert-butyl ether	ug/m3	ND	<4.9		
Methylene Chloride	ug/m3	ND	<4.7		
n-Heptane	ug/m3	ND	<1.1		
n-Hexane	ug/m3	ND	0.97		
Naphthalene	ug/m3	ND	<3.6		
o-Xylene	ug/m3	ND	<1.2		
Propylene	ug/m3	ND	<0.47		
Styrene	ug/m3	ND	<1.2		
Tetrachloroethene	ug/m3	1.1	1.1	2	
Tetrahydrofuran	ug/m3	ND	<0.80		
Toluene	ug/m3	ND	<1.0		
trans-1,2-Dichloroethene	ug/m3	ND	<1.1		
trans-1,3-Dichloropropene	ug/m3	ND	<1.2		
Trichloroethene	ug/m3	ND	<0.73		
Trichlorofluoromethane	ug/m3	1.5	1.7	9	
Vinyl acetate	ug/m3	ND	<0.96		
Vinyl chloride	ug/m3	ND	<0.35		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALIFIERS

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 70156965001

[1] Analysis performed at 1800 Elm Street.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LOCKHEED MARTIN UTICA 12/11
Pace Project No.: 70156965

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70156965001	**SP-401**	TO-15	718919		

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www.pacelabs.com

AIR: CHAIN-OF-CUSTODY /

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO# : 70156965

70156965

Section A
Required Client Information:

Company: TetraTech
Address: 175 N. Corporate Dr
Brookfield WI
Email To:
Phone: Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: Glenn Netuschil
Copy To:
Purchase Order No.:
Project Name: Lockheed Martin Utica
Project Number:

Section C
Invoice Information:

Attention: Glenn Netuschil
Company Name: TetraTech
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 41249

Program
☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act
☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State
Reporting Units: µg/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	SP-401	1LC		12/11/20	3:35			25	7	1397							X				
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Steve McCarthy	12/11/20	7:00	Pace	12/14/20	8:00
Pace	12/14/20	17:00	Pace	12/16/20	10:05

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
—	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Steve McCarthy
SIGNATURE of SAMPLER: Steve McCarthy DATE Signed (MM / DD / YY): 12/11/20

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services -

Air Sample Condition Upon Receipt

Client Name: Tetra Tech **Project #:**

WO#: 70156965

PM: KMM **Due Date: 12/30/20**

CLIENT: TETRA

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial **See Exception** [ ]

Tracking Number: 772360325 8940

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [ ] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other:_____ **Temp Blank rec:** [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): _____ **Corrected Temp (°C):** _____ **Thermometer Used:** [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** _____ **Date & Initials of Person Examining Contents:** 12-16-20 MI

Type of ice Received [ ] Blue [ ] Wet [X] None

				Comments:
Chain of Custody Present?	[X] Yes	[ ] No		1.
Chain of Custody Filled Out?	[X] Yes	[ ] No		2.
Chain of Custody Relinquished?	[X] Yes	[ ] No		3.
Sampler Name and/or Signature on COC?	[X] Yes	[ ] No	[ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes	[ ] No		5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes	[X] No		6.
Rush Turn Around Time Requested?	[ ] Yes	[X] No		7.
Sufficient Volume?	[X] Yes	[ ] No		8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	[X] Yes [X] Yes	[ ] No [ ] No		9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	[X] Yes	[ ] No		10.
Media: (Air Can) Airbag Filter TDT Passive				11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes	[ ] No		12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	[X] Yes	[ ] No		13. 1 gauge attached

Gauge # [ ] 10AIR26 [X] 10AIR34 [ ] 10AIR35 [ ] 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SB-401	1397	-	-5.5	+10					

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ **Field Data Required?** [ ] Yes [ ] No

Comments/Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

2020 Annual Site Management Report

APPENDIX C: Cover System Performance Report

Former Lockheed Martin
French Road Facility
Utica, New York



Prepared for:
Lockheed Martin Corporation
Environment, Safety and Health
6801 Rockledge Drive
Bethesda, Maryland 20817

Prepared by:
Tetra Tech, Inc.
One Oxford Valley, Suite 200
Langhorne, PA 53045

March 2021

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2.0 COVER SYSTEM DESCRIPTION AND REMEDIAL OBJECTIVES 2

3.0 INSPECTION 3

4.0 COVER SYSTEM PERFORMANCE RESULTS 5

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Figure C-1 Site Location Map

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Appendix C-1 2020 Annual Sitewide Inspection Form and Photo Log

ABBREVIATIONS & ACRONYMS

ConMed	ConMed Corporation
FNPD	Former Northern Perimeter Ditch
Lockheed Martin	Lockheed Martin Corporation
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OM&M	operation, monitoring, and maintenance
P.E.	Professional Engineer
SB	Statement of Basis
SMP	Site Management Plan
SSDS	sub-slab depressurization system
Tetra Tech	Tetra Tech, Inc.

1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) has prepared this Cover System Performance Report (Report) as an Appendix to the *2020 Annual Site Management Report* for the Former Lockheed Martin Corporation (Lockheed Martin) French Road Facility (Site) at 525 French Road, Utica, New York. The activities described herein satisfy requirements of the *Draft Site Management Plan (Draft SMP*; Stantec, 2016). The cover system performance from January through December 2020 is summarized in the following sections.

2.0 COVER SYSTEM DESCRIPTION AND REMEDIAL OBJECTIVES

The existing cover system is one of the engineering controls required by the New York State Department of Environmental Conservation (NYSDEC) in the *Final Statement of Basis, Corrective Measures Selection, Former Lockheed Martin-French Road Facility, Operable Units 01 and 02, Site No. 633036A, EPA ID No. NYD000521971, Utica, Oneida County,* issued by NYSDEC on March 31, 2015 (SB; NYSDEC, 2015). The overall intent of the cover system is to prevent direct contact with, exposure to, or ingestion of potential residual contaminants at the Site. This is achieved through the cover materials currently in place on the eastern portion of the Site (see Figure C-1). The limits for the area of Site cover (22.43 acres) are defined on the draft environmental easement survey plan prepared by Thew Associates and dated June 14, 2016. Note that the environmental easement survey plan and related materials are currently under review by NYSDEC and are therefore still considered "draft." The cover system elements include ConMed Corporation (ConMed) buildings, pavement, sidewalks, and soil/vegetative cover. NYSDEC's Statement of Basis (SB) provides that the existing Site cover is acceptable, including current landscaped/vegetated areas.

Below is an excerpt from the SB that provides the background and purpose of the cover system:

> "A site cover consisting of buildings, pavement, and sidewalks currently exists over the vast majority of the eastern portion of the site (approximately 21 acres (40%) of the site). It will be maintained to allow for commercial use of the site. Any site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).
>
> The western portion of the site (approximately 10 acres) remains undeveloped and has not been used for site operations. This area of the site was evaluated using field inspection, geophysical techniques and some limited sampling that shows the area achieves unrestricted use SCOs for VOCs, SVOCs, metals and PCBs. Based on the results, the intent is to separate this parcel from the site after the Statement of Basis is finalized.
>
> The center of the site (approximately 24 acres) consists of a partially wooded area and paved parking area. Geophysics, test pits and surface sampling have been performed. One isolated area exceeds commercial SCOs and that area will be addressed by excavation. Upon post-excavation confirmation of commercial SCOs, this portion of the site will achieve commercial SCOs and maintenance of a cover system will not be required." (NYSDEC, 2015)

3.0 INSPECTION

On October 21, 2020, Glenn Netuschil, P.E. of Tetra Tech, conducted an inspection of the Site cover system area. The purpose of the inspection was to review and document Site conditions to confirm cover conditions are being maintained in accordance with the SB (NYSDEC, 2015) and *Draft SMP* (Stantec, 2016). An Annual Sitewide Inspection Form was completed along with a photo log to document conditions found during the inspection. These materials are provided in Appendix C-1.

The inspection focused on the exterior areas at the perimeter of the main ConMed building to observe conditions and portions of the cover system that were undergoing maintenance or other changes, if any. Conditions of vegetative cover were noted. Although none was identified, the inspection investigated the potential presence of disturbed or exposed soils.

The following are some important items noted during the inspection:

1. Asphalt pavement condition and management – Overall the pavement across the Site is in good condition. Moderate cracking was observed in the parking area on the east side of the cover system, minor ponding, and minor pavement cracking behind the industrial area on the northwest side of the cover system was observed. The west side loading dock area appeared to be in poorer condition than the other portions of site pavement. If repairs are planned, coordination with ConMed and its paving contractor is recommended to protect the monitoring wells and avoid ponding issues.
2. Landscaping and maintenance of vegetated areas – The turf grass and landscaping of the Site are well maintained. Grass generally appeared healthy and is routinely mowed. Plantings and shrubs are present mainly along the front (south side) of the ConMed facility. Most of the planting beds are mulched over the top of landscaping fabric as a weed barrier. Disturbance of the landscaped area in the FNPD area occurred during the deep excavation activities and the disturbed areas from the excavation activities were restored with topsoil and seeded.
3. Sidewalks – Most of the sidewalks around the facility are concrete. Exceptions include the use of concrete pavers at the main entrance on the building's south side and at employee entrances on the west and east sides of the facility. Some limited remnants of concrete sidewalks with asphalt overlay remain at the outskirts of the Site. Overall sidewalk conditions are good.
4. Former Pole Barn Concrete Slab – The concrete slab-on-grade remains for the former pole barn (see photo log location 19).

The interior of the building has concrete slabs with various floor coverings and its integrity is maintained as a normal part of ConMed's operations. Tetra Tech is not aware of any significant intrusive work through the existing slabs. Consequently, there was no need to conduct a walkthrough of the building interior.

Furthermore, the routine and non-routine operation, monitoring, and maintenance (OM&M) activities for the sub-slab depressurization system (SSDS) require work inside the building, during which floor conditions are observed. In the eastern portion of the building the routine vacuum monitoring conducted for the SSDS indirectly monitors the integrity of the floor system. Potential cracks or other openings in the floor can affect the ability to maintain sub-slab vacuum levels. If the sub-slab vacuum levels were to decrease noticeably, further investigation of the cause would include inspecting affected areas of the facility floors. During the 2020 SSDS operating period, Tetra Tech did not observe any floor openings that would negatively affect system performance.

4.0 COVER SYSTEM PERFORMANCE RESULTS

Based on the October 21, 2020 inspection and results of routine OM&M activities conducted at the ConMed facility, the existing Site cover system, as defined in the SB and discussed in this Report, is being properly maintained and is performing satisfactorily.

5.0 2021 GOALS AND RECOMMENDATIONS

The information presented in this Report indicates that the cover system operated as intended during the reporting period. Continued cover system performance activities for 2020 are described in the sections below.

5.1 GOALS

The cover system remedial and operational goals remain unchanged from those noted in Section 2.0. The cover system will continue to be inspected annually.

5.2 RECOMMENDATIONS

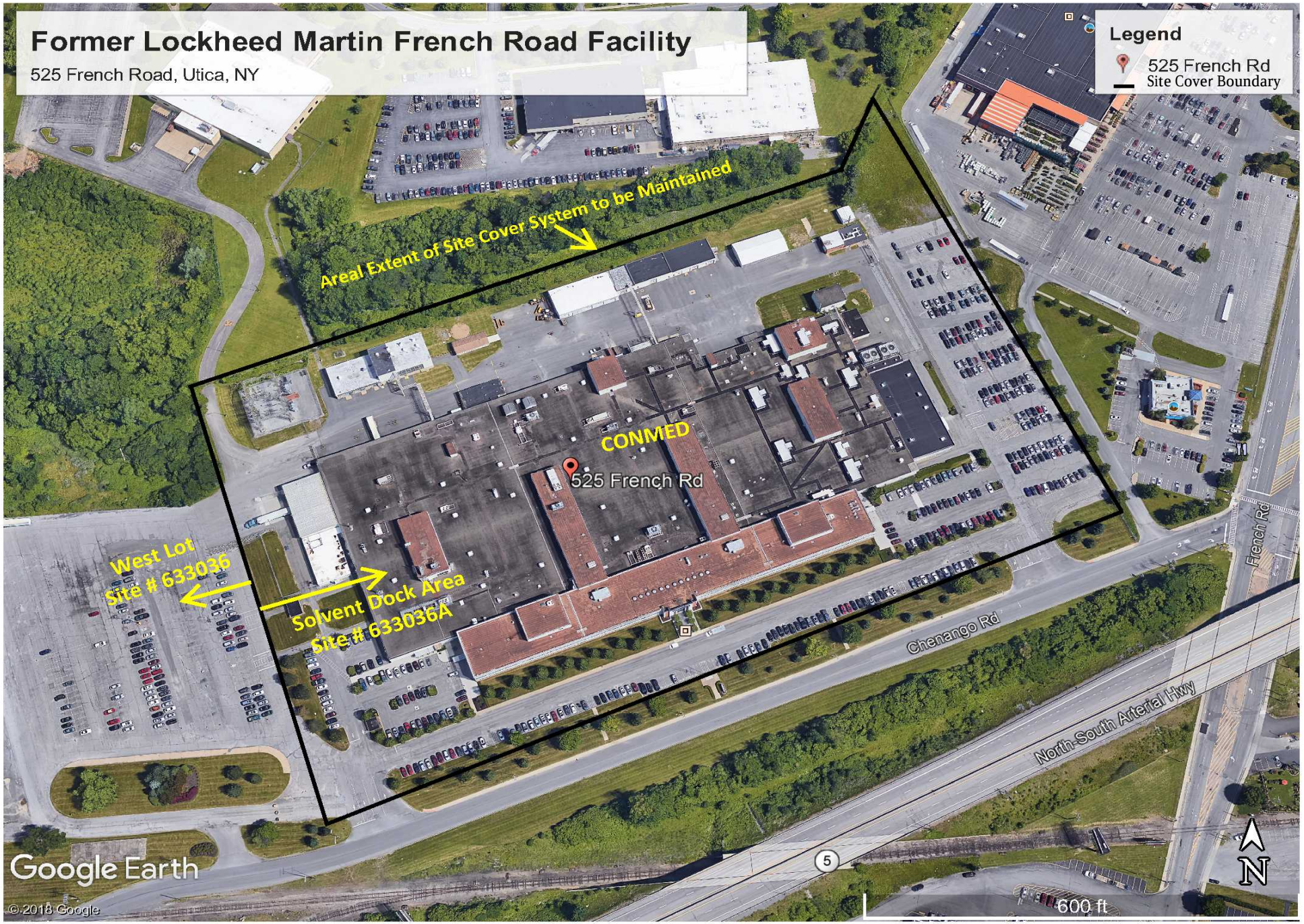
Our review and inspection of the cover system for the 2020 reporting period indicates that the system successfully mitigated direct contact with, exposure to, or ingestion of potential residual contaminants at the Site. Recommendations for the next reporting period (January-December 2021) consist of continued communication between ConMed, Lockheed Martin, and Tetra Tech. This will allow for timely documentation of changes to the cover system. Additionally, Tetra Tech will maintain continued communication with ConMed on any planned pavement repairs.

6.0 REFERENCES

NYSDEC, 2015 — *Final Statement of Basis, Corrective Measures Selection, Former Lockheed Martin-French Road Facility, Operable Units 01 & 02, Site No. 633036A, EPA ID No. NYD000521971, Utica, Oneida County.* March 2015.

Stantec, 2016 — *Draft Interim Site Management Plan, Former Lockheed Martin French Road Facility, Solvent Dock Area and West Lot, Oneida County, Utica, New York, NYSDEC Site Numbers: 633036 and 633036A*. February 2016.

FIGURE



TETRA TECH

FIGURE C-1
SITE LOCATION MAP
525 French Road Utica, Oneida County, New York

APPENDIX C-1

2020 Annual Sitewide Inspection Form and Photo Log

TETRA TECH

Annual Sitewide Inspection Form

Former Lockheed Martin French Road Facility
NYSDEC Sites #633036 and #633036A
525 French Road
Utica, Oneida County, New York

Inspection Date: Wednesday, October 21, 2020

Time Period Inspection Covers: Annual Inspection for 2020

Inspector(s): Glenn Netuschil **Weather:** 50^0 F – 60^0 F

General

A. Describe the site usage (i.e. commercial or industrial purposes, or higher level usage [i.e. unrestricted, residential]? CONMED industrial use

B. Describe general site conditions. Well maintained site. Paving has many cracks, minor ponding.

C. Is the site currently undergoing development? If so, describe.
No

D. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during the Reporting Period? No

E. Is the site being used for vegetable gardening or farming?
No

F. Has groundwater monitoring been performed according to the schedule in the Site Management Plan (SMP)?
Yes

G. Is groundwater being used on-site? No If so, is it being rendered safe for its intended use? Describe. NA

H. Are there buildings on-site? Yes

I. If so, has the potential for vapor intrusion been evaluated or has a sub-slab depressurization system (SSDS) been installed? If a SSDS is present, has the SMP been modified to include a SSDS inspection schedule and form?
A SSDS is in place and inspected and monitored in accordance with the SMP.

J. Have any activities been conducted since the last inspection that necessitated site management activities be conducted, such as excavation in covered areas, confirmation sampling and a health and safety inspection?
No

K. Is the site in compliance with permits and schedules included in the Operations and Maintenance Plan in the SMP?
Yes

L. Have any federal, state, and/or local permits (e.g. building, discharge) been issued for or at the property during this Reporting Period?
No

M. Has all reporting been performed per the schedules outlined in the SMP and are all site records up to date?
Yes

N. Are all ICs/ECs in place and functioning as designed? Yes

Site Cover System

1. Walk and inspect the entire perimeter of the area of Site Cover*.
2. Walk and inspect all of the paved areas (concrete and asphalt) of the Site Cover *.
3. Walk and inspect all of the unpaved areas (landscaped/vegetated) of the Site Cover*.

* The areal extent of the Site Cover System is depicted on the attached Figure

A. Are there any signs of significant cracks, settlement, or deterioration of the paved areas?
Moderate cracking of pavement in parking areas, and minor ponding in parking areas.

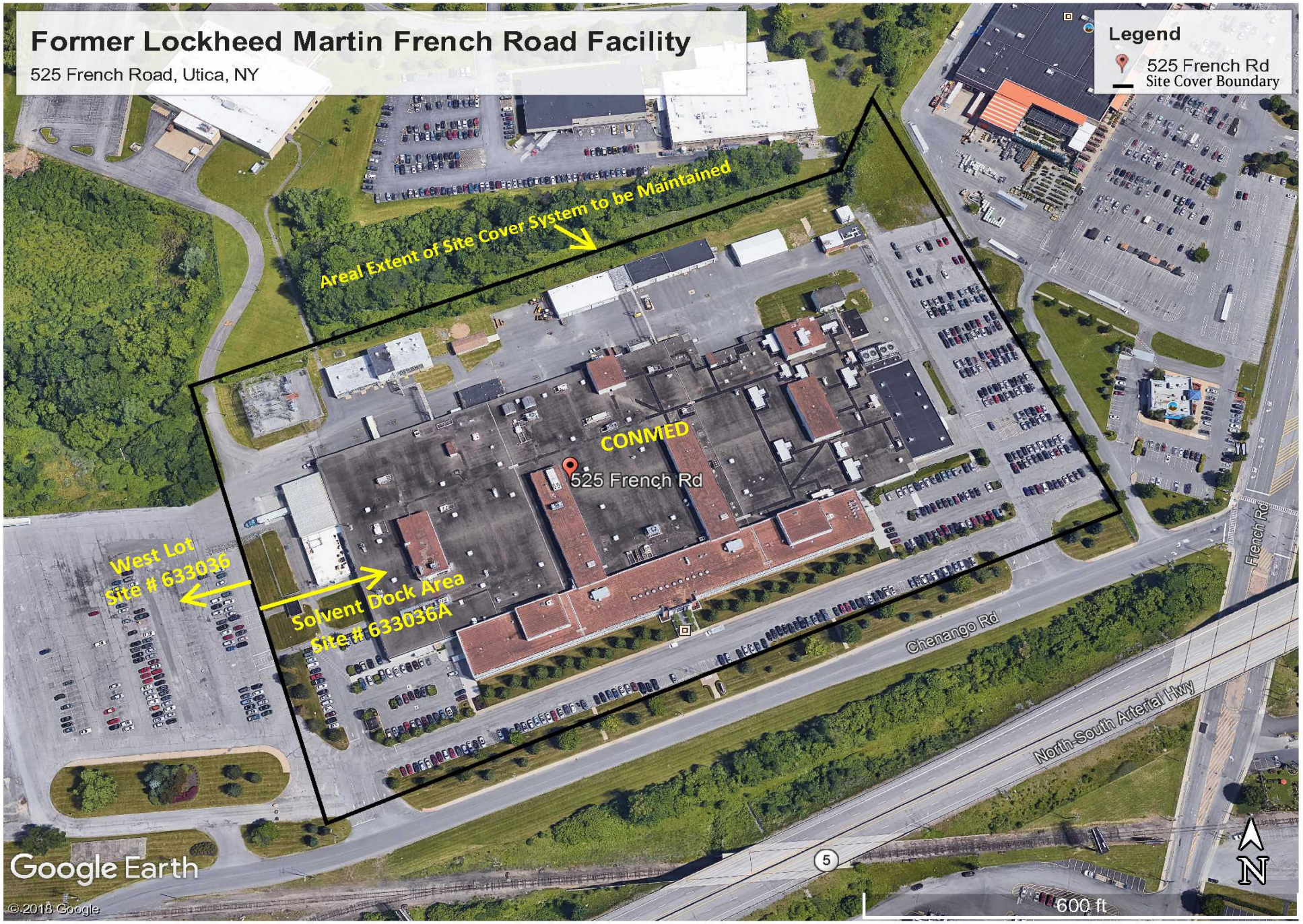
B. Has any of the pavement material been removed or repaired?
The concrete slab and asphalt pavement removed during the deep excavations were restored.

C. Are there signs of vehicular use on the unpaved areas (tire tracks, ruttings, etc.)?
No

D. Have any structures been constructed on the unpaved areas?
No

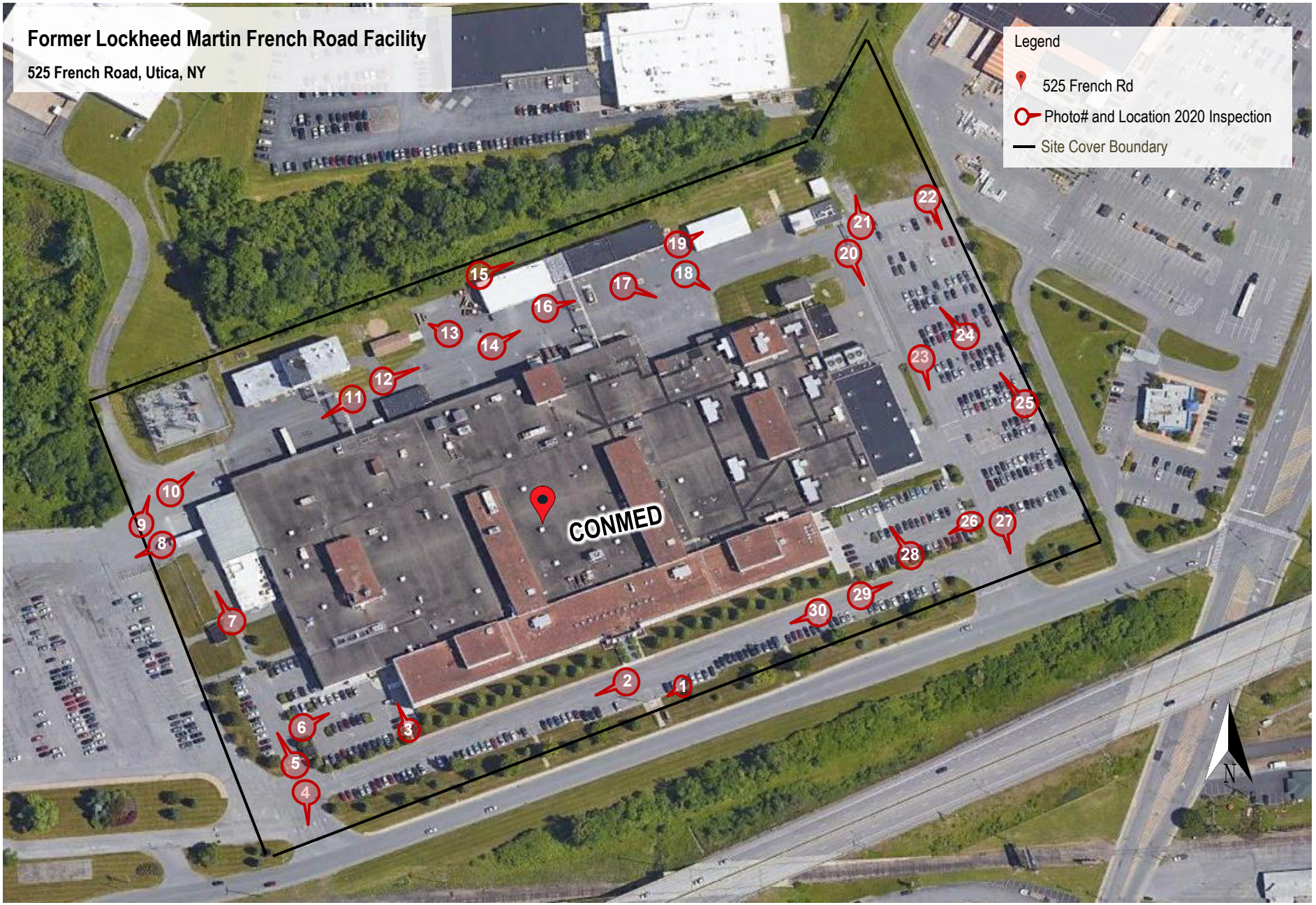
E. Are there any signs of soil washing or erosion (gullies, soil washed out onto the pavement, etc.)?
No

F. Are there any signs of intrusive activities (drilling, digging, trenching, grading, excavating, etc.)?
No



TETRA TECH

SITE LOCATION MAP
525 French Road Utica, Oneida County, New York



TETRA TECH

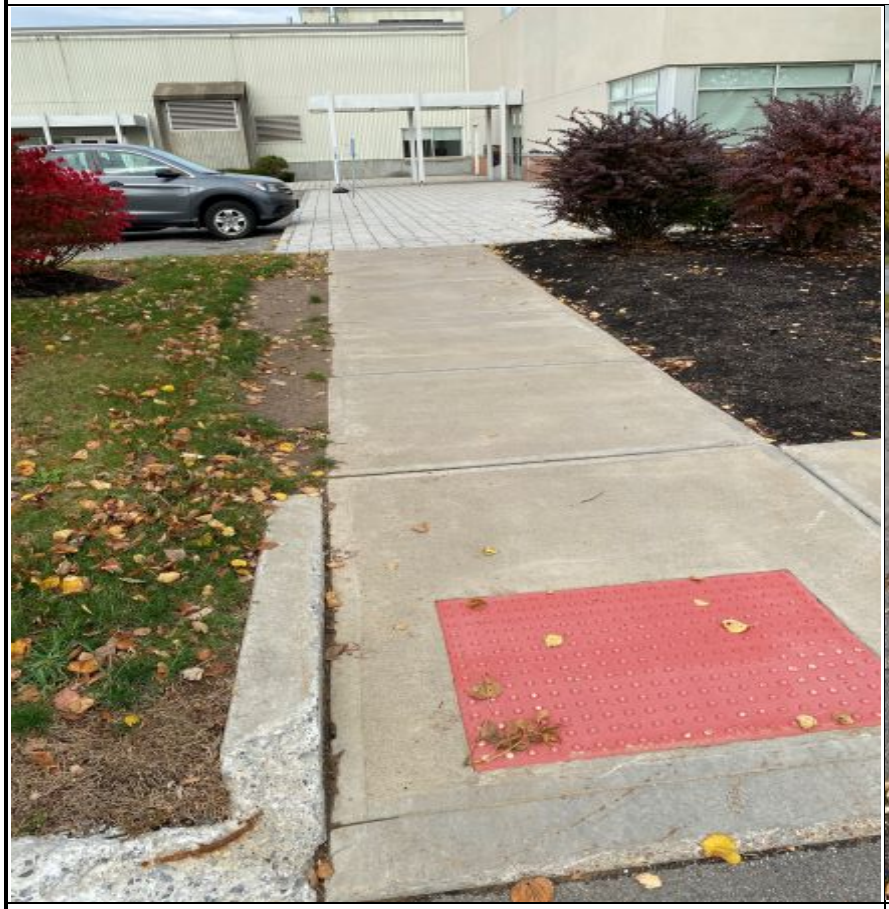
PHOTOGRAPH LOCATION / ORIENTATION MAP
525 French Road Utica, Oneida County, New York



PHOTOGRAPH 1 South side opposite front entrance to building – looking west.



PHOTOGRAPH 2 South side showing drive and landscaped area along front of building – looking west.



PHOTOGRAPH 3 West side with sidewalk - looking north.



PHOTOGRAPH 4 South side - west end showing paved area - looking southwest.



PHOTOGRAPH 5 West side – typical parking area pavement – looking north.



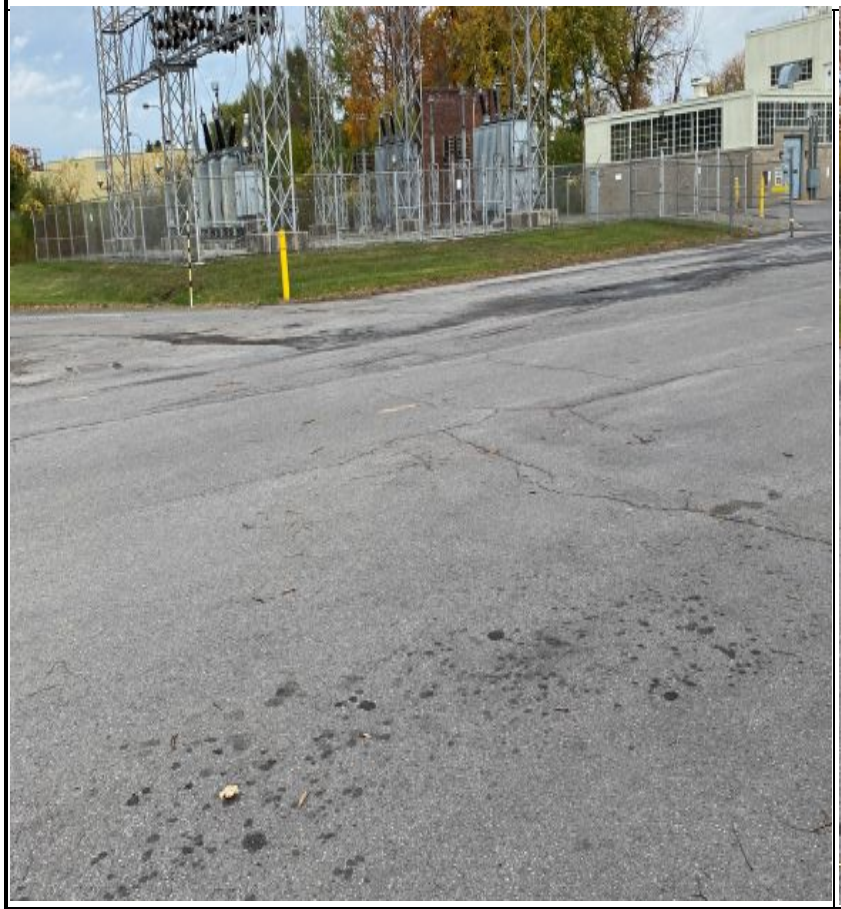
PHOTOGRAPH 6 West side – typical parking area pavement - looking east.



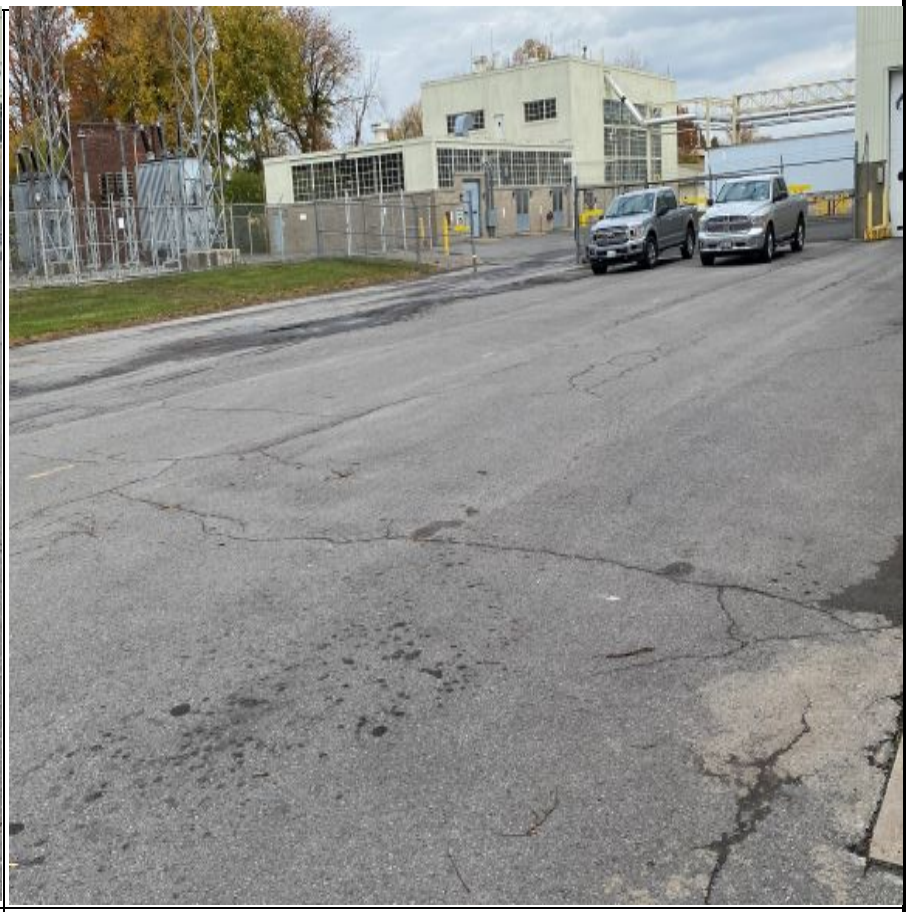
PHOTOGRAPH 7 West side - paved area along building looking north toward loading docks. Note deteriorated paving.



PHOTOGRAPH 8 West side - paved area along building looking west.



PHOTOGRAPH 9 North side – west end showing electrical substation area - looking northeast.



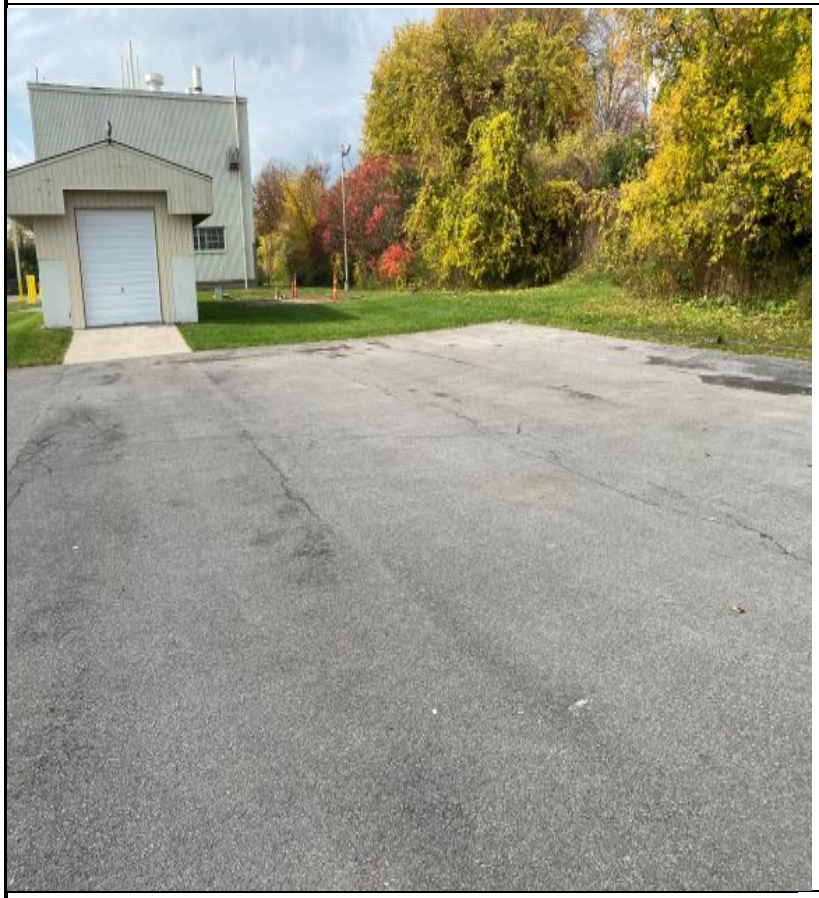
PHOTOGRAPH 10 North side – west end, overview of paved access drive – looking east.



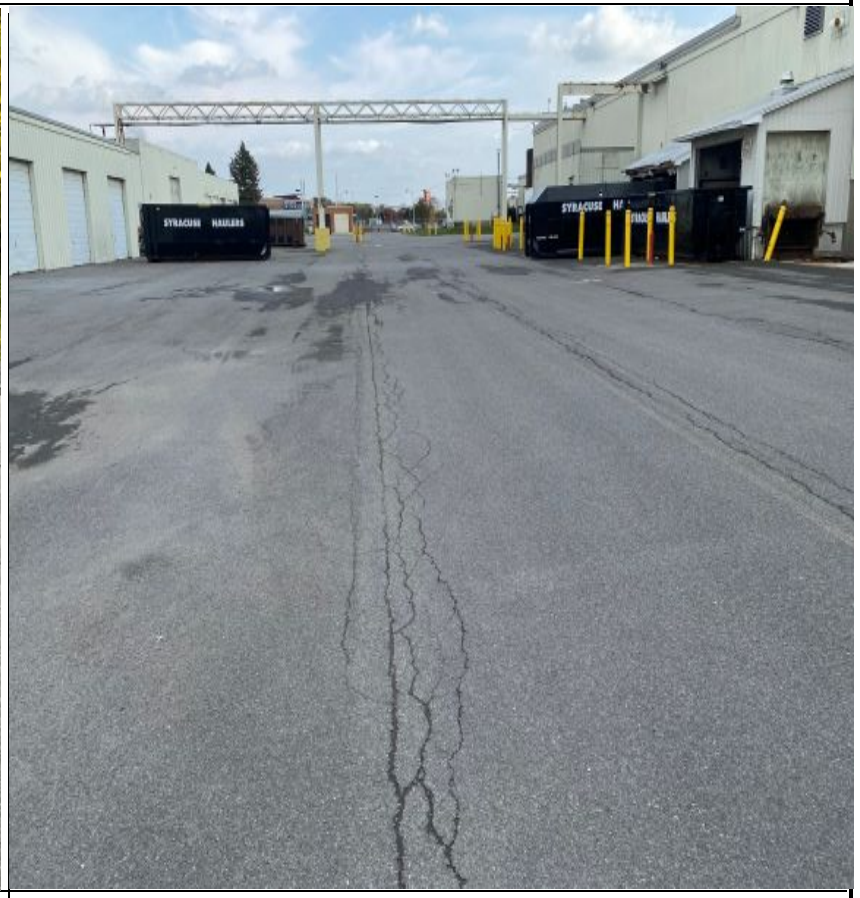
PHOTOGRAPH 11 North side – west end showing electrical substation area – looking west.



PHOTOGRAPH 12 North side of west side of building showing paved area - looking east.



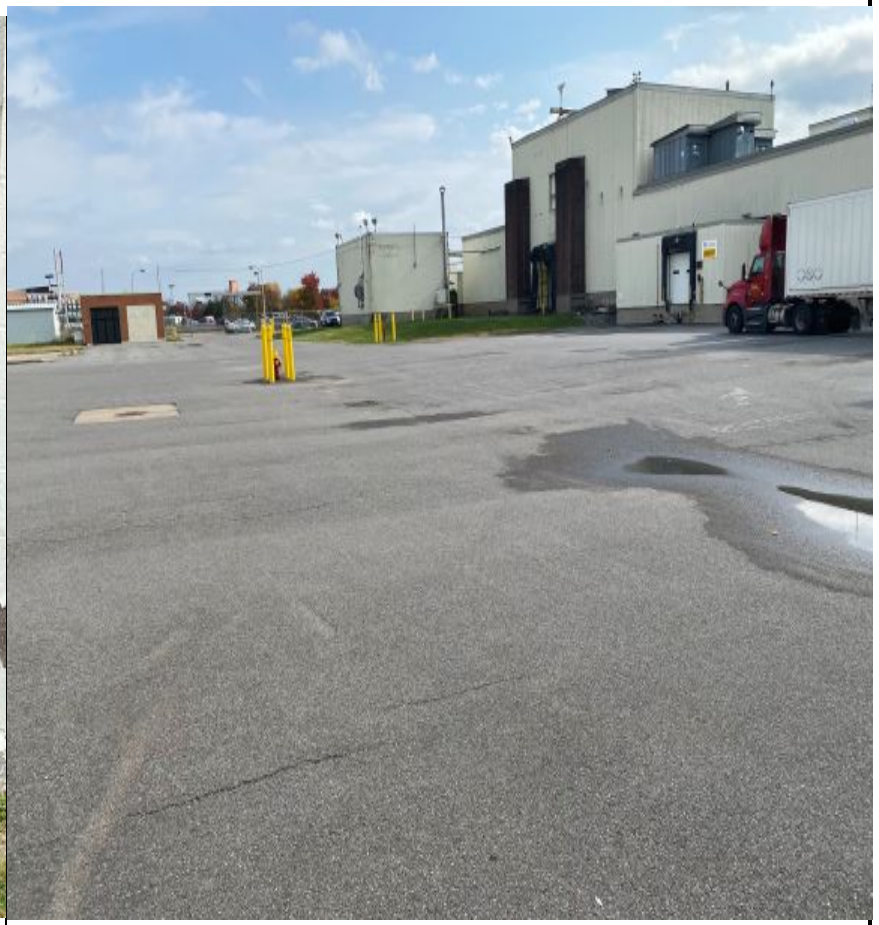
PHOTOGRAPH 13 North side - boiler house.



PHOTOGRAPH 14 North side – central area main building–looking east.



PHOTOGRAPH 15 North side area north of maintenance building - looking east.



PHOTOGRAPH 16 North side – central area, maintenance building to left – looking east.



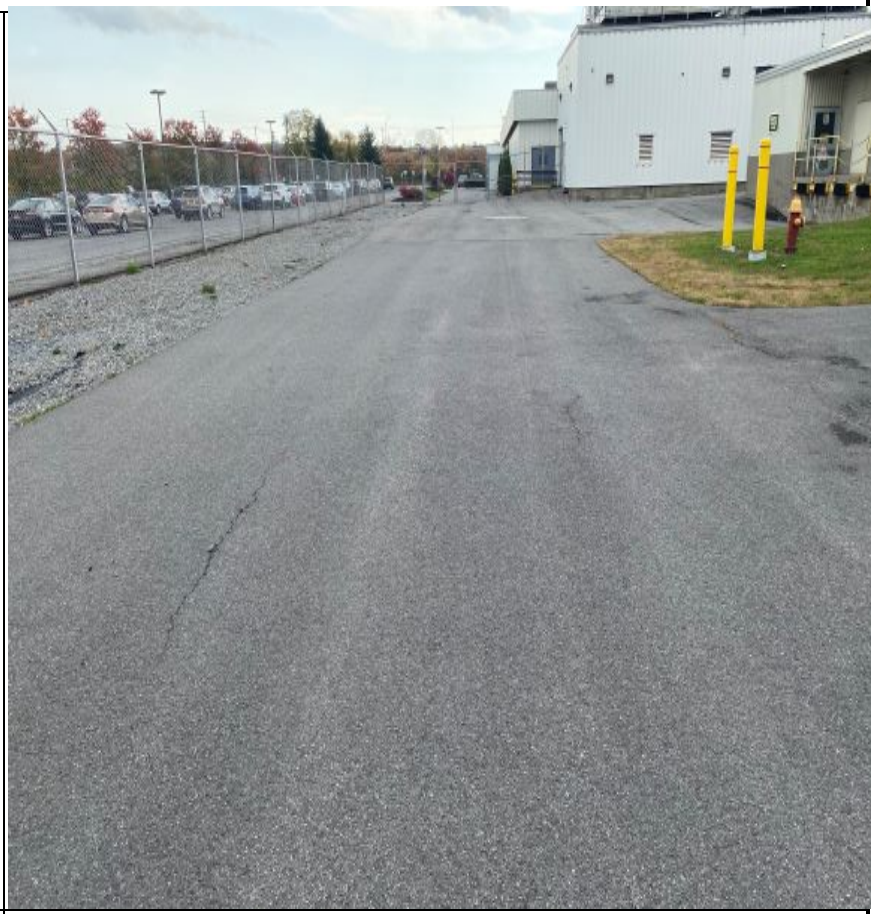
PHOTOGRAPH 17 North side– loading dock area looking south.



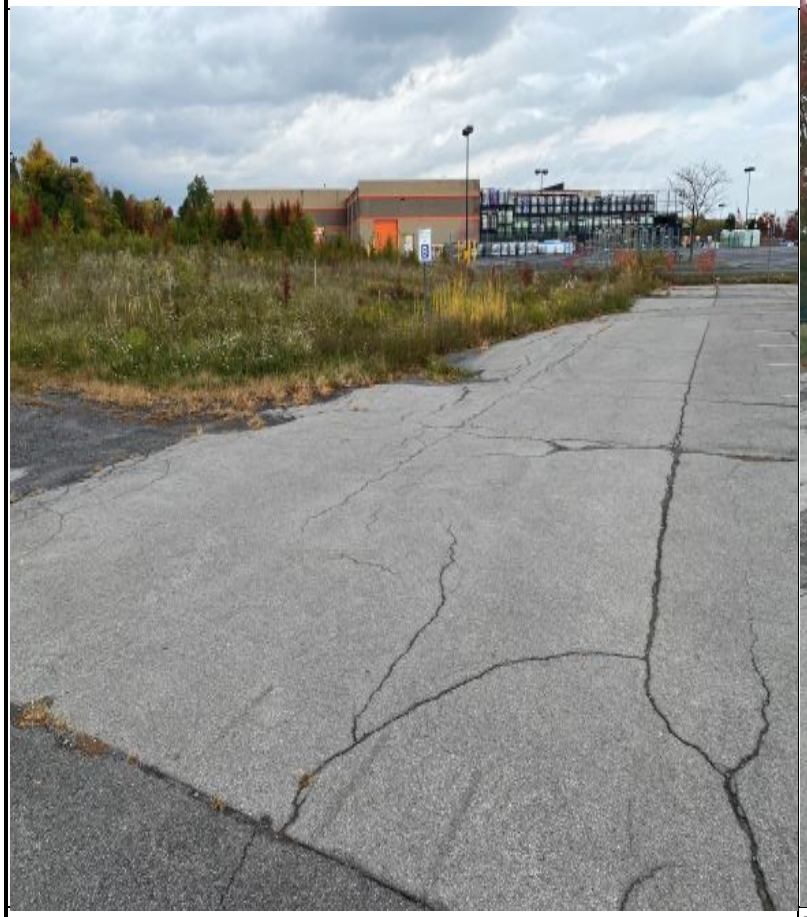
PHOTOGRAPH 18 North side –boiler house looking north.



PHOTOGRAPH 19 North side - showing east side of former pole barn concrete slab - looking northeast.



PHOTOGRAPH 20 East side – gravel covered area along security fence line - looking south.



PHOTOGRAPH 21 East side – northeast corner showing grass covered area – looking north.



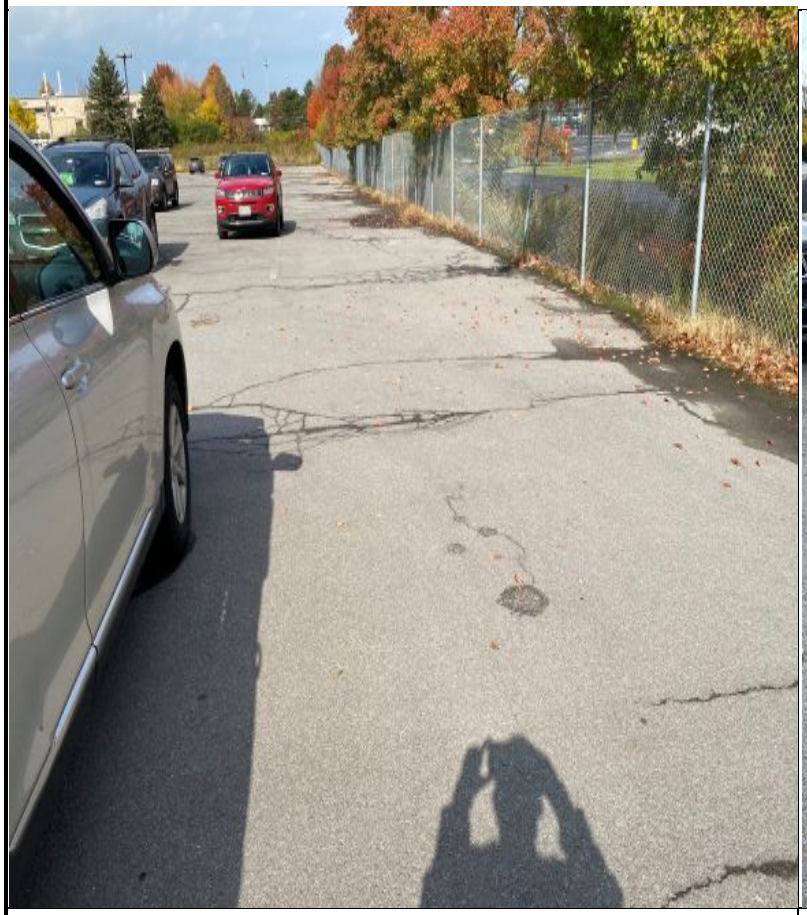
PHOTOGRAPH 22 East side – looking south along eastern fence line.



PHOTOGRAPH 23 East side – showing parking/pavement area – looking south.



PHOTOGRAPH 24 East side – looking north along eastern fence line.



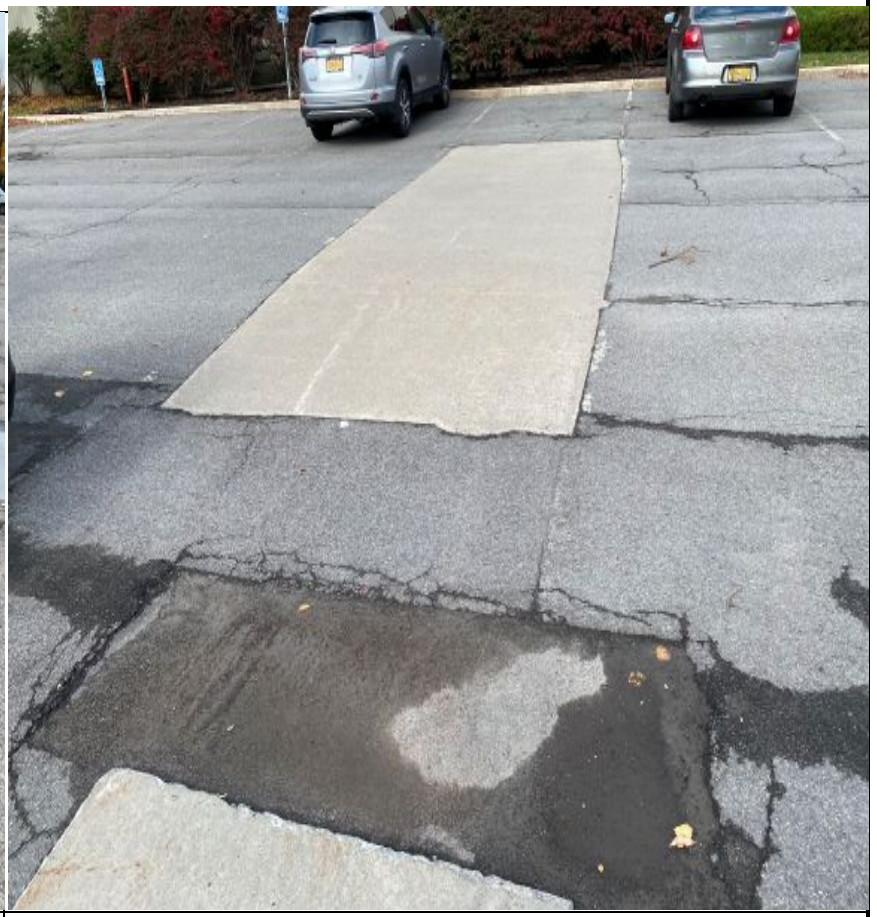
PHOTOGRAPH 25 East side – showing parking/pavement area looking north.



PHOTOGRAPH 26 East side – showing parking/pavement area and main building - looking west.



PHOTOGRAPH 27 East side – showing parking/pavement area – looking south.



PHOTOGRAPH 28 East side – showing water main repair/concrete patch – looking north.



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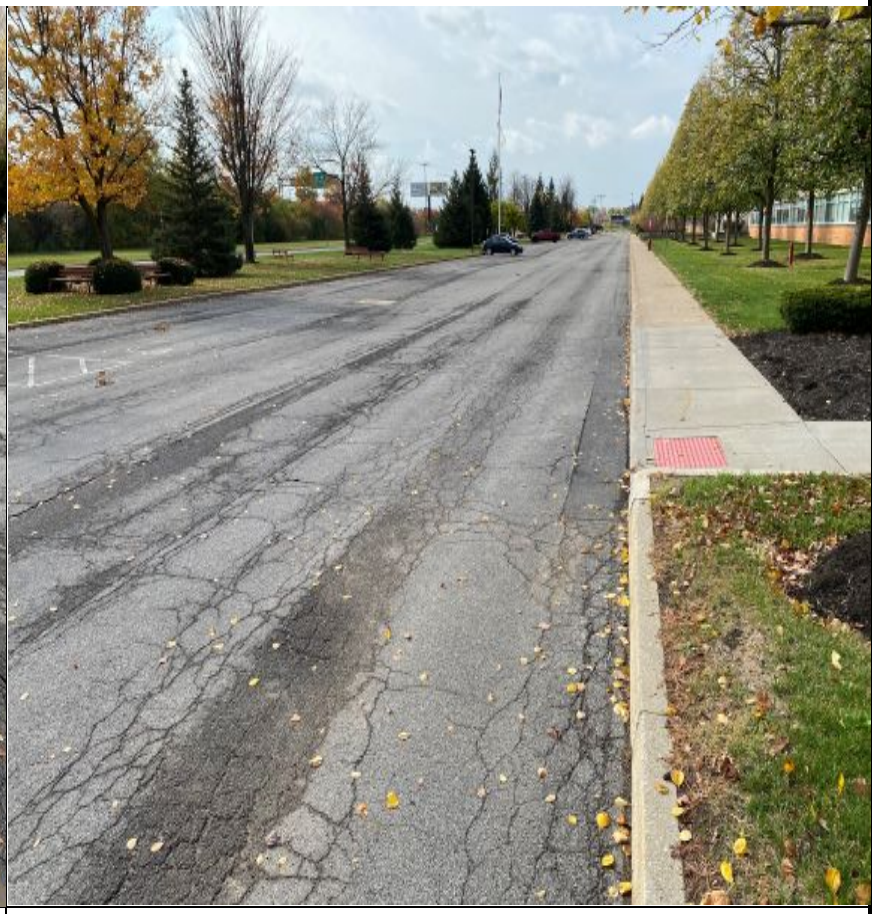

PHOTOGRAPH 30 South side – east end showing typical pavement/landscaping – looking west.

2020 Annual Site Management Report

APPENDIX D: Groundwater Monitoring Report

Former Lockheed Martin
French Road Facility
Utica, New York



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ABBREVIATIONS & ACRONYMS

1,1-DCA	1,1-dichloroethane
1,2-DCA	1,2-dichloroethane
ASP	analytical services protocol
BBL	Blasland, Bouck & Lee, Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
CCR	Construction Completion Report
CMIP	Corrective Measures Implementation Plan
CMS	Corrective Measures Study
COC	contaminant of concern
CVOC	chlorinated volatile organic compound
DER	[NYSDEC] Division of Environmental Remediation
DO	dissolved oxygen
DUSR	data usability summary report
FNPD	Former Northern Perimeter Ditch
FS	Feasibility Study
ft bgs	feet below ground surface
GCTS	groundwater collection and treatment system
GWMP	Groundwater Monitoring Program
ICM	interim corrective measure
IRZ	*in-situ* reactive zone
Lockheed Martin	Lockheed Martin Corporation
mg/L	milligrams per liter
MNA	monitored natural attenuation
ND	not detected
MW	monitoring well
NYSDEC	New York State Department of Environmental Conservation
ORP	oxidation-reduction potential
PCE	Tetrachloroethene
PZ	Piezometer

PFAS	Per- and polyfluoroalkyl substances
QA/QC	quality assurance/quality control
RAWP	Remedial Action Work Plan
SB	Statement of Basis
SGV	standards and guidance values
SIR	Supplemental Investigation Report
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
TCE	Trichloroethene
TOGS	Technical and Operational Guidance Series
trans-1,2-DCE	trans-1,2-dichloroethene
µg/L	micrograms per liter
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound

1.0 INTRODUCTION

On behalf of Lockheed Martin Corporation (Lockheed Martin), Tetra Tech, Inc. (Tetra Tech) has prepared this Groundwater Monitoring Report (report) as an appendix to the *2020 Site Management Report* for the former Lockheed Martin French Road facility (herein, "the site") in Utica, New York. This work was completed as part of the Corrective Measures Implementation Plan (CMIP) required by the "Order on Consent" (herein, the Order) issued by the New York State Department of Environmental Conservation (NYSDEC) on October 3, 2008 (NYSDEC, 2008). In March 2015, NYSDEC issued the Final Statement of Basis (SB) for the site (NYSDEC, 2015), which selected the corrective measures for site remediation based on findings summarized in the 2013 *Corrective Measures Study* (*CMS 2013 Report*; ARCADIS, 2013). One of the requirements of the SB is continued groundwater monitoring (described further in Section 2.3).

The *Groundwater Monitoring Program* (*GWMP*) is the basis for the groundwater monitoring program. The *GWMP* was originally authored as an Interim Groundwater Monitoring Program (IGWMP) in October 2009 by ARCADIS and subsequently revised in February 2012 (ARCADIS, 2012), and May 2016 (Stantec, 2016c). The IGWMP has been revised as a draft GWMP and will be part of the updated SMP that will be submitted to the NYSDEC under a separate cover.

Starting in 2017, the frequency of groundwater monitoring was revised from quarterly to annually. This was performed in accordance with recommendations proposed in the 2015 Annual *Site Management Report* (Stantec, 2016c), which were approved by NYSDEC/New York State Department of Health (NYSDOH) on May 24, 2016. Annual monitoring was recommended and approved because data compiled over several years of quarterly monitoring identified stable groundwater quality and hydrogeologic conditions that no longer required the detail of a quarterly program. The 2015 Annual Site Management Report also proposed that six monitoring locations be retired from the monitoring program, as these locations had exhibited four or more consecutive quarters with contaminant levels below Standards and Guidance Values (SGVs). Proposed retirement was provided for in the IGWMP. As with the change in frequency, removal of these wells was approved by NYSDEC/NYSDOH.

With the advent of annual groundwater monitoring in 2017, it was recognized that the "Decision Tree for Performance Monitoring" (Decision Tree) in the IGWMP (Appendix B of the IGWMP) would no longer be useful. The Decision Tree provided logic to evaluate and respond to predominantly quarterly sample results. In advance of 2017 monitoring, the 2016 Annual Site Management Report (Stantec, 2017) recommended alternative logic for managing statistical results under an annual program. These recommendations were conditionally accepted by NYSDEC/NYSDOH in their letter dated May 11, 2017, subject to their review and approval on a case-by-case basis.

2.0 DESCRIPTION OF SITE GROUNDWATER IMPACTS

Groundwater beneath the northeast portion of the main manufacturing building and along the Former Northern Perimeter Ditch (FNPD) has been impacted by volatile organic compounds (VOCs). The former Solvent Dock was located at the northeast end of the main manufacturing building and was the location where solvents were formerly used and stored. The FNPD (running along the northern property boundary) was an open-drainage swale that received stormwater from the area north of the main manufacturing building and conveyed the water, along with stormwater from the western portion of the property, to a manhole before discharging it to the municipal storm sewer. Figure D-1 presents the monitoring well network and site layout, including the location of the FNPD.

2.1 INVESTIGATION HISTORY

General Electric, Martin Marietta Corporation, and Lockheed Martin have investigated groundwater in these areas since 1991. In November 1994, Blasland, Bouck, & Lee, Inc. (BBL) investigated the facility storm sewer in the Solvent Dock Area. That investigation determined that VOCs detected in the storm sewer are attributable to the discharge of VOC-contaminated groundwater into the FNPD and infiltration of VOC-contaminated groundwater from the Solvent Dock Area into the storm sewer beneath the building.

In 1995 BBL completed a *Storm Sewer Investigation Report* (BBL, 1995a) and a *Storm Sewer Basis of Design Report* (BBL, 1995b), which recommended that the contaminated portion of the storm sewer flow be collected, treated, and discharged to meet proposed State Pollutant Discharge Elimination System (SPDES) VOC-effluent limitations. BBL completed the final design of the French Road facility groundwater collection and treatment system (GCTS) in October 1995 to remedy contaminated groundwater by addressing the source of VOCs entering the storm sewer. The initial system construction was completed in June 1996 as an interim corrective measure (ICM). The GCTS was expanded and upgraded in 2010. See Section 1.3 of the 2019 Annual Site Management Report for details regarding the GCTS.

Lockheed Martin's investigations into the areas of concern identified at the site were presented in the 2009 *Corrective Measures Study Report* (*CMS 2009 Report*; ARCADIS, 2009). The *CMS 2009 Report* selected monitored natural attenuation (MNA) as one of the remedial alternatives to be used as a corrective measure to address site groundwater contamination. Additionally, the *CMS 2009 Report* concluded that supplemental investigations in specific areas of the site were warranted to fully characterize the extent of contamination and to confirm the effectiveness of the remedial action recommendations. These investigations are summarized in the *Former*

Northern Perimeter Ditch Supplemental Investigation Report (SIR) (*FNPD SIR*; ARCADIS, 2011a), which confirmed the presence of VOC-contaminated groundwater near the FNPD.

A feasibility study (FS) report (ARCADIS, 2011b) for the FNPD was submitted to NYSDEC in June 2011. The FS concluded that a combination of *in-situ* biological treatment, continued operation of the GCTS, institutional controls, and MNA was the most feasible remedial alternative for the FNPD groundwater impacts. A bioremediation pilot test, which was implemented in April 2012, evaluated the feasibility of an *in-situ* reactive zone (IRZ) using injected food-grade molasses as a carbon source to facilitate enhanced reductive dechlorination. The low permeability of the soils and the low injection flow rates observed during the IRZ pilot test demonstrated that *in-situ* biological treatment is not a viable component for full-scale application.

Historical data generated as part of the activities referenced above are included in the following appendices: Appendix D-1 presents data collected from 1996–2008; Appendix D-2 presents data collected from 2008–2009; Appendix D-3 presents data collected in 2010; and Appendix D-4 presents data collected in 2011.

The *CMS 2013 Report,* which was prepared to address the requirements of a letter from NYSDEC to Lockheed Martin dated July 16, 2013, evaluated the performance of the ICMs operating at the facility and recommended a corrective measures alternative pertinent to the FNPD. Following its submittal, the *CMS 2013 Report* was reviewed by NYSDEC for use in preparation of the Statement of Basis for the site. NYSDEC issued its Final SB in March 2015, directing the remedial approach necessary to proceed toward site closure. As described in the SB, the major components of the selected site remedy (specifically pertaining to groundwater impacts) include continued periodic groundwater monitoring, operation and maintenance of the existing GCTS, FNPD source-area soil removal, and institutional controls.

The FNPD source area-soil removal referred to above was intended to achieve NYSDEC Soil Cleanup Objectives for the Protection of Groundwater over an area of approximately 3,500 square feet to depths of up to 15 ft. Lockheed Martin further delineated soil impacts at the FNPD and the surface soil sampling locations during 2015 and 2016 in advance of design and implementation of the soil removal. The excavation design was initially finalized in the NYSDEC-approved 100% Remedial Action Work Plan (RAWP) for Soil Removal dated August 2018 prepared by Brown and Caldwell Associates (Brown and Caldwell, 2018) on behalf of Lockheed Martin. Three surface soil locations, two in the Solvent Dock Area and one in the West Lot, were excavated in September and October 2018 and the pole barn was dismantled in October 2018 in accordance with the Brown and Caldwell RAWP (Brown and Caldwell, 2018). However, the deep excavation portion of the 2018 RAWP was not completed due to the impending winter weather in October 2018. During the postponement, Tetra Tech prepared a NYSDEC-approved, revised RAWP dated September 17, 2019, on behalf of Lockheed Martin, to address the deep

excavation in the FNPD area (Tetra Tech, 2019). The FNPD source area-soil removal was conducted in October 2019 in accordance with the NYSDEC-approved RAWP (Tetra Tech, 2019). A more detailed discussion of the excavation activities in the FNPD is provided in the Construction Completion Report (CCR) for the FNPD dated July 2020 prepared by Tetra Tech (Tetra Tech, 2020a). The NYSDEC approved the CCR for the FNPD in a letter dated September 18, 2020 (NYSDEC, 2020).

2.2 GROUNDWATER CONTAMINANT DISTRIBUTION

Groundwater under the northeast portion of the main manufacturing building and the FNPD has been contaminated by chlorinated VOCs (CVOCs), including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethane (1,1-DCA), and vinyl chloride (VC). These constituents generally define the contaminants of concern (COCs) for the site groundwater monitoring program. Depth to groundwater in these areas is shallow and generally ranges from less than one to twelve feet below ground surface (ft bgs).

The source of the groundwater contamination under the northeast portion of the main manufacturing building was most likely the former 275-gallon overflow-retention tank, which was located immediately north of the loading dock along the northern wall of the manufacturing building.

Soil, groundwater, and surface water samples collected at the FNPD during initial and supplemental CMS investigations did not identify a specific source of observed groundwater contamination, such as releases from an underground storage tank, related infrastructure, or specific solvent use. However, sampling did identify an area of higher relative impacts located beneath and in proximity to the former pole barn that was excavated and removed as discussed in Section 2.1.

The wells replaced following the FNPD excavation activities, monitoring well MW-18 and the replacement piezometers A2-PZ-1 and A2-PZ-2, were sampled during in July 2020. Monitoring of A2-PZ-1 included Per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane sampling and analysis in addition to the standard CVOC analyte list. The monitoring well network is shown on Figure D-1.

Groundwater contamination is found primarily in fill and shallow glacial till soils. The water table is encountered near the bottom of the fill, typically within one foot of contact with the underlying till. Groundwater contamination is observed primarily in wells screened either solely within the fill or within the fill and underlying till. Grain size analysis and hydraulic conductivity testing indicate that the fill and till both have a low capacity to transmit water. The limited permeability of the fill and till units appears to have naturally contained the migration of

contaminated groundwater within the northeastern portion of the site. Evidence of off-site migration of contaminated groundwater has not been observed.

2.3 GROUNDWATER MONITORING GOALS AND CRITERIA

As described in the SB, the major components of the selected site remedy (pertaining to groundwater impacts) include FNPD source-area impacted soil removal, continued periodic groundwater monitoring, operation and maintenance of the existing GCTS, and institutional controls (in the form of a Site Management Plan). In accordance with the final directive of the SB, groundwater monitoring continues to be a requirement. The goals for groundwater monitoring, per the SB, are as follows:

- Assess contaminant concentrations over time and ensure the plume does not migrate off-site; and
- Monitor the effectiveness of the GCTS with regard to concentrations and plume boundaries.

The regulatory criteria by which groundwater quality is evaluated are NYSDEC's *Technical and Operational Guidance Series* (TOGS) 1.1.1 *Ambient Water Quality Standards and Guidance Values* (SGVs) and associated addenda (NYSDEC, 1998; NYSDEC, 2000; NYSDEC, 2004). If a monitoring well sampling location has met the SGVs for four consecutive sampling rounds, the removal of the monitoring well from the groundwater sampling program will be requested from the NYSDEC.

3.0 GROUNDWATER MONITORING PROGRAM

The *IGWMP* specifies sampling locations, monitoring parameters, and sampling frequency, as described in detail below. The annual groundwater gauging and sampling was performed from July 7, 2020 to July 9, 2020. Of the 61 wells subject to water level gauging, fourteen wells were sampled and analyzed for Volatile Organic Compounds (VOCs), and one of the piezometers (PZ-8) was reported as dry. In addition, A2-PZ-1 was also sampled for PFAS and 1,4 dioxane. On July 8, 2020, prior to purging and field parameter measurement, extra 40 milliliter (mL) sample vials of well water were collected from PZ-5 and PZ-6 in case the wells did not recharge after purging. The water levels were checked on July 9, 2020 at PZ-5 and PZ-6, and there was insufficient recharge to collect additional samples. The before purge sample results for PZ-5 and PZ-6 have been used in this report. Note that the groundwater monitoring program was transitioned to annual sampling in 2017. This was proposed in the 2015 Annual *Site Management Report* (Stantec 2016b), which was approved by NYSDEC on May 24, 2016.

3.1 MONITORING PARAMETERS

Groundwater VOCs comprise the parameters currently monitored at the site. All VOC samples were analyzed by Pace Analytical Services of Melville, NY using United States Environmental Protection Agency (USEPA) Method 8260c for Target Compound List VOCs.

Biogeochemical analytical data were historically collected through the January 2013 event at monitoring wells MW-1, MW-3, PZ-13R, A1-PZ-2, and A2-PZ-1 including nitrate, ferrous iron, sulfate, methane, total organic carbon (TOC), and total alkalinity. These data, in conjunction with the field parameters collected at the wells, were used to draw general conclusions regarding the groundwater geochemistry at each of the wells. For sampling events after January 2013, analysis of groundwater geochemistry was limited to field parameters including pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP), consistent with the sampling and analysis requirements of the *IGWMP*.

Biogeochemical analyses during the July 2020 sampling event included pH, conductivity, DO, and ORP. Field parameters were collected at the monitoring wells by bailing and measurement at the surface. Downhole DO and ORP were measured at all locations where there was sufficient recharge. PZ-8 did not have sufficient volume to collect field parameters.

Appendix D-5 contains the completed sampling logs for the annual event in July 2020.

3.2 MONITORING LOCATIONS AND OBJECTIVES

The monitoring well network is presented in Table D-1 and shown on Figure D-1. Wells included in the analytical sampling program were selected during development of the *IGWMP* as VOC monitoring points based on the current and anticipated extent of contaminants in groundwater. As per the NYSDEC-approved recommendation in the 2019 SMR, and based on eight consecutive sampling rounds with contaminant concentrations below the SGVs, A1-PZ-2 was removed from the monitoring well groundwater sampling network and was used for groundwater-elevation gauging in July 2020.

The rationale for sampling each of the wells is as follows:

Well ID	Rationale
MW-1	Within the Solvent Dock Area of groundwater impacts
MW-2	Within the Solvent Dock Area of groundwater impacts
MW-3	Within the Solvent Dock Area of groundwater impacts
MW-4	At the fringe of Solvent Dock Area groundwater impacts; hydraulically upgradient
MW-10	At the fringe of Solvent Dock Area groundwater impacts; hydraulically upgradient
MW-18	Western fringe of FNPD Area 2 groundwater impacts
MW-20	At the fringe of FNPD Area 1 groundwater impacts; monitors groundwater quality at the western extent of FNPD groundwater impacts
MW-21	At the fringe of FNPD Area 1 groundwater impacts; monitors groundwater quality at the southwestern extent of FNPD groundwater impacts
PZ-5	Within the Solvent Dock Area of groundwater impacts
PZ-6	Within the Solvent Dock Area of groundwater impacts
PZ-8	Within the Solvent Dock Area of groundwater impacts
PZ-11R	Edge of Solvent Dock Area of groundwater impacts
PZ-13R	Edge of Solvent Dock Area of groundwater impacts
A2-PZ-1	Within FNPD Area 2 groundwater impacts
A2-PZ-2	Within FNPD Area 2 groundwater impacts
MW-13BR	Within the Solvent Dock Area of groundwater impacts

Groundwater elevation measurements are provided in Table D-2 and a groundwater contour plan is shown on Figure D-2. Table D-3 provides the construction details of the monitoring wells and piezometers in the monitoring well network.

The objectives of the monitoring network wells are:

Objective 1 – Verify that contaminant concentrations are decreasing with time such that cleanup goals will be met. This objective will be met by monitoring those wells where exceedances have been reported. Long-term trend analysis will identify statistically-significant trends in contaminant concentrations.

Objective 2 – Confirm that contamination is not migrating to uncontaminated areas. Contaminants are expected to continue to disperse within known groundwater flow pathways. This objective will be met by monitoring those wells across the site (laterally and vertically) that (generally) yield COC concentrations below cleanup goals. Contamination in these locations is expected to be sometimes detectable but below cleanup goals.

Objective 3 – Monitor contaminant levels at potential exposure points under current land use conditions. The monitoring well network will monitor contaminant levels at the site such that, in the event that subsurface work is performed in Objective 3 areas, workers may be informed in advance of the types and levels of chemicals present. Based on this information, subsurface work can be performed while employing appropriate worker protection and waste management procedures. Wells selected for this objective are in locations that would cover potential areas of subsurface work, including both interior and exterior areas.

Objective 4 – Monitor site hydrogeologic conditions over time to identify any changes in groundwater flow that might compromise human health or the environment. This includes evaluating groundwater elevations in both the overburden and bedrock monitoring wells. Monitoring wells that support this objective span the site (laterally and vertically) and will detect changes in groundwater flow that might affect contaminant migration. All site monitoring well locations will be monitored annually for groundwater elevations and are therefore included as Objective 4 locations.

As a whole, the four objectives described above are intended to: (1) verify that the contaminant concentrations do not pose a significant risk to human health or the environment; (2) confirm that any changes to contaminant distribution through potential plume migration do not pose a significant risk to human health or the environment; and (3) monitor site hydrogeology to detect changing conditions that might affect future environmental decision-

making or present a risk to human health or the environment. Table D-4 identifies the monitoring locations for Objectives 1 through 3, all of which are included within the Objective 4 designation.

4.0 2020 GROUNDWATER MONITORING

In 2020, the groundwater monitoring event was conducted from July 7 through July 9, 2020.

Analytical results from the 2020 groundwater sampling event are summarized in Tables D-5 and D-8 and the VOC data are shown on Figure D-3. Appendix D-5 contains the groundwater sampling logs from the annual sampling event and Appendix D-6 contains the laboratory analytical report related to 2020 sampling.

As prescribed in the *IGWMP*, evaluation of data in accordance with each of the four objectives was conducted after the sampling event. An evaluation of the cumulative data including the sampling event conducted in 2020 is presented in the following sections. The monitoring locations with sufficient historical data were evaluated against recent results (in accordance with the *IGWMP*) and conclusions and recommendations are presented, where appropriate.

4.1 EVALUATION OF 2020 GROUNDWATER MONITORING RESULTS

Groundwater quality is assessed by comparing the analytical results to NYSDEC's TOGS 1.1.1 *Ambient Water Quality* SGVs. This comparison is depicted in Table D-5 and on Figure D-3.

The contaminants detected at the site are consistent with those historically present. Chlorinated VOCs including PCE, TCE, cis-1,2-DCE, 1,1-DCA, and VC are the primary COCs reported at concentrations exceeding the respective SGVs. The ranges of detected COC levels were generally similar to those observed in previous sampling events. Non-aqueous-phase liquids were not observed in any wells during 2020.

The monitoring well network and sampling program are designed to monitor long-term trends in groundwater contamination across the site, with specific wells designated based on the objectives stated in the *IGWMP*. Persistent, increasing trends and/or a sudden increase in individual COC concentrations may signify unexpected changes in the plume and, therefore, trigger a response action. The following three metrics are used herein for evaluating the analytical groundwater data: (1) Mann-Kendall trend test, (2) sudden increase analysis, and (3) historical maximum comparison.

The initial step of the overall trend analysis was to determine which wells and parameters met the criteria for performing a Mann-Kendall calculation and would therefore be included in the statistical tests. This process included screening COC concentrations against their respective cleanup goals and identifying SGV exceedances and concentration increases. To account for seasonal variations and to detect a current trend, eight consecutive rounds are used for Mann-Kendall statistical analysis. This trend analysis was performed using the 2020 annual sampling data as well as the seven previous sampling rounds for each well location. The 2020 sampling

event was the third year that sixteen wells were only sampled once annually. The previous quarterly sampling was included in this trend analysis.

Data included in the three-statistical metrics were collected from February 1995 through July 2020. Concentration vs. time plots (Figure D-3a through Figure D-3n) of data for each well included in the statistical evaluation were generated to qualitatively identify temporal patterns in the data, such as periodic fluctuations (e.g., seasonality), or an apparent overall trend in the data (e.g., increasing, decreasing, or stable). The statistical metrics employ only those data collected during the quarterly and annual events (Table D-5) of the program plus the historical monitoring results (Appendix D-1 through Appendix D-4).

1. Mann-Kendall Trend Test

The statistics for the Mann-Kendall test were calculated on an Excel spreadsheet following USEPA guidance (USEPA, 2009a). The Mann-Kendall trend test is a non-parametric test that evaluates trends based on concentrations relative to each other in time, rather than absolute concentration values. Mann-Kendall trend tests were conducted to facilitate evaluation of concentration trends in variable data over time at a given location. All possible pairs of data are considered for each analyte in each well. The pairs of data are compared to determine whether the later data point is a higher or lower concentration than the earlier data point, and the pair is scored as follows: -1 for lower, +1 for higher, and 0 for equal. The Mann-Kendall test statistic "S" is computed based on the sum of all the pair scores. The null hypothesis of *no trend* was evaluated at the 90% confidence level.

The p-value of the correlation (based on the calculated Mann-Kendall test statistic S) provides a measure of the level of significance of the statistical test. Existence of a trend (either increasing or decreasing) was accepted as significant for p-values less than or equal to 0.05 (significant trend at the 90% confidence level for a two-sided test) and not significant for p-values greater than 0.05. The trend direction was then identified based on review of concentration versus time plots for each COC at a given location (Figure D-4a through Figure D-4o).

Where non-detect concentrations were used in computations, the concentrations were assigned a value of 0.9 times the reporting limit of a given analyte. Analytes with greater than 50% non-detects were not included in the trend analysis. The last eight rounds of data were used in the calculations for the Mann-Kendall analysis in order to evaluate more recent trends of the contaminant concentrations.

2. Sudden Increase Analysis

The sudden increase evaluation identifies an unexpected increase in contaminant concentrations. Evaluation of groundwater analytical data can identify increases that may have occurred since monitoring began. The most recent eight samples (including the data from July 2020) were used to calculate a COC-specific mean and standard deviation. A result exceeding the mean plus three standard deviations is considered a sudden increase. The most recent concentration of a given COC in a well was compared to this threshold to determine whether a sudden increase had occurred.

3. Historical Maximum Comparison

Determination of a historical maximum is based on comparison to the entire historical data set. The historical maximum was identified for each well and analyte included in the long-term trend analysis and statistics evaluation. The historical maximum was then compared to the most recent result for the given well and analyte to identify whether the most recent result was *less than*, *greater than*, or *equal to* the historical maximum.

The results from these statistical tests were previously assessed in accordance with a Decision Tree, presented as Figure D-4 in the 2016 SMR (Stantec, 2017) and Appendix B in the IGWMP. However, in anticipation of changing to an annual program, the 2016 SMR proposed an alternative method for evaluating results focused on sudden increase analysis. This approach was conditionally approved by NYSDEC/NYSDOH in NYSDEC's letter dated May 11, 2017. Although this method is limited to statistical sudden increases, data from the July 2020 groundwater monitoring event are also reviewed with respect to Mann-Kendall testing and historical maxima to add further perspective to the data's review. Please note that MW-18, A2-PZ-1 and A2-PZ-2 were not included in the Mann-Kendall trend analysis as they were recently re-installed and sampled and do not have enough previous sampling rounds for comparison to show a trend. Findings are summarized in Table D-6 for the July 2020 monitoring event. The following sub-sections discuss and evaluate the groundwater sampling results for each of the Objective 1, Objective 2, and Objective 3 wells. Note that these statistical tests do not apply to Objective 4, which only monitors the site hydrogeology and not groundwater quality.

4.1.1 Objective 1 COC Well Results and Evaluation

The Objective 1 monitoring wells are intended to verify that contaminant concentrations are decreasing such that cleanup goals will be met. Most of the Objective 1 wells demonstrate SGV exceedances for at least one or more analytes. Long-term trend analysis began with Objective 1 wells in order to monitor statistically-significant trends in contaminant concentrations, in response to natural attenuation.

The Objective 1 wells included in this evaluation were: A2-PZ-1, A2-PZ-2, MW-1, MW-3, MW-18 MW-20, PZ-5, PZ-6, PZ-8, and PZ-13R. The following summarizes an assessment of the results that also includes a review of the statistical evaluation of the Objective 1 wells:

- No SGV exceedances were observed in PZ-13R.
- Piezometers A2-PZ-1 and A2-PZ-2 have SGV exceedances of PCE, TCE, cis-1,2-DCE, VC 1,1-DCA, and Freon 113. The results for these wells are overall significantly lower than the VOC levels observed throughout the previous sampling years; these piezometers were last sampled in January 2017. This is likely attributable to the FNPD excavation activities completed in the fall of 2019.
- MW-18 has SGV exceedances of PCE, TCE, cis-1,2-DCE, 1,1-DCA, and Freon 113. The results for this well are consistent with the VOC levels observed throughout the previous sampling years; this monitoring well was last sampled in January 2017.
- MW-1, PZ-5, PZ-6, have consistently exhibited SGV exceedances of PCE, TCE, and cis-1,2-DCE; the concentrations reported for this annual sampling event are generally consistent with results of the previous sampling events for these wells. During this sampling event, PZ-6 PCE and TCE concentrations were below their respective SGVs.
- MW-3 continues to exhibit exceedances of cis-1,2-DCE; the PCE and TCE concentrations are below their respective SGVs; the VC concentration has been fluctuating above and below its SGV since 2013 but exceeded its SGV during this sampling event.
- MW-20 continues to exhibit fluctuating VC concentrations above and below the SGV, consistent with results collected since 2012, but exceeded its SGV during this sampling event.
- PZ-8 was not analyzed for VOCs due to insufficient groundwater recovery during sampling.
- A1-PZ-2 was not sampled as it was removed from the sampling list as approved by the NYSDEC.
- Statistically-significant decreasing trends were identified for PCE at PZ-6 and MW-3 and for cis-1,2-DCE and TCE at PZ-5.
- There were no sudden increases in contaminant concentrations.
- The groundwater sample results were less than the historical maxima.

Overall, 2020 monitoring results for Objective 1 wells indicate that the contaminant levels are either improving or remaining the same. These results support the interpretation of plume stability.

4.1.2 Objective 2 COC Well Results and Evaluation

The Objective 2 monitoring well (MW-21) is intended to confirm that contamination is not migrating to other areas of the site beyond those previously identified. Monitoring well MW-21 was the only Objective 2 well sampled for VOCs in July 2020. VC is the only compound to exhibit SGV exceedances in MW-21. The concentration of VC in MW-21 during this sampling period (2.5 micrograms per liter [µg/L]) is slightly above the SGV of 2.0 µg/L. As a result, the 2020 event indicates that contamination is not migrating beyond the previously-identified areas of impact. These data are indicative of contaminant plume stability. There were no sudden increases in contaminant concentrations. The groundwater sample results were less than the historical maxima.

4.1.3 Objective 3 COC Well Results and Evaluation

The Objective 3 monitoring wells (MW-2, MW-4, and MW-10) monitor contaminant levels at potential exposure points under current land use conditions such that, in the event that subsurface work is performed in Objective 3 areas, workers may be informed of the types and levels of contaminants present. Based on the information generated from the Objective 3 monitoring wells, subsurface work at or below the water table can be performed as long as workers use appropriate personal protective equipment and comply with appropriate waste management procedures. Objective 3 wells are located within areas that may be potential future areas of subsurface work, including both interior and exterior portions of the site. All three Objective 3 wells were included in the Mann-Kendall analysis. The following summarizes the statistical evaluation of MW-2, MW-4, and MW-10:

- Two of the three Objective 3 wells sampled exhibited SGV exceedances for cis-1,2-DCE and VC (MW-2 and MW-10).
- The exceedance concentrations in MW-2 and MW-10 are similar to concentrations reported for these locations during previous annual sampling events.
- Monitoring well MW-4 exhibited an exceedance of VC.
- There were no sudden increases in contaminant concentrations.
- The groundwater sample results were less than the historical maxima.

Overall, results from the Objective 3 monitoring wells indicate that the implications for subsurface work have remained relatively unchanged over the past nine years.

4.1.4 Objective 4 COC Well Results and Evaluation

Objective 4 monitoring wells defined in the *IGWMP* monitor hydrogeologic conditions at the site over time to identify any changes in groundwater flow that might alter the basis of the assumptions used to develop the *IGWMP*. This includes evaluating groundwater elevations in both the overburden and bedrock monitoring wells. Monitoring wells that support this objective span the site (laterally and vertically) and will detect changes in groundwater flow and the directions of potential contaminant migration. Historically, monitoring wells have been gauged quarterly for groundwater elevations and are included as Objective 4 locations. The Objective 4 locations were gauged for 2020 during the annual July event. Groundwater elevation data from the 2020 monitoring event are summarized in Table D-2 and shown on Figure D-2. As shown on the attached groundwater contour plan (Figure D-2), groundwater flow direction is indicated to be to the east to southeast but highly variable on the site. The groundwater capture by the GCTS is apparent near the MH-1, MH-2 and MH-3 drains. The low groundwater level in PZ-27 is similar to previous sampling events thus indicating that MH-1 is providing groundwater capture. Note that bedrock well and injection well water levels are not used in the development of the contour plan.

Groundwater elevations in monitoring wells that were measured in the Solvent Dock Area were relatively consistent with historical measurements at the site (Table D-2). In general, the groundwater elevations indicate a lower water table when compared to the September 2019 event. Most of the groundwater elevations are within the historical ranges observed. The following two locations were reported as dry: MW-13S and PZ-21. MW-13S was dry in July 2020 and PZ-21 has been dry since April 2015. Two additional locations exhibited new historic minima: MW-2 and A2-PZ-3.

4.1.5 PFAS and 1,4-Dioxane Results in A2-PZ-1

- Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA) were detected at concentrations of 2.14 and 9.32 nanograms per liter (ng/L), respectively. These detections are less than the NYSDEC screening value of 10 ng/L.

- The other PFAS compounds detected were below the 100 ng/L NYSDEC screening level.

- 1,4-Dioxane was detected at a concentration of 1.5 µg/L which is slightly above the proposed NYSDEC screening level of 1.0 µg/L.

4.2 SITE GEOCHEMISTRY

Field parameters consisting of pH, DO, ORP, specific conductivity, and temperature are periodically collected to evaluate potential for natural attenuation mechanisms to be occurring. In accordance with sampling and analysis requirements of the *IGWMP*, geochemical analyses

have been limited to the field parameters pH, conductivity, DO, and ORP since the April 2013 sampling event; the biogeochemical indicators ferrous iron, nitrate, sulfate, total alkalinity, TOC, and methane have not been collected since the January 2013 sampling event. Field parameter geochemistry results for the 2020 sampling event are summarized in Table D-7 and are described below.

- Measured pH levels in groundwater site-wide ranged from 6.86 to 7.85 SU; indicating conditions are generally neutral.
- DO values ranged from 0.20 to 3.18 milligrams per liter (mg/L); this range of values is consistent with previous sampling events and is within the historical range observed for each of the sampled wells. These data indicate that groundwater varies from oxygen rich to oxygen deprived depending on location.
- ORP values ranged from -82 to -25 millivolts (mV); ORP was negative in all fourteen wells sampled for ORP. The ORP values are within the range observed for each of these wells sampled for ORP in September 2019.

A dark gray clay lens in the till has been observed at most site locations while characterizing the geology during site investigations. Gray clay is typically observed in iron-to-sulfate reducing conditions, as iron oxyhydroxide in the aquifer sediment is reduced to Fe(II) minerals. The Fe(II) data collected in 2012 suggested mild reducing conditions at several monitoring locations at the site. The potential presence of reduced-iron minerals suggests that the natural attenuation mechanism for abiotic degradation of chlorinated VOCs may be active at some locations. As demonstrated in many laboratory and field studies reviewed by USEPA (USEPA, 2009b), reactive iron minerals such as iron sulfides, pyrite, magnetite, green rust, and a number of Fe(II) containing clay minerals commonly observed in reducing environments may play a significant role in degrading chlorinated solvents through abiotic mechanisms. The combination of site geology and groundwater geochemical conditions (neutral pH and reducing environment at some locations) may be conducive to the natural degradation of chlorinated VOCs in groundwater by biotic and/or abiotic pathways in portions of the study area. However, the majority of monitored wells do not exhibit decreasing VOC trends, indicating that natural degradative pathways are having no observable impact, for the most part, on groundwater quality.

4.3 DATA VALIDATION

Groundwater sample analyses were performed using USEPA SW-846 Method 8260c, USEPA Method 537 (modified), and USEPA SW-846 Method 8270D. Data for the annual sampling event in July 2020 were reviewed in accordance with the USEPA *National Functional Guidelines* (USEPA, 1999), USEPA Region II SOPs, and NYSDEC Analytical Services Protocol (ASP) 2005. The data package was compiled by a New York State-certified laboratory and prepared as New

York State "Analytical Services Protocol Category B" deliverables. The review was conducted as a "NYSDEC Tier III evaluation" and included a review of data package completeness. A data usability summary report (DUSR) was completed in accordance with NYSDEC Division of Environmental Remediation DER-10 [*Technical Guidance for Site Investigation and Remediation]* (NYSDEC, 2010). In accordance with NYSDEC's written approval in a letter dated May 24, 2012 (NYSDEC, 2012), a DUSR was prepared for this annual event. The DUSR is provided in Appendix D-7.

Data review evaluates data technically, rather than simply determining contract compliance. As such, the standards against which the data are weighed may differ from those specified in the contractually-stipulated analytical method. The data package is thus presumed to represent the best efforts of the laboratory, and the data are likewise presumed to have been subjected to adequate and sufficient quality review before submission. During data review, laboratory qualified and unqualified data are verified against the supporting documentation. The data reviewer may add, delete, or modify qualifier codes. The NYSDEC ASP Category B deliverable data review includes checks of the following:

- chain-of-custody forms;
- holding times;
- Gas Chromatography/Mass Spectrometry (GC/MS) instrument performance checks;
- instrument calibration;
- trip- and/or laboratory (method)-blank detected constituents;
- surrogate-spike recoveries;
- laboratory control sample recoveries;
- matrix-spike/matrix-spike-duplicate precision and accuracy;
- internal standards;
- chromatograms/analyte identification;
- checking for transcriptions between quantitation reports and laboratory, hard-copy Form "I"s; and
- blind-duplicate precision.

The data validator performed final validation of data obtained during field sampling and analysis. Laboratory deliverables were reviewed for accuracy, precision, completeness, and overall data quality. All laboratory data were reviewed for adherence to method-specific quality assurance/quality control (QA/QC) guidelines and the data validation guidelines described above.

Data usability – The review classified the data as valid, usable, or unusable. Valid data are data for which all QA/QC review criteria have been met and that are acceptable (as per details outlined in the preceding section). Data were characterized as usable when QA/QC parameters were marginally outside acceptable limits (e.g., sample holding times had been slightly exceeded), such that the data may be questionable, but still usable with limitations. Unusable data are data observed to have gross errors or analytical interference that would render them invalid for any purpose.

Note that analytical data qualifiers have been included in Table D-5. The analytical data qualifiers have been included in Table D-5 according to results of the attached DUSR. Based on the results of data validation and as summarized in the attached DUSR, the analytical data are usable.

4.4 SUMMARY AND CONCLUSIONS

Groundwater monitoring data collected in 2020 in conjunction with historical site data and the on-going remedial activities lead to the following conclusions:

General COC Observations

- The contaminants detected at the site are consistent with those previously identified in earlier investigations.
- The predominant constituents detected at concentrations greater than the SGVs continue to be PCE, TCE, cis-1,2-DCE, 1,1-DCA, and VC.
- A Mann-Kendall trend analysis identified no statistically-significant increasing trends, and six statistically significant decreasing trends (PCE at PZ-6 and MW-3; TCE at PZ-5; cis-1,2-DCE at PZ-5; VC at MW-4, and 1,1-DCA at MW-10).

Objective 1 – COC Observations

- There were no exceedances of any historical maximum in 2020.
- No sudden increases were identified at any of the Objective 1 wells for any of the included analytes.
- A Mann-Kendall trend analysis identified four statistically significant decreasing trends: PCE at PZ-6 and MW-3; and TCE and cis-1,2-DCE at PZ-5.
- No SGV exceedances were observed in PZ-13R.
- Replacement of three well/piezometers (MW-18, A2-PZ-1, and A2-PZ-2) were completed following the excavation work in November 2019.

Objective 2 – COC Observations

- Historically, the COCs have been non-detect and below the SGVs in MW-21 except for VC. VC was detected at 2.5 micrograms per liter (µg/L) which is slightly above the SGV of 2.0 µg/L during the 2020 sampling event. Overall, results do not indicate that the groundwater plume is migrating beyond the identified impacted areas of the site.

Objective 3 – COC Observations

- Concentrations of two COCs in MW-2 and MW-10 (cis-1,2-DCE and VC) remain above SGVs. Monitoring well MW-4 exhibited an exceedance of VC. There were no sudden increases in contaminant concentrations. The groundwater sample results were less than the historical maxima.
- A Mann-Kendall trend analysis identified two statistically significant decreasing trends (1,1-DCA at MW-10; and VC at MW-4).

Hydrogeology

- Groundwater flow direction is indicated to be to the east to southeast but highly variable on the site. The groundwater capture by the GCTS is apparent near the MH-1, MH-2, and MH-3 drains. The low groundwater level in PZ-27 is similar to previous sampling events thus indicating that MH-1 is providing groundwater capture.
- Groundwater monitoring identifies no evidence of plume expansion or offsite migration.
- The replacement monitoring wells and piezometers are located in the area that monitors the GCTS influence on groundwater capture.

Geochemistry

- Geochemistry data from field sampling indicate neutral to slightly basic groundwater and varying specific conductivity and dissolved oxygen. ORP was negative.

5.0 RECOMMENDATIONS

As discussed in Appendix B of this SMR, optimization measures for the GCTS include an evaluation of the ongoing need for the system's hydraulic control through monitoring of the effects of a GCTS temporary shutdown. A component of the GCTS shutdown evaluation includes completing two test pits and installing eight piezometers in the north storm sewer area near the buried perforated piping for the GCTS. Following completion of the test pits and installation of the new piezometers, the GCTS will be temporarily shut down. Four quarterly groundwater monitoring and storm sewer monitoring events will be conducted during the temporary shutdown of the GCTS. Groundwater samples will be collected from the existing monitoring wells and piezometers sampled in the July 2020 groundwater sampling event, and the eight new piezometers for VOC analysis. The data will be evaluated and summarized in data usability summary reports (DUSR) for each quarterly monitoring event. The monitoring wells and piezometers will also be measured for groundwater elevations during each quarterly monitoring event. The optimization measure for the GCTS is fully described in the *GCTS Optimization Investigation Work Plan* prepared by Tetra Tech dated February 2021 (Tetra Tech, 2021).

The temporary shutdown of the GCTS is anticipated to begin in May 2021. The groundwater water sampling event in May 2021 will be the first quarter of the groundwater monitoring events and the baseline sampling event for evaluating the effects of the GCTS temporary shutdown. The remaining quarterly sampling events will occur in August 2021, November 2021 and February 2022.

6.0 REFERENCES

ARCADIS, 2009 — *Corrective Measures Study Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. March 16, 2009.

ARCADIS, 2011a — *Former Northern Perimeter Ditch Supplemental Investigation Report, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. March 4, 2011.

ARCADIS, 2011b — *Feasibility Study Report, Former Northern Perimeter Ditch, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York.* June 13, 2011.

ARCADIS, 2012 — *Interim Groundwater Monitoring Program, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. [revised] February 2012.

ARCADIS, 2013 — *Corrective Measures Study, Former Northern Perimeter Ditch, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. December 2013.

BBL, 1995a — *Storm Sewer Investigation Report*. May 1995.

BBL, 1995b — *Storm Sewer Basis of Design Report*.

Brown and Caldwell, 2018 — 100% Remedial Action Work Plan Soil Removal, *Former Lockheed Martin Corporation French Road Facility, Utica, New York.* August 10, 2018.

NYSDEC, 1998 — *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.

NYSDEC, 2000 — *April 2000 Addendum to June 1998 Division of Water Technical and Operational Guidance Series (TOGS) No. 1.1.1.* (originator – Scott Stoner). April 2000.

NYSDEC, 2004 — *Addendum to June 1998 Division of Water Technical and Operational Guidance Series (TOGS) No. 1.1.1.* June 2004.

NYSDEC, 2008 — *Order on Consent, Index Numbe*r: CO 6-200080321-5. October 3, 2008.

NYSDEC, 2010 — *DER-10, Technical Guidance for Site Investigation and Remediation.* May 3, 2010.

NYSDEC, 2012 — Letter from NYSDEC to Lockheed Martin: *Data Validation Requirements, Interim Groundwater Monitoring Program, Former Lockheed Martin French Road Facility, NY D000521971 UIS Site Number 633036a, 525 French Road; Utica, New York.* May 24, 2012.

NYSDEC, 2015 — *Final Statement of Basis Corrective Measures Selection, Former Lockheed Martin-French Road Facility, Operable Units 01 & 02, Site No. 633036A, EPA ID No. NYD000521971, Utica, Oneida County*. March 2015.

NYSDEC, 2018 — Letter from NYSDEC to Lockheed Martin: Requesting Groundwater Sampling for Emerging Contaminants*, Interim Groundwater Monitoring Program, Former Lockheed Martin French Road Facility, NY D000521971 UIS Site Number 633036a, 525 French Road; Utica, New York.* March 2018.

Stantec, 2016a — *Interim Groundwater Monitoring Program, Solvent Dock Area, Former Lockheed Martin French Road Facility, Utica, New York*. [draft revised] May 23, 2016.

Stantec, 2016b — *Draft Interim Site Management Plan, Former Lockheed Martin French Road Facility, Solvent Dock Area and West Lot, Oneida County, Utica, New York, NYSDEC Site Numbers: 633036 and 633036A*. July 2016.

Stantec, 2016c — *2015 Annual Site Management Report, Former Lockheed Martin French Road Facility, Utica, New York*. March 10, 2016.

Stantec, 2017 — *2016 Annual Site Management Report, Former Lockheed Martin French Road Facility, Utica, New York*. May 2017.

Tetra Tech, 2019 — *Remedial Action Work Plan, Former Lockheed Martin French Road Facility, Utica, New York*. September 17, 2019.

Tetra Tech, 2021 — *GCTS Optimization Investigation Work Plan*, Former Lockheed Martin French Road Facility, Utica, New York. February 2021.

USEPA, 1999 — *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*: OSWER 9240.1-05A-P, PB99-963506, EPA540/R-99/008. October 1999.

USEPA, 2009a — *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance* (EPA 530/R-09-007). March 2009.

USEPA, 2009b *Identification and Characterization Methods for Reactive Minerals Responsible for Natural Attenuation of Chlorinated Organic Compounds in Ground Water,* EPA600-R09/115. December 2009.

TABLES

Table D-1
Sampling Frequency and Parameters for the Monitoring Well Network
Former Lockheed Martin French Road Facility
Utica, New York

Monitoring Well	Sampling Frequency	Sampling Parameters
MW - 1	Annual	VOCs, Field Parameters
MW - 2	Annual	VOCs, Field Parameters
MW - 3	Annual	VOCs, Field Parameters
MW - 4	Annual	VOCs, Field Parameters
MW - 5	-	-
MW - 6	-	-
MW - 7	-	-
MW - 9	-	-
MW - 10	Annual	VOCs, Field Parameters
MW - 11	-	-
MW - 12	-	-
MW - 13S	-	-
MW - 13T	-	-
MW - 13BR	-	-
MW - 14S	-	-
MW - 14BR	-	-
MW - 15S	-	-
MW - 15BR	-	-
MW-16	-	-
MW-17	-	-
MW-18	Annual	VOCs, Field Parameters
MW-19	-	-
MW-20	Annual	VOCs, Field Parameters
MW-21	Annual	VOCs, Field Parameters
PZ - 2	-	-
PZ - 4	-	-
PZ - 5	Annual	VOCs, Field Parameters
PZ - 6	Annual	VOCs, Field Parameters
PZ - 7	-	-
PZ - 8	Annual	VOCs, Field Parameters
PZ - 9	-	-
PZ - 10	-	-
PZ - 11R	Annual	VOCs, Field Parameters
PZ - 13R	Annual	VOCs, Field Parameters
PZ - 17	-	-
PZ - 18	-	-
PZ - 19	-	-
PZ - 20	-	-
PZ - 21	-	-
PZ - 22	-	-
PZ - 23	-	-
PZ - 24	-	-
PZ - 25	-	-
PZ - 26	-	-
PZ - 27	-	-
PZ - 28	-	-
PZ - 29	-	-
PZ - 30	-	-
PZ - 31	-	-
PZ - 32	-	-
PZ - 33	-	-
PZ - 34	-	-
PZ - 35	-	-
PZ - 36	-	-
PZ - 39	-	-
PZ - 40	-	-
PZ - 41	-	-
PZ - 42	-	-

See next page for notes.

Table D-1
Sampling Frequency and Parameters for the Monitoring Well Network
Former Lockheed Martin French Road Facility
Utica, New York

Monitoring Well	Sampling Frequency	Sampling Parameters
A1 - PZ - 1	-	-
A1 - PZ - 2	-	-
A2 - PZ - 1	Annual	VOCs, Field Parameters
A2 - PZ - 2	Annual	VOCs, Field Parameters
A2 - PZ - 3	-	-
A2 - PZ - 4	-	-
A2 - PZ - 5	-	-
A2 - PZ - 6	-	-
A2 - PZ - 7	-	-
A2 - PZ - 8	-	-
OW-1	-	-
MW-23	-	-
MW-F	-	-

Notes:

1. All wells and piezometers will be measured for groundwater elevations on a annual basis prior to collecting a groundwater sample.
2. VOCs = volatile organic compounds
3. - = Not sampled as part of the groundwater monitoring program.
3. A1-PZ-2 is no longer used for sampling, but continues to be used for groundwater elevation gauging.
5. A2-PZ-1 was also sampled for PFAS and 1,4-Dioxane in July 2020.
6. PFAS = Per- and polyfluoroalkyl substances

Table D-2
Groundwater Elevation Measurements
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

Well ID	Top of Casing Elevation (ft)	Ground Water Elevation (ft)											
		Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1													
MW-1	507.27	500.45	500.85	499.41	498.93	499.32	499.52	499.06	498.32	499.50	499.22	498.67	498.59
MW-3	509.45	499.57	499.85	498.87	498.55	498.78	498.88	497.56	497.91	498.79	498.60	498.17	498.04
MW-18**	505.16	502.29	502.12	501.89	501.88	502.19	502.00	501.62	501.43	502.22	--	--	502.15
MW-20	503.40	501.86	502.01	501.28	501.00	501.35	501.40	501.06	500.49	501.27	501.46	500.98	501.10
PZ-5*	508.20	498.70	498.46	498.73	498.98	499.98	499.31	498.60	498.89	499.27	499.08	498.55	499.18
PZ-6*	508.28	499.12	499.01	499.13	499.07	499.99	499.11	499.03	499.05	499.06	499.13	498.18	499.07
PZ-8	508.23	499.60	499.68	499.10	498.86	499.21	498.81	498.70	498.53	498.92	498.42	498.58	498.66
PZ-11R	504.88	496.83	496.90	496.39	496.32	496.50	496.52	496.24	496.13	496.62	496.17	496.18	496.17
PZ-13R	503.98	495.98	495.96	495.81	495.83	495.89	496.00	495.85	495.82	495.98	495.88	495.82	495.48
A1-PZ-2	503.00	--	501.73	501.40	500.77	501.15	501.56	500.89	500.62	501.33	501.49	501.32	500.89
A2-PZ-1**	504.37	--	505.83	504.88	504.40	504.87	505.06	504.78	504.70	505.50	--	--	503.12
A2-PZ-2**	504.79	503.59	503.45	503.39	503.32	503.28	503.09	503.16	503.03	503.73	--	--	502.17
Objective 2													
MW-5	504.33	500.78	501.77	500.02	499.49	500.03	500.44	499.46	500.10	500.38	499.97	499.22	499.26
MW-13S	505.81	500.21	500.68	499.37	498.93	499.30	499.52	499.06	DRY	497.92	499.24	DRY	DRY
MW-14BR	507.95	447.55	453.44	459.39	464.31	447.89	452.18	458.24	462.85	494.10	495.75	497.30	496.89
MW-21	503.66	501.41	501.73	501.48	501.09	499.64	500.74	501.15	500.96	501.11	501.62	500.91	501.14
PZ-18	504.85	497.27	497.22	496.99	496.94	497.15	497.16	496.94	496.86	497.17	496.99	496.95	496.90
PZ-26	510.95	502.23	502.14	501.98	501.68	501.93	501.70	501.66	501.46	502.23	504.79	501.87	502.03
Objective 3													
MW-2	504.60	500.43	501.05	499.50	498.95	499.39	499.67	499.15	498.38	499.58	499.36	498.73	495.62
MW-4	506.73	497.11	497.02	495.91	495.28	496.08	496.58	495.61	495.13	497.18	496.56	495.82	495.66
PZ-7*	508.26	499.44	499.49	499.50	499.48	499.57	499.38	499.38	499.45	502.45	499.47	499.45	499.59
MW-10	504.48	501.33	501.86	499.98	499.34	500.02	500.25	499.56	498.71	500.08	499.72	499.08	498.91
Others													
IW-1	506.80	505.25	505.73	504.96	505.03	505.19	505.41	504.86	504.48	--	504.75	504.99	504.99
MW-6	508.06	502.27	502.22	502.00	501.62	502.00	502.06	501.77	501.24	502.00	502.09	501.86	501.64
MW-7	506.94	--	498.80	498.96	499.08	498.49	498.41	498.86	498.94	498.56	499.08	498.97	498.93
MW-9	504.84	501.73	502.09	501.21	500.93	502.04	502.15	501.40	500.59	502.19	501.61	501.34	501.39
MW-11	507.03	499.31	498.70	499.06	499.09	499.18	498.61	498.91	499.03	498.79	498.96	499.18	498.95
MW-12	508.30	496.67	497.92	496.64	496.27	496.83	496.92	496.23	495.97	497.51	496.76	496.77	497.05
MW-13BR	506.12	495.73	495.28	494.69	495.52	495.20	496.17	495.40	496.17	496.78	490.52	496.49	496.16
MW-14S	507.85	498.05	500.13	499.04	498.12	499.32	499.47	498.08	497.27	499.99	493.27	499.19	499.35
MW-15S	507.26	--	499.35	498.99	498.92	499.30	499.08	498.78	498.74	499.20	498.91	498.96	498.85
MW-15BR	507.24	--	488.47	488.88	489.39	489.84	490.23	490.65	490.97	491.37	493.33	494.97	495.79
MW-17**	504.73	500.95	501.49	500.71	500.95	501.49	501.73	500.95	500.68	501.41	--	--	501.85
MW-19*	503.07	502.58	502.17	502.32	501.83	501.84	501.80	501.94	501.89	501.59	502.13	502.21	501.96
PZ-2*	503.76	501.85	502.14	501.46	501.14	501.36	501.79	501.40	500.87	501.69	501.62	501.24	501.40
PZ-4	506.13	504.13	504.16	503.74	503.63	503.78	503.76	503.38	502.97	503.22	503.48	503.31	503.06
PZ-9	508.08	500.07	499.99	500.22	500.16	500.11	500.07	500.19	500.17	500.11	500.14	500.46	500.44
PZ-10	508.14	499.44	499.50	499.30	499.28	499.46	499.11	499.23	499.23	499.34	499.30	499.41	499.36
PZ-17	504.05	497.85	497.66	497.06	497.03	497.34	497.09	496.61	496.66	497.38	496.43	496.88	497.15
PZ-19	504.60	--	498.06	497.33	497.40	497.55	497.49	497.22	497.13	497.35	497.18	497.15	497.25
PZ-20	503.85	--	497.66	497.01	497.02	497.20	497.28	496.92	496.72	497.11	497.03	496.76	496.78
PZ-21	505.70	DRY	496.77	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
PZ-22	508.57	502.02	501.86	501.18	499.80	501.58	501.34	500.34	499.39	501.52	500.50	500.79	500.84
PZ-23	510.07	503.96	503.91	503.59	503.31	503.62	503.05	503.18	503.05	503.81	503.58	503.45	503.28
PZ-24	504.77	494.49	494.52	494.12	493.79	494.19	494.18	493.83	493.77	494.15	493.93	493.84	493.92
PZ-25	510.62	504.56	504.58	504.23	503.86	504.21	503.86	503.83	503.57	504.43	503.98	504.17	501.09
PZ-27	504.12	--	495.36	493.70	492.70	494.09	493.64	492.74	492.57	493.80	493.07	493.24	492.87
PZ-28	504.12	500.85	500.74	500.42	500.30	500.58	500.77	497.02	500.05	500.70	500.59	500.35	500.44
PZ-29	503.84	--	501.80	501.67	501.61	501.64	501.79	501.68	501.19	501.72	501.74	501.42	--
PZ-30	504.72	501.44	501.45	501.24	500.92	501.17	501.18	500.86	500.77	501.30	501.04	500.90	500.84
PZ-31	506.17	505.86	505.87	505.06	505.67	505.77	505.87	505.11	505.47	505.62	505.82	505.63	505.13
PZ-34	503.88	502.00	502.09	501.59	501.19	501.36	501.78	501.06	500.77	501.61	501.82	501.33	501.33
PZ-35	503.98	502.32	503.30	502.27	501.86	501.74	502.81	501.86	501.54	502.21	502.50	502.17	502.40
PZ-36	504.23	--	503.36	502.90	502.51	502.93	503.47	502.79	502.24	503.17	502.70	502.31	502.35
PZ-39	504.51	502.49	503.15	501.54	500.93	501.26	501.87	500.92	500.30	501.52	501.05	500.51	500.50
PZ-40	506.68	502.51	502.54	502.09	501.83	501.98	502.23	501.87	501.41	502.14	502.19	501.79	501.80
PZ-41	506.27	501.97	502.51	502.01	501.58	501.84	501.95	501.63	501.25	501.93	501.77	500.53	501.45
PZ-42	505.18	504.63	504.49	504.53	504.63	504.53	504.73	504.53	504.49	504.68	504.80	504.58	504.13
A1-PZ-1	503.77	--	502.70	502.62	502.12	501.82	502.75	502.47	502.15	501.72	502.43	502.34	502.57
A2-PZ-3**	504.83	508.23	508.05	506.98	506.15	507.64	507.53	505.82	505.36	507.40	--	--	497.91
A2-PZ-4**	504.60	--	509.20	507.81	507.97	508.12	508.95	507.27	507.62	508.07	--	--	500.76

Notes:
1. "--" - Not measured due to access or well was decommissioned.
2. DRY - No measurable water
3. All measurements presented above are given in feet Above Mean Sea Level (AMSL), as measured from the July 1997 National Geodetic Survey datum.
4. PZ-11R, MW-2 and MW-19 measurements were unable to be collected on 10/1/2013. The values presented above were calculated from the initial water level collected during the sampling event between 10/2 and 10/4/2013.
5. The Oct. 2014 MW-14BR groundwater elevation was recorded immediately prior to sampling and not during the earlier gauging event, due to instrument malfunction.
6. PZ-11R was inaccessible on 7/11/16 during gauging (car parked on top of piezometer); the water level was measured the next day on 7/12/16 at 7:40 AM.
7. * Indicates a monitoring well or piezometer with an adjusted TOC elevation following the cutting of casing (MW-19, PZ-5, PZ-6, and PZ-7) or the replacement of PVC top (PZ-2) for improved well cover fitting. Repairs were performed on May 27, 2015 (MW-19), June 17, 2015 (PZ-2), and July 11, 2016 (PZ-5, PZ-6, and PZ-7). The casings were re-surveyed on January 21, 2016 (MW-19 and PZ-2) or re-measured on July 11, 2016 (PZ-5, PZ-6, PZ-7). Note that groundwater elevations calculated prior to the July 2015 monitoring event are based on the previous [surveyed] TOC elevations for MW-19 and PZ-2; the groundwater elevations calculated prior to the October 2016 monitoring event are based on the previous [surveyed] TOC elevations for PZ-5, PZ-6, and PZ-7.
8. In October 2017, monitoring wells MW-17 and MW-18 and piezometers A2-PZ-1, A2-PZ-2, A2-PZ-3, A2-PZ-4, A2-PZ-5, A2-PZ-6, A2-PZ-7, A2-PZ-8, PZ-32, and PZ-33 were decommissioned in preparation for the former northern perimter ditch (FNPD) excavation.
9. ** Indicates a monitoring well or piezometer that was replaced following the FNPD excavation activities.

Table D-3
Monitoring Well and Piezometer Construction Details
Former Lockheed Martin French Road Facility
Utica, New York

Monitoring Well	Diameter/ Material	Screen Length	Ground Surface Elevation	Top of PVC Riser Elevation	Well Depth (ft bgs)	Screen Depth (ft bgs)		Screen/Borehole Elevation		Hydrogeologic Unit Monitored	Date Installed	Consultant Name
						From (Top)	To (Bottom)	Top	Bottom			
MW - 1	4" PVC	10	507.51	507.27	17.2	7.0	17.0	500.5	490.5	Fill/Till	1991	O'Brien & Gere
MW - 2	4" PVC	15	504.95	504.60	16.5	1.5	16.5	503.5	488.5	Fill/Till	1991	O'Brien & Gere
MW - 3	2" PVC	10	507.06	509.45	13.0	3.0	13.0	504.1	494.1	Fill/Till	1991	O'Brien & Gere
MW - 4	2" PVC	10	506.98	506.73	14.0	4.0	14.0	503.0	493.0	Fill/Till	1991	O'Brien & Gere
MW - 5	2" PVC	10	504.72	504.33	14.0	4.0	14.0	500.7	490.7	Fill/Till	1991	O'Brien & Gere
MW - 6	2" PVC	10	505.70	508.06	15.0	5.0	15.0	500.7	490.7	Fill/Till	--	O'Brien & Gere
MW - 7	2" PVC	15	507.45	506.94	21.0	6.0	21.0	501.5	486.5	Fill/Till	1993	O'Brien & Gere
MW - 9	2" PVC	10	505.18	504.84	13.5	3.5	13.5	501.7	491.7	Fill/Till	1993	O'Brien & Gere
MW - 10	2" PVC	10	504.83	504.48	14.0	4.0	14.0	500.8	490.8	Fill/Till	1993	O'Brien & Gere
MW - 11	2" PVC	20	507.26	507.03	25.0	5.0	25.0	502.3	482.3	Fill/Till	1993	O'Brien & Gere
MW - 12	2" PVC	10	508.60	508.30	23.4	13.0	23.0	495.6	485.6	Fill/Till	--	--
MW - 13S	2" PVC	5	506.32	505.81	7.0	2.0	7.0	504.3	499.3	Fill	2008	ARCADIS
MW - 13T	2" PVC	10	506.11	505.68	20.0	10.0	20.0	496.1	486.1	Till	2008	ARCADIS
MW - 13BR	2" PVC	10	506.36	506.12	45.0	35.0	45.0	471.4	461.4	Bedrock	2008	ARCADIS
MW - 14S	2" PVC	10	508.22	507.85	16.0	6.0	16.0	502.2	492.2	Undifferentiated Overburden	2008	ARCADIS
MW - 14BR	2" PVC	10	508.20	507.95	67.2	57.2	67.2	451.0	441.0	Bedrock	2008	ARCADIS
MW - 15S	2" PVC	10	507.60	507.26	20.0	10.0	20.0	497.6	487.6	Undifferentiated Overburden	2008	ARCADIS
MW - 15BR	2" PVC	10	507.53	507.24	67.6	57.6	67.6	449.9	439.9	Bedrock	2008	ARCADIS
MW- 16*	2" PVC	10	505.09	504.69	15.5	4.9	14.9	500.2	490.2	Undifferentiated Overburden	2011	ARCADIS
MW- 17**	2" PVC	10	505.00	504.73	15.5	5.0	15.0	500.0	490.0	Fill/Till	2019	Tetra Tech
MW- 18**	2" PVC	10	505.40	505.16	15.5	5.0	15.0	500.4	490.4	Fill/Till	2019	Tetra Tech
MW- 19***	2" PVC	10	503.43	503.07	15.5	5.0	15.0	498.4	488.4	Undifferentiated Overburden	2011	ARCADIS
MW- 20	2" PVC	10	503.70	503.40	14.9	4.9	14.9	498.8	488.8	Undifferentiated Overburden	2011	ARCADIS
MW- 21	2" PVC	10	504.16	503.66	14.9	4.9	14.9	499.3	489.3	Undifferentiated Overburden	2011	ARCADIS
PZ - 2***	1" PVC	5	504.13	503.76	10.3	5.0	10.0	499.1	494.1	Fill/Till	--	--
PZ - 4	1" PVC	5	505.49	505.13	14.3	9.0	14.0	496.5	491.5	Fill/Till	--	--
PZ - 5	1" PVC	5	508.44	508.29	10.7	5.7	10.7	502.7	497.7	Till	--	--
PZ - 6	1" PVC	5	508.52	508.37	10.4	5.4	10.4	503.1	498.1	Till	--	--
PZ - 7	1" PVC	5	508.51	508.36	10.2	5.0	10.0	503.5	498.5	Till	--	--
PZ - 8	1" PVC	10	508.43	508.23	16.0	6.0	16.0	502.4	492.4	Till	2008	ARCADIS
PZ - 9	1" PVC	5	508.55	508.08	10.0	5.0	10.0	503.6	498.6	Till	2008	ARCADIS
PZ - 10	1" PVC	5	508.44	508.14	12.0	7.0	12.0	501.4	496.4	Fill	2008	ARCADIS
PZ - 11R	1" PVC	5	505.03	504.68	10.0	5.0	10.0	500.0	495.0	Fill	2010	ARCADIS
PZ - 13R	1" PVC	5	504.25	503.98	10.0	5.0	10.0	499.3	494.3	Fill	2010	ARCADIS
PZ - 17	1" PVC	5	504.40	504.05	8.5	3.5	8.5	500.9	495.9	Fill	2009	ARCADIS
PZ - 18	1" PVC	5	504.20	504.85	9.0	4.0	9.0	500.2	495.2	Fill	2009	ARCADIS
PZ - 19	1" PVC	5	504.90	504.60	8.5	3.5	8.5	501.4	496.4	Fill	2009	ARCADIS
PZ - 20	1" PVC	5	504.10	503.85	8.0	3.0	8.0	501.1	496.1	Fill	2009	ARCADIS

See next page for notes.

Table D-3
Monitoring Well and Piezometer Construction Details
Former Lockheed Martin French Road Facility
Utica, New York

Monitoring Well	Diameter/ Material	Screen Length	Ground Surface Elevation	Top of PVC Riser Elevation	Well Depth (ft bgs)	Screen Depth (ft bgs)		Screen/Borehole Elevation		Hydrogeologic Unit Monitored	Date Installed	Consultant Name
						From (Top)	To (Bottom)	Top	Bottom			
PZ - 21	1" PVC	6.5	506.00	505.70	9.5	3.0	9.5	503.0	496.5	Fill	2009	ARCADIS
PZ - 22	1" PVC	10	505.54	508.57	11.5	1.5	11.5	504.0	494.0	Fill/Till	2010	ARCADIS
PZ - 23	1" PVC	2	507.05	510.07	20.0	18.0	20.0	489.1	487.1	Till	2010	ARCADIS
PZ - 24	1" PVC	10	504.77	504.77	14.0	4.0	14.0	500.8	490.8	Fill/Till	2010	ARCADIS
PZ - 25	1" PVC	10	507.54	510.62	20.0	10.0	20.0	497.5	487.5	Fill/Till	2010	ARCADIS
PZ - 26	1" PVC	10	507.80	510.95	20.0	10.0	20.0	497.8	487.8	Fill/Till	2010	ARCADIS
PZ - 27	1" PVC	10	504.39	504.12	15.0	5.0	15.0	499.4	489.4	Fill/Till	2010	ARCADIS
PZ - 28	1" PVC	10	504.39	504.12	12.0	2.0	12.0	502.4	492.4	Fill/Till	2010	ARCADIS
PZ - 29	1" PVC	10	504.06	503.84	12.0	2.0	12.0	502.1	492.1	Fill/Till	2010	ARCADIS
PZ - 30	1" PVC	8	505.08	504.72	10.0	2.0	10.0	503.1	495.1	Fill/Till	2010	ARCADIS
PZ - 31	1" PVC	8	505.56	505.17	10.0	2.0	10.0	503.6	495.6	Fill/Till	2010	ARCADIS
PZ - 32*	1" PVC	9	505.29	504.90	11.0	2.0	11.0	503.3	494.3	Fill/Till	2010	ARCADIS
PZ - 33*	1" PVC	4.5	510.27	510.00	6.5	2.0	6.5	508.3	503.8	Fill/Till	2010	ARCADIS
PZ - 34	1" PVC	9	504.12	503.88	11.0	2.0	11.0	502.1	493.1	Fill/Till	2010	ARCADIS
PZ - 35	1" PVC	8	504.18	503.98	12.0	2.0	12.0	502.2	492.2	Fill/Till	2010	ARCADIS
PZ - 36	1" PVC	10	504.23	504.23	12.0	2.0	12.0	502.2	492.2	Fill/Till	2010	ARCADIS
PZ - 39	1" PVC	10	504.71	504.51	12.0	2.0	12.0	502.7	492.7	Fill/Till	2010	ARCADIS
PZ - 40	1" PVC	10	506.46	506.68	11.5	1.5	11.5	505.0	495.0	Fill/Till	2010	ARCADIS
PZ - 41	1" PVC	10	506.55	506.27	11.5	1.5	11.5	505.1	495.1	Fill/Till	2010	ARCADIS
A1 - PZ - 1	1" PVC	10	503.96	503.77	12.5	2.5	12.5	501.5	491.5	Fill/Till	2010	ARCADIS
A1 - PZ - 2	1" PVC	10	503.25	503.00	12.0	2.0	12.0	501.3	491.3	Fill/Till	2010	ARCADIS
A2 - PZ - 1**	1" PVC	10	504.60	504.37	15.5	5.0	12.5	499.6	489.6	Fill/Till	2019	Tetra Tech
A2 - PZ - 2**	1" PVC	10	505.00	504.79	15.5	5.0	15.0	500.0	490.0	Fill/Till	2019	Tetra Tech
A2 - PZ - 3**	1" PVC	10	505.10	504.80	15.5	5.0	15.0	500.1	490.1	Fill/Till	2019	Tetra Tech
A2 - PZ - 4**	1" PVC	10	505.00	504.60	15.0	5.0	15.0	500.0	490.0	Fill/Till	2020	Tetra Tech
A2 - PZ - 5*	1" PVC	10	510.24	510.03	12.0	2.0	12.0	508.2	498.2	Fill/Till	2010	ARCADIS
A2 - PZ - 6*	1" PVC	12	509.92	509.74	14.0	2.0	14.0	507.9	495.9	Fill/Till	2010	ARCADIS
A2 - PZ - 7*	1" PVC	12.5	509.74	509.59	15.0	2.5	15.0	507.2	494.7	Fill/Till	2010	ARCADIS
A2 - PZ - 8*	1" PVC	12	509.91	509.70	14.5	1.5	14.5	508.4	495.4	Fill/Till	2010	ARCADIS

Notes:

1. All elevations are reported as feet mean sea level (ft msl).
2. Construction details for MW-1, MW-6, PZ-2, and PZ-4 through PZ-7 estimated based on field measurements.
3. ft bgs = feet below ground surface
4. PVC - polyvinyl chloride
5. Survey data referenced horizontally to the NAD83 and projected on the New York State Plane Coordinate System (Central Zone).
6. The reference vertical benchmark is the finished floor elevation of the southeasterly corner of the Boiler House Building (Elevation 506.50 feet).
7. -- = unknown detail and/or abandoned
8. * Indicates a monitoring well that was abandoned in October 2017 in preparation for the FNPD excavation that will not be reinstalled.
9. ** Indicates a monitoring well that was abandoned in October 2017 in preparation for the FNPD excavation that were/will be reinstalled.
10. *** Indicates a monitoring well or piezometer with an adjusted TOC elevation. The adjusted TOC elevations for PZ-2 and MW-19 are based on a re-survey on January 21, 2016 following well cover repair.

TETRA TECH

Table D-4
List of Monitoring Wells Based on Objectives
Former Lockheed Martin French Road Facility
Utica, New York

Objective 1 Monitoring Network	Objective 2 Monitoring Network	Objective 3 Monitoring Network
MW-1	MW-21	MW-2
MW-3		MW-4
MW-18		MW-10
MW-20		
PZ-5		
PZ-6		
PZ-8		
PZ-11R		
PZ-13R		
A2-PZ-1		
A2-PZ-2		

Note:
1. All wells will be measured for groundwater elevations on a annual basis for Objective 4 requirements.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Tetrachloroethene																							
NYSDEC TOGS Guidance Value:		5																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	**77 [81]**	**78**	**50**	**36**	**99**	**110D [120D]**	**70 [78]**	**69**	**93**	**43 [44]**	**19**	**69 [66]**	**58 [57]**	**48 [48]**	**37 [39]**	**76**	**79**	**48 [52]**	**29**	**32**	**29 [33]**	**50.2**	**22.6 J**	**37**	**21.9**
	MW-3	**9.2**	**22**	**8.2**	**12[12]**	**8.4**	**16**	**12**	**21 [22]**	**9.6 [9.5]**	4.3	**7.9 [8.1]**	**16**	4.2	**7.0**	**25**	**16 [16]**	**12**	**24**	**19 [17]**	**12**	3.3	2.7	2.5	**6.4**	1.4
	MW-18	--	--	**64 D**	**57**	**11**	**130 D**	**95**	**29**	**16 J**	**37**	**180**	**20**	**14**	**56**	**75**	40 U	**18 J**	**290**	**480**	**120**	**85**	**181**	--	--	**106**
	MW-20	--	--	7.2U	5.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 UJ	0.72 U	2.0 U	0.72 U	0.36 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0U	1.0 U
	PZ-5	**59**	**170**	**290**	NS	**7.2**	**55**	**5.5**	**130**	**190**	**150**	NS	**340**	**260**	**160**	**300**	**240**	**160**	**160**	**170**	**110**	**11**	**166**	**67.4**	**195**	**54.5**
	PZ-6	**72**	**--**	**49**	**--**	**7.2**	--	**8.9**	--	**100 D**	--	**19**	--	**81**	**81**	**85**	4.0	**14**	**50**	**33**	--	**7.0**	1.8	1.0 U	1.0 U	1.0 U
	PZ-8	**350 D**	**470**	NS	NS	**380**	**450 D**	**350**	**280**	NS	NS	**270**	**280**	NS	**55**	**190**	**210**	NS	**160**	**160**	NS	NS	**133**	NS	NS	NS
	PZ-11R	**5.5**	2.2	2.7	**5.2**	2.8	1.9	1.8	4.4	1.4	1.3	0.99 J	1.9	2.4	1.8	1.4	2.9	3.4	2.4	1.9	4.6	4.2	2.2	--	4.8	3.0
	PZ-13R	1.7	0.98 J	0.75 J	1.1	0.59 J	1.0 U	0.57	0.92	0.59 J	0.49	1.0 U	0.67	0.89	0.66	1.0 U	0.83 J	1.1	0.88 J	0.59 J	1.2	1.3	1.0 U	1.0 U	1.1	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 U	0.36 U	1.0 U	0.36 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0U	--
	A2-PZ-1	5	250 U	250 U **[5.3]**	250 U	250 U	1.0 U	90 U	90 U	250 U	90 U	250 U	90 U	180 U	3.2	1.7	4.4	1.8	100 U	200 U	3.2	2.2	3.8	--	--	1.9
	A2-PZ-2	--	--	**2300 D**	**810**	**730**	**1700 D**	**440 D**	**800**	**520**	**310**	**220**	**410**	**120**	**690**	**720**	**650 T**	**340**	**910**	**720**	**1100**	**400**	**936**	--	--	**23.3**
Objective 2	MW-5	1.0 U	**--**	1.0 U	--	0.55 J	--	0.36 U	--	1.0 UJ	--	1.0 U	--	0.36 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.36 U	0.36 U	NS	NS	1.0 U	0.36 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--		1.0 U	--	--	--	0.36 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	**--**	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	0.36 U	1.0 U	0.36 U	1.0 U	0.36 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	**--**	--	--	0.41 J	--	--	--	1.0 U	--	--	--	0.36 U	--	--	--	0.36 J	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.36 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.36 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.36 U [3.6 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	0.36 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0U	1.0 U
	PZ-7	1.0 U	**--**	1.0 U	--	1.0 U	--	0.36 U	--	1.0 U	--	1.0 U	--	0.36 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

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Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Trichloroethene																							
NYSDEC TOGS Guidance Value:		**5**																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	**18 [19]**	**23**	**18**	**14**	**25**	**20 [20]**	**14 [14]**	**16**	**24**	**13 [14]**	**7.2**	**17 [16]**	**19 [19]**	**14 [13]**	**9.7 [10]**	**14**	**15**	**12 [11]**	**6.8**	**13**	**12 [14]**	**13.4**	**6.2**	**13.7**	**10.7**
	MW-3	**16**	**24**	**10**	**12 [11]**	**12**	**13**	**10**	**8.9 [9.6]**	**11 [12]**	**5.2**	3.0 [3.0]	**8.3**	**6.4**	**6.4**	**14**	**9.5 [9.8]**	**7.2**	**15**	**11 [11]**	**12**	**6.4**	4.2	**5.9**	**6.7**	4.3
	MW-18	--	--	**120 D**	**220**	**80**	**420 D**	**290**	**170**	**160**	**180**	**340**	**140**	**180**	**290**	**470**	**110**	**120**	**510**	**170**	**160**	**120**	**50.6**	--	--	**93**
	MW-20	--	--	**170**	2.6 J	1.0 U	1.0 U	0.46 U	0.46 U	1.0 UJ	0.92 U	2.0 U	0.92 U	0.46 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	**91 D**	**52**	**61**	NS	3.9 J	47	4.5	**97**	**200**	**89**	NS	**53**	**65**	**86**	**60**	**86**	**70**	**41**	**42**	**75**	**19**	**39**	**18.5**	**46.4**	**11.5**
	PZ-6	**20**	**--**	**44**	**--**	**20**	--	**21**	--	**25**	--	**28**	--	**42**	**38**	**36**	**5.8**	**14**	**11**	**14**	--	**19**	**8.1**	4.6	4.3	1.9
	PZ-8	**290 D**	**410**	NS	NS	**320**	**260 D**	**220**	**180**	NS	NS	**210**	**180**	NS	**58**	**230**	**220**	NS	**180**	**120**	NS	NS	**185**	NS	NS	NS
	PZ-11R	**9.0**	4.2	4.5	**8.7**	**6**	3.9	2.9	**5.6**	4.7	2.3	1.9	3.8	**5.3**	3.4	2.0	**5.4**	**5.9**	3.3	2.5	**5.4**	**7.2**	2.5	--	**7.4**	**5.4**
	PZ-13R	**5.5**	3.7	3.9	4.3	3.5	3.2 J	2.8	4.1	4.2	2.4	1.0 U	2.3	3.7	2.8	1.7	3.2	4.6	3.1	2.0	4.3	**5.1**	2.4	1.5	3.6	3.3
	A1-PZ-2	1.7	1.0 U	1.2	1.0 U	1.0 U	1.0 U	0.46 U	0.46 U	1.0 U	0.46 U	1.0 U	0.46 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	**2100 D**	**2300**	**4100 [4800]**	**2600**	**1500**	**1100**	**2300**	**2300**	**1300**	**1200**	**1300**	**5500**	**2300**	**880**	**480**	**1900**	**420**	**520**	**830**	**600**	**530**	**716**	--	--	**5.2**
	A2-PZ-2	**--**	**--**	**740 D**	**360**	**330**	**580 D**	**390**	**380**	**260**	**160**	**100**	**170**	**85**	**270**	**260**	**240 T**	**140**	**360**	**260**	**430**	**230**	**354**	--	--	**23.7**
Objective 2	MW-5	1.0 U	**--**	1.0 U	--	1.0 U	--	0.46 U	--	1.0 UJ	--	1.0 U	--	0.46 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.46 U	0.46 U	NS	NS	1.0 U	0.46 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.46 U	0.46 U	1.0 U	0.46 U	1.0 U	0.46 U	0.46 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U	--	--	--	0.48 J	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.46 U [4.6 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	2.5	--	--	--	1.7	--	--	--	0.72 J [0.79 J]	--	--	--	1.0	--	--	--	0.61 J [0.58 J]	--	--	--	0.87 NJ	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	0.58 J	**--**	1.0 U	--	1.0 U	--	0.46 U	--	1.0 U	--	0.59 J	--	0.46 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		cis-1,2 Dichloroethene																							
NYSDEC TOGS Guidance Value:		5																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	**40 [39]**	**35**	**34**	**40**	**44**	**20 [20]**	**19 [20]**	**11**	**19 J**	**17 [18]**	**6.2**	**15 [14]**	**23 [23 J]**	**11 [11]**	**8.7 [8.5]**	**12**	**9.1**	**15 [14]**	**18**	**24**	**23 [25]**	**13.6**	**11.1**	**18.4**	**17.2**
	MW-3	**68**	**40**	**21**	**23 [23]**	**46**	**26**	**16**	**15 [15]**	**28 [29]**	**15**	3.6 [3.9]	**17**	**27**	**15**	**12 F1**	**14 [14]**	**16**	**24**	**13 [14]**	**19**	**22**	**14**	**9**	**14.7**	**18.7**
	MW-18	**--**	**--**	**420 D**	**890**	**420**	**1500 D**	**1700 D**	**1400**	**1700**	**1100**	**1200**	**1000**	**1600**	**1500**	**1900**	**800**	**630**	**670**	**210**	**500**	**780**	**108**	**--**	**--**	**336**
	MW-20	**--**	**--**	**1400 J**	**890 D**	1.0 U	1.0 U	1.2	0.93	1.0 UJ	1.6 U	2.0 U	2.4	0.81 U	1.0 U	1.2	1.7	5.0 U	5.0 U	5.0 U	0.92 J [1.1]	5.0 U	1.0 U	1.6	1.1	2.7
	PZ-5	**53**	**41**	**41**	NS	**160**	**88**	**13**	**130**	**64**	**44**	NS	**39**	**46**	**47**	**41**	**43**	**57**	**30**	**24**	**41**	**35**	**25.3**	**13.4**	**39.6**	**13.7**
	PZ-6	**20**	**--**	**58**	**--**	**21**	--	**19**	--	**17**	--	**18**	--	**20**	**21**	**20**	**5.8**	**10**	**9.6**	**9.5**	--	**22**	**20.7**	**6.6**	**30.6**	**7.0**
	PZ-8	**77**	**91**	NS	NS	**56**	**52**	**36**	**26**	NS	NS	**34**	**28**	NS	**14**	**42**	**30**	NS	**34**	**20**	NS	NS	**30.8**	NS	NS	NS
	PZ-11R	**5.0**	3.3	1.9	2.4	2.8	2.8	2.6	4.3	1.8	1.9	2.3	2.0	1.8	3.3	2.9	2.3	1.7	3.0	1.6	1.8	1.7	1.9	--	2.2	1.7
	PZ-13R	2.4	1.1	1.2	1.7	1.9		0.81 U	1.3	1.7	0.81 U	1.0 U	1.2	1.7	0.99 J	1.0 U	1.3	2.0	1.3	1.0 U	1.9	2.2	1.0 U	1.0 U	1.2	1.8
	A1-PZ-2	**99**	**22**	**58**	**57**	**10**	**11**	1.3	2	1.1	0.81 U	1.0 U	1.1	1.2	1.0 U	1.9	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2	1.0 U	--
	A2-PZ-1	**27000 D**	**42000 D**	**24000 [28000 D]**	**17000**	**23000**	**17000**	**19000**	**18000**	**24000**	**22000**	**11000**	**35000**	**34000**	**19000**	**7100 F1**	**16000**	**7400**	**17000**	**20000**	**13000**	**12000 J**	**19500**	**--**	**--**	**42.6**
	A2-PZ-2	**--**	**--**	**210 D**	**130**	**120**	**190 D**	**150**	**150**	**95**	**100**	**58**	**100**	**69**	**120**	**120**	**110**	**61**	**150**	**120**	**160**	**82**	**188**	--	--	**38.6**
Objective 2	MW-5	1.0 U	**--**	1.0 U	--	1.0 U	--	0.81 U	--	1.0 UJ	--	1.0 U	--	0.81 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.81 U	0.81 U	NS	NS	1.0 U	0.81 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.81 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	**--**	**--**	1.0 U	1.0 U	1.0 U	1.0 U	0.81 U	0.81 U	1.0 U	0.81 U	1.0 U	0.81 U	0.81 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0U]	1.0 U
	PZ-18	0.85 J	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.81 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.81 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	**13**	**--**	--	--	**14**	--	--	--	**13**	--	--	--	**10**	--	--	--	**7.4**	--	--	--	**6.4**	**7.3**	**6.9**	**11**	**10.8**
	MW-4	3.3	**--**	--	--	4.6	--	--	--	4.4	--	--	--	4.4 [8.1 UJ]	--	--	--	3.9	--	--	--	5.0	1.3 [1.1]	2.5 [2.3]	3.7	3.4 [3.6]
	MW-10	**53**	**--**	--	--	**45**	--	--	--	**35 [34]**	--	--	--	**33**	--	--	--	**29 [29]**	--	--	--	**31**	**25.6**	**23.7**	**44.7**	**45.2**
	PZ-7	1.0 U	**--**	1.0 U	--	1.0 U	--	0.81 U	--	1.0 U	--	1.0 U	--	0.81 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		trans 1,2-Dichloroethene																								
NYSDEC TOGS Guidance Value:		**5**																								
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.3]	1.0 U	1.0 U	1.4	1.0 U	1.0 U	0.90 U	0.90 U	1.0 U	0.90 U [0.90 U]	1.0 U	0.90 U [0.90 U]	0.90 U [0.90 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.3	1.0 U
	MW-3	1.0 U	1.1	1.0 U	1.1 [1]	0.91 J	1.0 U	0.90 U	0.90 U [0.90 U]	1.0 U [1.0 U]	0.90 U	1.0 U [1.0 U]	0.90 U	0.91	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.0 U	2.6	5.0 U	4.4	4.5 U	18 U	20 U	9.0 U	20 U	18 U	18 U	4.7	4.9	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.6
	MW-20	--	--	**18 J**	**22**	**7.1**	1.0 U	4.3	3.9	3.6 J	3.1	4.6	**6.6**	3.1	3.5	3.4	3.8	5.0 U	5.0 U	5.0 U	2.4 [2.4]	5.0 U	1.4	1.3	2.1	1.0 U
	PZ-5	1.0 U	3.6 U	4.0 U	NS	4.0 U	1.2	0.90 U	1.1	2.0 U	1.8 U	NS	1.8 U	4.5 U	1.3	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.3	1.0 U	1.5	1.0 U	2.7	1.0 U
	PZ-6	1.0 U	--	1.0 U	**--**	1.0 U	--	0.90 U	--	1.0 U	--	1.0 U	--	0.90 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	4.5 U	NS	NS	5.0 U	1	4.5 U	4.5 U	NS	NS	5.0 U	4.5 U	NS	1.0 U	1.2	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.5	NS	NS	NS
	PZ-11R	1.0 U	0.97	1.0 U	1.0 U	1.0 U	1.0 U	0.9 U	0.90 U	1.0 U	0.90 U	1.0 U	0.90 U	0.90 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.9 U	0.90 U	1.0 U	0.90 U	1.0 U	0.90 U	0.90 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.9 U	0.90 U	1.0 U	0.90 U	1.0 U	0.90 U	0.90 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	**33**	250 U	250 U **[11]**	250 U	250 U	1.0 U	230 U	230 U	250 U	230 U	250 U	230 U	450 U	**19**	**8.0**	**14**	**14**	100 U	200 U	**16**	**9.0**	**69.0**	--	--	1.0 U
	A2-PZ-2	**--**	--	1.0 U	10 U	10 U	1.0 U	4.5 U	9.0 U	10 U	4.5 U	5.0 U	4.5 U	1.8 U	1.0 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	**--**	1.0 U	--	1.0 U	--	0.9 U	--	1.0 UJ	--	1.0 U	--	0.90 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.9 U	0.90 U	NS	NS	1.0 U	0.90 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.90 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.9 U	0.90 U	1.0 U	0.90 U	1.0 U	0.90 U	0.90 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.90 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.90 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	2.0	**--**	--	--	1.7	--	--	--	2	--	--	--	1.7	--	--	--	1.4	--	--	--	1.5	1.6	1.3	2.7	2.2
	MW-4	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.90 U [9.0 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0]
	MW-10	3.4	--	--	--	3.2	--	--	--	2.3 [2.4]	--	--	--	2.6	--	--	--	2.0 [2.3]	--	--	--	2.8	2.2	2.2	**5.0**	4.1
	PZ-7	1.0 U	**--**	1.0 U	--	1.0 U	--	0.9 U	--	1.0 U	--	1.0 U	--	0.90 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Vinyl Chloride																								
NYSDEC TOGS Guidance Value:		2																								
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	**3.1 [3]**	1.5	1.7	**4.3**	**3.9**	1.0 U	1.0 U [1.0]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	0.91 [1.0 J]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 UJ	1.0 U [1.0 U]	1.6	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.1	1.0 U
	MW-3	**5**	**3.8**	**8.4**	**13 [13]**	**9.1**	**4.3**	**7.8**	2.0 [2.0]	**5.2 [5.4]**	**3.8**	1.0 U [1.0 U]	**5.2**	**2.6**	**3.7**	1.3	**3.4 [3.0]**	1.8	1.5	**3.3 [2.1]**	**3.4**	2.0	**3.0**	**2.5**	**3.7 J**	**3.7**
	MW-18	**--**	**--**	**5.5**	**7.6**	5.0 U	**7.6**	**7.9**	20 U	20 U	10 U	20 U	20 U	20 U	**9.0**	**10**	40 U	20 UJ	20 U	20 U	20 U	20 U	1.0 U	--	--	--
	MW-20	**--**	**--**	**63**	**680 D**	1.9	1.0 U	0.96 J	1.0 U	1.0 UJ	2.0 U	**2.8**	**3.3**	1.0 U	1.0 U	**2.5**	**3.6**	5.0 U	5.0 U	5.0 U	1.4 [1.1]	5.0 U	1.1	**5.8**	**11 J**	**19.2 J**
	PZ-5	1.0 U	4.0 U	4.0 U	NS	**27**	**68**	**2.8**	**2.4**	**5.9**	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	1.0 UJ
	PZ-6	1.0 U	--	**4.9**	**--**	**2.1**	--	0.95 J	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.1	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	**27**	**11**	**24**	**15**	**8.4**	**5.6**	1.0 U	**2.1**	1.0 U	0.97 J	1.3	2.0	1.0 U	1.0 U	**5.5**	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.0 U	--
	A2-PZ-1	**720 D**	**1800**	**940 [1300 D]**	**830**	**1300**	**840**	**900**	**1000**	**1300**	**900**	**670**	**1300**	**1300**	**960**	**460^**	**850**	**460 J**	**690**	**1400**	**600**	**710**	**1200**	--	--	**5.7**
	A2-PZ-2	**--**	**--**	**14**	10 U	10 U	**7.8**	**6.7**	10 U	10 U	5.0 U	5.0 U	5.0 U	**2.3**	10 U	10 U	**4.4**	5.0 UJ	**6.4**	20 U	20 U	8.0 U	**8.6**	**--**	**--**	**2.7**
Objective 2	MW-5	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	**--**	**--**	**9.3**	**6.5**	**13**	1.0 U	**2.1**	**5**	**5.2**	**3.5**	**2.6**	**3.9**	**2.6**	**2.4**	1.7	2.0	1.4	2.0 U	2.0 U	1.8	**3.4**	1.9	1.0 U	**2.3 J [2.1 J]**	**2.5 J**
	PZ-18	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	--	--	--	--	--
Objective 3	MW-2	**33**	**--**	--	--	**38**	--	--	--	**25**	--	--	--	**14**	--	--	--	**14**	--	--	--	**12**	**18.5**	**10.7**	**16.5**	**16.3**
	MW-4	1.4	**--**	--	--	**4.8**	--	--	--	**4.2**	--	--	--	**2.3 [10 UJ]**	--	--	--	**3.6**	--	--	--	**3.1**	1.0 U [1.0 U]	1.1 [**2.1**]	**2.2 J**	**2.4 [2.5]**
	MW-10	**23**	**--**	--	--	**38**	--	--	--	**20 [20]**	--	--	--	**19**	--	--	--	**17 [16 J]**	--	--	--	**23**	**15.6**	**7.9**	**23**	**22.6**
	PZ-7	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1,1-Trichloroethane																							
NYSDEC TOGS Guidance Value:		5																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U [0.82 U]	0.82 U	1.0 U	0.82 U [0.82 U]	1.0 U	0.82 U [0.82 U]	0.82 U [0.82 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 UT	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	0.82 U	0.82 U [0.82 U]	1.0 U [1.0 U]	0.82 U	1.0 U [1.0 U]	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.0 U	1.0 U	5.0 U	1.0 U	4.1 U	16 U	20 U	8.2 U	20 U	16 U	16 U	1.0 U	1.0 U	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U
	MW-20	--	--	16 U	5.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 UJ	1.6 U	2.0 U	1.6 U	0.82 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	3.3 U	4.0 U	NS	4.0 U	1.0 U	0.82 U	0.82 U	2.0 U	1.6 U	NS	1.6 U	4.1 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	0.82 U	--	1.0 U	--	1.0 U	--	0.82 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	4.1 U	NS	NS	5.0 U	1.0 U	4.1 U	4.1 U	NS	NS	5.0 U	4.1 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 U	0.82 U	1.0 U	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 U	0.82 U	1.0 U	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 U	0.82 U	1.0 U	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	1.0 U	250 U	250 U [1.0 U]	250 U	250 U	1.0 U	210 U	210 U	250 U	210 U	250 U	210 U	410 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	200 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	4.1 U	8.2 U	1.0 U	4.1 U	5.0 U	4.1 U	1.6 U	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.82 U	--	1.0 UJ	--	1.0 U	--	0.82 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.82 U	0.82 U	NS	NS	1.0 U	0.87	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.82 U	0.82 U	1.0 U	0.82 U	1.0 U	0.82 U	0.82 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U	--	--	--	1.0 U	--	--	--	1.0 U	3.7	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.82 U [8.2 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	0.82 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.82 U	--	1.0 U	--	1.0 U	--	0.82 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1-Dichloroethane																							
NYSDEC TOGS Guidance Value:		5																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	**5.8 [5.5]**	3.8	4.2	**5.9**	**5.7**	2.1 [2.1]	2.4 [2.4]	1.1	2.1	2.1 [2.0]	0.64 J	1.4 [1.4]	2.8 [3.2]	0.99 J [0.94 J]	0.78 J [0.84 J]	1.4	1.3	2.3 [2.3]	2.7	3.0	3.3 [3.5]	1.9	2.2	3.6	2.4
	MW-3	**6.8**	4.4	3.6	4.3 [4.1]	**5.4**	3	2.9	1.8 [2.0]	4.2 [4.4]	2.7	0.45 J [1.0 U]	3.8	4.0	2.6	1.3	2.8 [2.8]	2.8	2.6	1.7 [1.6]	2.8	3.1	2.9	2.3	4.1	3.2
	MW-18	--	--	**20 D**	**37**	**18**	**40**	**46**	**42**	**43**	**36**	**36**	**31**	**37**	**37**	**41**	**22 J**	**13 J**	**17 J**	20 U	**13 J**	**18 NJ**	3.2	--	--	**41.3**
	MW-20	--	--	7.6 U	**7.9**	0.41 J	1.0 U	0.38 U	0.7	1.0 UJ	0.76 U	2.0 U	1.2	0.65	0.70 J	1.0 U	1.0	5.0 U	5.0 U	5.0 U	0.81 J [0.85 J]	5.0 U	1.0 U	1.0 U	1.0	1.0 U
	PZ-5	1.0 U	1.5 U	4.0 U	NS	4.0 U	1.0 U	0.38 U	0.38 U	2.0 U	0.76 U	NS	0.76 U	1.9 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	**--**	1.0 U	--	0.38 U	--	1.0 U	--	1.0 U	--	0.38 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	4.8	**5.4**	NS	NS	4.2 J	4	3.4	3.4	NS	NS	3.3 J	2.8	NS	1.4	3.7	3.8 J	NS	5.0 U	1.9 J	NS	NS	2.9	NS	NS	NS
	PZ-11R	1.0 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	0.38 U	1.0 U	0.38 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	0.38 U	1.0 U	0.38 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	2.1	0.48 J	1.1	1.3	0.49 J	1.0 U	0.38 U	0.38 U	1.0 U	0.38 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	**1900 D**	**2800**	**1900 [2300 D]**	**1100**	**1300**	**990**	**1200**	**1100**	**1200**	**1300**	**790**	**2200**	**1600**	**890**	**350**	**860**	**370**	**730**	**990**	**600**	**600**	**984**	--	--	**5.3**
	A2-PZ-2	**--**	**--**	**12**	10 U	10 U	**6**	**7.2**	**6.6**	3.9 J	3.1	2.3 J	3.8	1.9	**5.4 J**	4.6 J	**5.1**	5.0 U	**7.4**	20 U	**8.3 J**	3.4 NJ	**8.6**	--	--	1.0 U
Objective 2	MW-5	0.69 J	**--**	1.0 U	--	1.0 U	--	0.38 U	--	1.0 UJ	--	1.0 U	--	0.38 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	2.4	NS	NS	NS	NS	1.1	1.4	2	NS	NS	1.1	2.6	NS	0.89 J	0.96 J	1.3	NS	0.96 J	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.38 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.38 U	0.38 U	1.0 U	0.38 U	1.0 U	0.38 U	0.38 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.38 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.38 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	**5.9**	**--**	--	--	4.9	--	--	--	4.7	--	--	--	4.3	--	--	--	4.3	--	--	--	3.9	1.0 U	2.9	**5.0**	4.5
	MW-4	0.70 J	**--**	--	--	1.0	--	--	--	0.78 J	--	--	--	0.68 [3.8 U]	--	--	--	0.74 J	--	--	--	0.88 NJ	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	2.6	--	--	--	3.5	--	--	--	2.9 [3.0]	--	--	--	2.3	--	--	--	2.8 [2.8]	--	--	--	3.0	2.0	1.7	2.3	2.4
	PZ-7	0.83 J	**--**	0.69 J	--	0.58 J	--	0.57	--	0.45 J	--	1.0 U	--	0.39	--	0.38 J	--	0.43 J	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,2-Dichloroethane																								
NYSDEC TOGS Guidance Value:		0.6																								
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	20 U	20 U	10 U	20 U	20 U	20 U	1.0 U	1.0 U	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U
	MW-20	--	--	15 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	0.76 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	**5**	250 U	250 U [1.0 U]	250 U	250 U	1.0 U	250 U	250 U	250 U	250 U	250 U	250 U	500 U	**1.2**	0.39 J	**1.2**	1.0 U	100 U	200 U	**0.95 J**	**0.96 NJ**	1.0 U	--	--	1.0 U
	A2-PZ-2	**--**	--	1.0 U	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 U	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--		--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1-Dichloroethene																							
NYSDEC TOGS Guidance Value:		5																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 UT	1.0 U	1.0 U [1.0 U]	0.29 J	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	0.57 J	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	0.32 J	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.0 U	1.3	5.0 U	2.2	3.7 J	20 U	20 U	10 U	20 U	20 U	20 U	2.7	3.6	40 U	20 U	20 U	20 U	20 U	20 UJ	1.0 U	--	--	1.0 U
	MW-20	--	--	5.8 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	2.0 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	0.39 J	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	**45**	250 U	250 U **[23]**	250 U	250 U	1.0 U	250 U	250 U	250 U	250 U	250 U	250 U	500 U	**24**	**10**	**18**	**10 J**	100 U	200 U	**15**	**13 J**	**33.1**	**--**	**--**	1.0 U
	A2-PZ-2	**--**	--	1.5	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 U	10 U	10 U	0.76 J	5.0 U	5.0 U	20 U	20 U	8.0 U	1.5	--	--	1.0 U
Objective 2	MW-5	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--		--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1,2,Trichloroethane																							
NYSDEC TOGS Guidance Value:		1																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	20 U	20 U	10 U	20 U	20 U	20 U	1.0 U	1.0 U	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	--
	MW-20	--	--	4.6 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	2.0 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	**3**	250 U	250 U **[1.7]**	250 U	250 U	1.0 U	250 U	250 U	250 U	250 U	250 U	250 U	500 U	0.28 J	1.0 U	1.0 U	1.0 U	100 U	200 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U
	A2-PZ-2	**--**	--	1.0 U	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 U	**15**	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	**--**	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	**--**	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)																							
NYSDEC TOGS Guidance Value:		5																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 UJ	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.2	1.0 U	5.0 U	1.0 U	5.0 U	20 U	20 UJ	10 U	20 U	20 U	20 U	2.4	3.4	40 U	20 U	20 U	20 U	20 U	20 UJ	2.9	--	--	**7.3**
	MW-20	--	--	6.2 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	2.0 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 UJ	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	**--**	1.0 U	--	1.0 U		1.0 UJ	--	1.0 U	--	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	**1600 EJ**	**1900**	**1300 [1100 D]**	**940**	250 U	**680**	**400**	**850**	**550 J**	**660**	**400**	**1200**	**730 J**	**470**	**180**	**520**	**150**	**200**	**260**	**230 J**	**180 NJ**	**241**	**--**	--	**12.7**
	A2-PZ-2	**--**	**--**	1.0 U	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 UJ	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Dichloro-difluoromethane (Freon 12)																								
NYSDEC TOGS Guidance Value:		5																								
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U* [1.0 U*]	1.0 UT	1.0 UJ	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 UJ
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 UJ	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.0 U	1.0 U	5.0 UJ	0.96 J	5.0 U	20 U	20 U	10 U	20 U	20 U	20 U	1.0 U	1.0 U*	40 U	20 UJ	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 UJ
	MW-20	--	--	14 UJ	5.0 J	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	4.0 U	4.0 U	NS	4.0 UJ	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	**--**	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 UJ	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U*	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 UJ
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
	A1-PZ-2	1.0 U	1.0 U	1.0 J	1.0 J	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U*	1.0 U	1.0 UJ	1.0 U	1.0 UT	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	**960 E**	**1200**	**830 [740 D]**	250 U	250 UJ	1.0 U	250 U	250 U	**560 J**	**440**	**240 J**	**300**	500 UJ	1.0 U	**160**	**460**	1.0 UJ	100 U	200 UT	1.0 U	**320 J**	1.0 U	**--**	--	1.0 UJ
	A2-PZ-2	**--**	**--**	1.0 U	10 U	10 UJ	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 UJ	10 U	10 U	1.0 U	5.0 U	5.0 U	20 UT	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U*	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U*	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 UJ	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 UJ	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 UJ]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U*	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Ethylbenzene																							
NYSDEC TOGS Guidance Value:		**5**																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U [0.74 U]	0.74 U	1.0 U	0.74 U [0.74 U]	1.0 U	0.74 U [0.74 U]	0.74 U [0.74 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	0.74 U	0.74 U [0.74 U]	1.0 U [1.0 U]	0.74 U	1.0 U [1.0 U]	0.74 U	0.74 U	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	0.91 J	1.4	5.0 U	2.4	3.7 U	15 U	20 U	7.4 U	20 U	15 U	15 U	1.0 U	0.88 J	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U
	MW-20	--	--	15 U	5.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 UJ	1.5 U	2.0 U	1.5 U	0.74 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	4.0 U	4.0 U	NS	3.8 J	1.7	4.5	4.3	2.0 U	1.5 U	NS	1.5 U	3.7 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	0.74 U	--	1.0 U	--	1.0 U	--	0.74 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	3.7 U	NS	NS	5.0 U	1.0 U	3.7 U	3.7 U	NS	NS	5.0 U	3.7 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 U	0.74 U	1.0 U	0.74 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 U	0.74 U	1.0 U	0.74 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 U	0.74 U	1.0 U	0.74 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	1.0 U	250 U	250 U [1.0 U]	250 U	250 U	1.0 U	190 U	190 U	250 U	190 U	250 U	190 U	370 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	200 U	1.0 U	1.0 U	1.0 U	--	--	1.0 U
	A2-PZ-2	**--**	**--**	**9.0**	10 U	10 U	1.0 U	3.7 U	7.4 U	10 U	3.7 U	5.0 U	3.7 U	1.5 U	10 U	10 U	2.0	5.0 U	5.0 U	20 U	20 U	8.0 U	1.8	--	--	1.0 U
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.74 U	--	1.0 UJ	--	1.0 U	--	0.74 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.74 U	0.74 U	NS	NS	1.0 U	0.74 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.74 U	0.74 U	1.0 U	0.74 U	1.0 U	0.74 U	0.74 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.74 U [7.4 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	0.74 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.74 U	--	1.0 U	--	1.0 U	--	0.74 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Toluene																							
NYSDEC TOGS Guidance Value:		5																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U [0.51 U]	0.51 U	1.0 U	0.51 U [0.51 U]	1.0 U	0.51 U [0.51 U]	0.51 U [0.51 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	0.51 U	0.51 U [0.51 U]	1.0 U [1.0 U]	0.51 U	1.0 U [1.0 U]	0.51 U	0.51 U	1.0 U	1.0 UF1	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.9	1.4	5.0 U	1.7	2.6 U	10 U	20 U	5.1 U	20 U	10 U	10 U	0.94 J	1.1	40 U	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U
	MW-20	--	--	10 U	5.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 UJ	1.0 U	2.0 U	1.0 U	0.51 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	2.0 U	4.0 U	NS	4.0 U	1.0 U	0.51 U	0.51 U	2.0 U	1.0 U	NS	1.0 U	2.6 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	0.51 U	--	1.0 U	--	1.0 U	--	0.51 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	2.6 U	NS	NS	5.0 U	1.0 U	2.6 U	2.6 U	NS	NS	5.0 U	2.6 U	NS	1.0 U	1.0 U	5.0 U	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 U	0.51 U	1.0 U	0.51 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 U	0.51 U	1.0 U	0.51 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 U	0.51 U	1.0 U	0.51 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	5	250 U	250 U [4.6]	250 U	250 U	1.0 U	130 U	130 U	250 U	130 U	250 U	130 U	260 U	3.6	1.7	5.0	1.8	100 U	200 U	3.3	2.7	4.9	--	--	1.0 U
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	2.6 U	5.1 U	10 U	2.6 U	5.0 U	2.6 U	1.0 U	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	0.51 U	--	1.0 UJ	--	1.0 U	--	0.51 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	0.51 U	0.51 U	NS	NS	1.0 U	0.51 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.51 U	0.51 U	1.0 U	0.51 U	1.0 U	0.51 U	0.51 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	0.51 U [5.1 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	0.51 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	--	1.0 U	--	1.0 U	--	0.51 U	--	1.0 U	--	1.0 U	--	0.51 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Xylenes, total																								
NYSDEC TOGS Guidance Value:		5																								
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	2.0 U [2.0U]	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	2.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	2.0 U [2.0 U]	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U [2.0 U]	1.0 U	3.0 U	3.0 U	3.0 U
	MW-3	2.0 U	2.0 U	2.0 U	2.0 U [2.0U]	2.0 U	2.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	2.0 U [2.0 U]	1.0 U	1.0 U	2.0 U	2.0 UF1	2.0 U [2.0 U]	2.0 U	2.0 U	2.0 U [2.0 U]	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U
	MW-18	--	--	1.3 J	1.0 J	10 U	2.0 U	5.0 U	20 U	20 U	10 U	40 U	20 U	20 U	2.0 U	2.0 U	80 U	40 U	40 U	40 U	40 U	40 U	1.0 U	--	--	3.0 U
	MW-20	--	--	13 U	10 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	4.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	10 U	10 U	10 U	2.0 U [2.0 U]	10 U	1.0 U	3.0 U	3.0 U	3.0 U
	PZ-5	2.0 U	4.0 U	8.0 U	NS	**14**	**5.7**	**18**	**13**	2.0 U	2.0 U	NS	2.0 U	5.0 U	2.0 U	10 U	10 U	10 U	10 U	10 U	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U
	PZ-6	2.0 U	--	1.0 U	**--**	2.0 U	--	0.74 J	--	1.0 U	--	2.0 U	--	1.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	--	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U
	PZ-8	2.0 U	5.0 U	NS	NS	10 U	2.0 U	5.0 U	5.0 U	NS	NS	10 U	5.0 U	NS	2.0 U	2.0 U	10 U	NS	10 U	10 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	--	3.0 U	3.0 U
	PZ-13R	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U
	A1-PZ-2	2.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U	--
	A2-PZ-1	2.0 U	500 U	500 U [2.0U]	500 U	500 U	2.0 U	250 U	250 U	250 U	250 U	500 U	250 U	250 U	2.0 U	2.0 U	2.0 U	2.0 U	200 U	400 U	2.0 U	2.0 U	1.0 U	--	--	3.0 U
	A2-PZ-2	**--**	**--**	2.0 U	20 U	20 U	2.0 U	5.0 U	10 U	10 U	5.0 U	10 U	5.0 U	2.0 U	20 U	20 U	2.0 U	10 U	10 U	40 U	40 U	16 U	1.0 U	--	--	3.0 U
Objective 2	MW-5	2.0 U	--	1.0 U	--	2.0 U	--	1.0 U	--	1.0 UJ	--	2.0 U	--	1.0 U	--	2.0 U	--	2.0 U	--	--	--	--	--	--	--	--
	MW-13S	2.0 U	NS	NS	NS	NS	2.0 U	1.0 U	1.0 U	NS	NS	2.0 U	1.0 U	NS	2.0 U	2.0 U	2.0 U	NS	2.0 U	--	--	--	--	--	--	--
	MW-14BR	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	2.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	4.0 U	2.0 U	2.0 U	1.0 U	3.0 U	3.0 U [3.0 U]	3.0 U
	PZ-18	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	2.0 U	--	--	--	--	--	--	--	--
	PZ-26	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	2.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	2.0 U	--	--	--	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U
	MW-4	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	2.0 U	--	--	--	2.0 U	1.0 U [1.0 U]	3.0 U [3.0 U]	3.0 U	3.0 U [3.0 U]
	MW-10	2.0 U	--	--	--	2.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	2.0 U [2.0 U]	--	--	--	2.0 U	1.0 U	3.0 U	3.0 U	3.0 U
	PZ-7	2.0 U	--	1.0 U	--	2.0 U	--	1.0 U	--	1.0 U	--	2.0 U	--	1.0 U	--	2.0 U	--	2.0 U	--	--	--	--	--	--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Acetone																								
NYSDEC TOGS Guidance Value:		50																								
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	10 U [10U]	10 U	10 U	8.8 J	10 U	10 U	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U [10 U]	10 U [10 U]	10 U [10 U]	10 U [10 U]	10 U	10 U	10 U [10 U]	10 U	10 U	10 U [10 U]	5.0 U	5.0 U	5.0 U	5.0 UJ
	MW-3	10 U	10 U	10 U	1.0 U [1.0 U]	10 U	10 U	10 U	10 U [10 U]	10 U [10 U]	10 U	10 U [10 U]	10 U	10 U	10 U	10 U	10 U [10 U]	10 U	10 U	10 U [10 U]	3.8 J	10 U	5.0 U	5.0 U	5.0 U	5.0 UJ
	MW-18	--	--	10 U	9.1 J	50 U	10 U	50 U	200 U	200 U	100 U	200 U	200 U	200 U	10 U	10 U	400 U	200 U	200 U	200 U	200 U	200 UJ	5.0 U	--	--	5.0 U
	MW-20	--	--	**200**	**400**	**78**	10 U	4.5 J	8.7 J	10 UJ	20 U	20 U	20 U	10 U	10 U	10 U	4.7 J	50 U	50 U	50 U	5.2 J [3.1 J]	50 UJ	5.0 U	5.0 U	5.0 U	5.0 U
	PZ-5	3.1 J	16	40 U	NS	40 U	10 U	6.1 J	3.1 J	20 U	6.6 J	NS	20 U	50 U	10 U	50 U	50 U	50 U	50 U	50 U	10 U	10 U	41	40.5	**58**	**191**
	PZ-6	10 U	--	3.8 J	--	10 U	--	10 U	--	10 U	--	10 U	--	10 U	10 U	20 U	10 U	10 U	5.5 J	3.4 J	--	10 U	15.5	39.1	5.0 U	41.2
	PZ-8	10 U	50 U	NS	NS	50 U	10 U	50 U	50 U	NS	NS	50 U	50 U	NS	3.0	3.8 J	50 U	NS	50 U	50 U	NS	NS	**13.6**	NS	NS	NS
	PZ-11R	10 U	10 U	10 U	9.4 J	10 U	10 U	3.1 J	10 U	17	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	5.0 U	--	5.0 U	5.0J
	PZ-13R	10 U	10 U	10 U	9.3 J	10 U	10 U	3.2 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	5.0 U	5.0 U	5.0 U	5.0 U
	A1-PZ-2	6.6 J	10 U	10 UB	16 UB	10 U	10 U	10 U	9.2 J	10 U	10 U	10 U	4.9 J	44	3.8	3.7 J	4.5 J	3.0 J	10 U	4.4 J	10 U	10 UJ	5.0 U	5.0 U	8.4 J	--
	A2-PZ-1	9.5 J	2500 U	2500 U [14]	2500 U	2500 U	10 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	5000 U	10 U	10 U	6.9 J	10 U	1000 U	2000 U	3.9 J	10 UJ	5.0 U	--	--	5.0 UJ
	A2-PZ-2	--	--	10 U	100 U	100 U	10 U	50 U	100 U	100 U	50 U	50 U	50 U	20 U	100 U	100 U	10 U	50 U	50 U	200 U	200 U	80 UJ	5.0 U	--	--	5.0 UJ
Objective 2	MW-5	10 U	--	10 U	--	10 U	--	6.8 J	--	4.5 J	--	10 U	--	10 U	--	10 U	--	10 U	--	--	--	--		--	--	--
	MW-13S	10 U	NS	NS	NS	NS	10 U	10 U	10 U	NS	NS	10 U	10 U	NS	10 U	10 U	10 U	NS	10 U	--	--	--		--	--	--
	MW-14BR	10 U	--	--	--	16	--	--	--	19	--	--	--	18	--	--	--	15	--	--	--	--		--	--	--
	MW-21	--	--	10 U	8.8 J	10 U	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	24	10 U	10 U	20 U	20 U	10 U	10 UJ	5.0 U	5.0 U	5.0 U [5.3 J]	5.0 U
	PZ-18	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	--		--	--	--
	PZ-26	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	--		--	--	--
Objective 3	MW-2	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U	5.0 U	5.0 U	5.0 U	5.0 UJ
	MW-4	10 U	--	--	--	10 U	--	--	--	10 U	--	--	--	10 U [100 U]	--	--	--	10 U	--	--	--	10 U	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U	5.0 UJ [5.3 J]
	MW-10	10 U	--	--	--	10 U	--	--	--	10 U [10 U]	--	--	--	10 U	--	--	--	10 U [10 U]	--	--	--	10 UJ	5.0 U	5.0 U	5.0 U	5.0 UJ
	PZ-7	10 U	--	4.2 J	--	10 U	--	10 U	--	10 U	--	5.5 J	--	10 U	--	7.3 J	--	10 U	--	--	--	--		--	--	--

See last page for notes.

Table D-5
Groundwater Monitoring Data - September 2011 through July 2020
Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Compound:		Methylene Chloride																							
NYSDEC TOGS Guidance Value:		**5**																							
Sampling Date:		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	10 U [10 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U [10 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U
	MW-3	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-18	--	--	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U	20 U	20 U	10 U	20 U	20 U	20 U	1.0 U	1.0 U	**20 J**	20 U	20 U	20 U	20 U	20 U	1.0 U	--	--	1.0 U
	MW-20	--	--	8.8 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U [1.0 U]	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-5	1.0 U	4.0 U	4.0 U	NS	4.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	NS	2.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-6	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	1.0 U	2.0 U	0.56 J	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-8	1.0 U	5.0 U	NS	NS	5.0 U	1.0 U	5.0 U	5.0 U	NS	NS	5.0 U	5.0 U	NS	1.0 U	1.0 U	3.1 J	NS	5.0 U	5.0 U	NS	NS	1.0 U	NS	NS	NS
	PZ-11R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
	PZ-13R	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	A1-PZ-2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--
	A2-PZ-1	1.0 U	250 U	250 U [14]	250 U	250 U	110 JB	250 U	250 U	250 U	250 U	250 U	250 U	500 U	1.0 U	0.85 J	1.1	1.0 U	100 U	200 U	0.50 J	1.0 U	1.0 U	--	--	1.0 U
	A2-PZ-2	--	--	1.0 U	10 U	10 U	1.0 U	5.0 U	10 U	10 U	5.0 U	5.0 U	5.0 U	2.0 U	10 U	10 U	1.0 U	5.0 U	5.0 U	20 U	20 U	8.0 U	1.0 U	--	--	1.0 U
Objective 2	MW-5	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--
	MW-13S	1.0 U	NS	NS	NS	NS	1.0 U	1.0 U	1.0 U	NS	NS	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	NS	1.0 U	--	--	--	--	--	--	--
	MW-14BR	0.57 J	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	MW-21	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U
	PZ-18	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
	PZ-26	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	MW-4	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [10 U]	--	--	--	1.0 U	--	--	--	1.0 U	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U	1.0 U [1.0 U]
	MW-10	1.0 U	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	--	--	--	1.0 U [1.0 U]	--	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
	PZ-7	1.0 U	--	0.55 J	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	1.0 U	--	--	--	--	--	--	--	--

Notes:
1. B = The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspected.
2. D = Diluted sample result within calibration range
3. E = Analyte exceeded calibration range.
4. F1 or T or * = MS and/or MSD Recovery or LCS or LCSD is outside acceptance limits.
5. ^ = ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
6. J = Indicates an estimated value.
7. NYSDEC TOGS = New York State Department of Environmental Conservation Technical and Operational Guidance Series
8. U = The compound was analyzed for but not detected. The associated value is the compound Reporting Limit.
9. "--" indicates not measured
10. "NS" indicates insufficient groundwater was available for sampling
11. "Green font" indicates sampled as part of the pilot test; the pilot test sampling was performed post-injection on 4/24/12 and 7/12/12.
12. **Bold** indicates concentration above NYSDEC TOGS Value
13. All units in micrograms per liter (µg/l)
14. [ ] = Field duplicate results
15. Potential exists that an air bubble in the PZ-6 sampling vial (collected July 2015) resulted in underestimated VOC concentrations (see Q3 2015 data summary).
16. NJ = The analysis indicates the presence of a compound that has been "tentatively identified"; the associated numerical value represents its approximate concentration.
17. Per NYSDEC approval, A1-PZ-2 was removed from the sampling program.
18. Wells A2-PZ-1, A2-PZ-2, and MW-18 were replaced following the former northern perimeter ditch excavation activities that were completed in the fall of 2019.

TETRA TECH

Table D-6
Summary of Mann-Kendall Trend Analysis of Groundwater Analytical Data
Quarterly Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

Monitoring Well Objective	Location ID[A]	Analyte	Cleanup Goal (µg/L)	M-K?	Data Range							Mann-Kendall Analysis[B]		Sudden Increase Evaluation			
					Start Date	End Date	Min[B] (µg/L)	Max[B] (µg/L)	Historic Maximum[C] (µg/L)	Most recent result[D] (µg/L)	Comparison of the most recent data with Historic Maximum[D]	p Value	Data Trend[D]	Mean[B]	Std Dev[B]	Mean[B] +3xSTDV[B]	July 2020 Results
Objective 1	MW-1	cis-1,2-Dichloroethene	5	Y	06/20/96	07/08/20	11.1	25	390	17.2	Less than	0.2740	No Trend	18	4.8	32	No Sudden Increase
	MW-1	Tetrachloroethene	5	Y	06/20/96	07/08/20	21.9	52	11000	21.9	Less than	0.0540	No Trend	36	11	70	No Sudden Increase
	MW-1	Trichloroethene	5	Y	06/20/96	07/08/20	6.2	14	830	10.7	Less than	0.1685	No Trend	11	3.1	21	No Sudden Increase
	MW-3	cis-1,2-Dichloroethene	5	Y	08/22/96	07/08/20	8.5	24	510	18.7	Less than	0.3170	No Trend	17	5.0	32	No Sudden Increase
	MW-3	Tetrachloroethene	5	Y	08/22/96	07/08/20	1.4	24	73	1.4	Less than	0.0116	Decreasing Trend	9	8.6	35	No Sudden Increase
	MW-3	Trichloroethene	5	Y	05/19/98	07/08/20	4.2	15	430	4.3	Less than	0.0890	No Trend	8.2	4.0	20	No Sudden Increase
	MW-3	Vinyl Chloride	2	Y	08/22/96	07/08/20	1.5	3.7	94	3.7	Less than	0.4770	No Trend	2.9	0.8	5.3	No Sudden Increase
	MW-20	Vinyl Chloride	2	Y	04/11/12	07/08/20	1.10	19.2	680	19.2	Less than	0.2740	No Trend	6.5	6.0	24.4	No Sudden Increase
	PZ-5	cis-1,2-Dichloroethene	5	Y	06/20/96	07/08/20	13.4	41	500	13.7	Less than	0.0310	Decreasing Trend	28	11	60	No Sudden Increase
	PZ-5	Tetrachloroethene	5	Y	06/20/96	07/08/20	11	195	350	54.5	Less than	0.4770	No Trend	117	66	316	No Sudden Increase
	PZ-5	Trichloroethene	5	Y	06/20/96	07/08/20	11.5	75	330	11.5	Less than	0.0160	Decreasing Trend	37	20	98	No Sudden Increase
	PZ-6	cis-1,2-Dichloroethene	5	Y	02/09/95	07/08/20	6.6	30.6	97	7.0	Less than	0.1685	No Trend	15	9.3	43	No Sudden Increase
	PZ-6	Tetrachloroethene	5	Y	02/09/95	07/08/20	1.8	50	350	1.0 U	ND	0.0310	Decreasing Trend	23	23	91	No Sudden Increase
	PZ-6	Trichloroethene	5	Y	02/09/95	07/08/20	1.9	19	140	1.9	Less than	0.1685	No Trend	9	6	27	No Sudden Increase
Objective 2	MW-21	Vinyl Chloride	2	Y	04/11/12	07/08/20	1.4	3.4	13	2.5	Less than	0.1685	No Trend	2.1	0.65	4.0	No Sudden Increase
Objective 3	MW-2	1,1-Dichloroethane	5	Y	08/22/96	07/08/20	0.9	5	87	4.5	Less than	0.1135	No Trend	3.9	1.4	8.0	No Sudden Increase
	MW-2	cis-1,2-Dichloroethene	5	Y	08/22/96	07/08/20	6.4	14	390	10.8	Less than	0.0540	No Trend	10	2.9	18	No Sudden Increase
	MW-2	Vinyl Chloride	2	Y	08/22/96	07/08/20	10.7	38	78	16.3	Less than	0.0715	No Trend	19	9	46	No Sudden Increase
	MW-4	cis-1,2-Dichloroethene	5	Y	08/22/96	07/08/20	1.3	5	7.4	2.4	Less than	0.0715	No Trend	3.7	1.2	7.4	No Sudden Increase
	MW-4	Vinyl Chloride	2	Y	08/22/96	07/08/20	0.9	4.8	6.4	3.4	Less than	0.0160	Decreasing Trend	2.9	1.3	6.7	No Sudden Increase
	MW-10	1,1-Dichloroethane	5	Y	06/20/96	07/08/20	1.7	3.5	280	2.4	Less than	0.0310	Decreasing Trend	2.6	0.6	4.4	No Sudden Increase
	MW-10	1,1-Dichloroethene	5	Y	06/20/96	07/08/20	0	0	4	1.0 U	ND	0.5480	No Trend	0.9	1.2E-16	0.9	No Sudden Increase
	MW-10	cis-1,2-Dichloroethene	5	Y	06/20/96	07/08/20	23.7	45	1700	45.2	Less than	0.0540	No Trend	33	8.0	57	No Sudden Increase
	MW-10	Vinyl Chloride	2	Y	06/20/96	07/08/20	7.9	38	320	22.6	Less than	0.1135	No Trend	20	8.6	46	No Sudden Increase

Notes:

[A] Locations were excluded if: more than half of the last eight rounds were non-detect or if there were no exceedances in the last eight rounds.

[B] Indicates a calculation based on the eight most recent rounds of data.

[C] Historical maximum provided is based on all available data (excluding the most recent round).

[D] For non-detect results, 90% of the reportling limit (RL) is used for calculations. However, the "greater than" distinction for the Historic Maximum comparison is only applied if the most recent result is above the reporting limit (i.e. a "non-detect" with higher reporting limit will not trigger a "greater than" result as the value is not representative of a detected contaminant concentration). Similarly, a statistically-significant increasing or decreasing trend is only shown if detections (not modified reporting limits) contribute to the trend's statistical significance (i.e. an "increasing trend" is not representative of groundwater conditions if the trend is caused by non-detect results with elevated reporting limits).

Abbreviations:

J	Indicates an estimated value.
ND	Indicates a non-detect result with an elevated reporting limit for the most recent sampling event that would cause mis-identification of new Historical Maxima and/or statistically-significant trends. See Note[D] above.
NJ	The analysis indicates the presence of a compound that has been "tentatively identified"; the associated numerical value represents its approximate concentration.
U	The compound was analyzed for but not detected. The associated value is the compound Reporting Limit.

Table D-7
Groundwater Sampling Field Parameters - September 2011 through July 2020
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

	Well ID	pH (s.u.)																								
Sampling Date		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	6.92	7.52	7.20	7.36	7.03	7.19	6.92	7.08	7.10	7.30	7.37	7.24	7.18	7.35	7.51	7.06	6.96	7.78	7.39	7.55	7.46	5.67	7.82***	7.33	7.38
	MW-3	6.93	7.57	7.27	7.33	7.15	7.38	6.98	6.95	7.15	7.35	7.14	6.74	7.25	7.34	7.19	7.10	6.92	7.47	7.52	7.48	7.37	5.93	7.70	7.38	7.34
	MW-18	--	--	7.51	7.41	7.5	7.17	7.53	7.32	7.59	7.57	7.30	7.91	7.62	7.63	7.53	7.41	7.49	7.73	7.54	7.56	7.76	6.98	--	--	7.25
	MW-20	--	--	--	6.24	6.85	6.78	6.82	6.75	7.3	6.87	6.75	7.1	7.10	6.95	7.03	6.98	6.95	7.11	7.20	7.12	7.04	6.91	7.32	6.94	6.86
	PZ-5	7.79	8.04	7.79	--	7.59	7.85	8.44	7.5	7.59	7.72	NA	7.64	7.89	7.77	8.03	NA	NA	NA	NA	NA	NA	6.9	8.07	7.83	7.64
	PZ-6	7.11	--	7.62	--	7.82	--	8.1	--	7.15	--	7.81	--	7.95	7.90	7.82	NA	NA	NA	NA	--	NA	6.7	8.34	8.08	7.85
	PZ-8	6.76	7.43	--	--	NA	7.16	NA	7.09	NA	NA	7.30	7.28	NA	NA	7.18	NA	NA	NA	NA	NA	NA	5.51	NA***	7.57	--
	PZ-11R	7.24	7.56	7.07	6.93	7.07	6.51	7.12	7.54	7.18	7.11	6.78	7.49	7.14	7.03	7.21	6.92	7.18	7.36	7.50	6.77	7.05	6.33	7.52***	7.3	7.29
	PZ-13R	6.70	7.60	6.85	6.67	6.85	6.79	7.19	6.79	8.18	7.00	6.93	7.89	7.14	7.45	7.08	6.84	6.95	7.46	7.24	7.04	7.14	6.11	7.48	6.25	7.14
	A2-PZ-1	6.90	7.42	7.12	7.25	6.95	7.07	7.34	7.10	7.09	7.22	6.99	6.73	7.11	7.21	7.16	7.02	6.94	7.47	7.60	7.45	7.17	6.53	--	--	7.78
	A2-PZ-2	--	--	--	7.18	6.94	7.24	7.38	7.15	7.14	7.14	7.12	6.53	7.13	7.32	7.19	7.11	7.14	7.47	7.63	7.59	7.49	5.3	--	--	7.56
Objective 2	MW-5	6.81	--	6.91	--	7.17	--	7.29	--	7.42	--	7.36	--	7.52	--	7.44	--	7.36	--	--	--	--	--	7.59***	--	--
	MW-13S	6.97	--	--	--	--	6.58	7.31	7.05	NA	NA	7.30	7.26	NA	7.49	7.35	7.52	NA	7.42	--	--	--	--	--	--	--
	MW-14BR	9.67	--	--	--	7.64	--	--	--	7.25	--	--	--	7.42	--	--	--	7.65	--	--	--	--	--	--	--	--
	MW-21	--	--	7.35	7.13	7.23	7.55	7.81	7.38	7.66	7.50	7.48	7.62	7.63	7.72	7.73	7.82	7.50	7.76	8.06	7.65	7.54	7.51	8.14***	7.37	7.49
	PZ-18	6.78	--	--	--	6.9	--	--	--	6.99	--	--	--	7.23	--	--	--	7.00	--	--	--	--	--	--	--	--
	PZ-26	7.72	--	--	--	7.66	--	--	--	8.11	--	--	--	8.21	--	--	--	7.79	--	--	--	--	--	--	--	--
Objective 3	MW-2	7.29	--	--	--	7.3	--	--	--	7.61	--	--	--	7.70	--	--	--	7.41	--	--	--	7.49	7.23	7.7	7.25	7.50
	MW-4	6.83	--	--	--	7.11	--	--	--	7.26	--	--	--	7.37	--	--	--	7.02	--	--	--	7.36	6.38	7.67	7.29	7.46
	MW-10	7.30	--	--	--	7.37	--	--	--	7.44	--	--	--	7.46	--	--	--	7.30	--	--	--	7.50	7.84	7.86	7.29	7.26
	PZ-7	7.18	--	7.21	--	7.13	--	7.27	--	7.07	--	7.00	--	7.69	--	7.47	--	NA	--	--	--	--	--	--	--	--
Others	MW-19	--	--	--	7.63	--	--	--	--	7.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PZ-2	--	--	--	7.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.67***	--	--
	PZ-27	6.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	A1-PZ-1	--	--	--	7.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	A2-PZ-7	6.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	OW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.34***	--	--
	MW-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.65***	--	--
	MW-F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.85***	--	--
	MW-13BR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.93***	--	--

See last page for notes.

Table D-7
Groundwater Sampling Field Parameters - September 2011 through July 2020
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

	Well ID	Specific Conductivity (mS/cm)																								
Sampling Date		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	1.764	1.123	1.816	1.625	1.173	0.658	1.217	0.868	0.983	0.722	0.740	0.780	1.220	0.780	0.750	0.870	0.910	0.81	1.47	1.62	1.23	1.05	1.488***	2.574	1.568
	MW-3	1.966	1.435	2.514	1.919	1.299	0.829	3.563	1.182	1.455	1.031	0.530	0.007	1.790	1.730	1.600	1.940	1.320	0.94	3.38	2.06	1.13	1.98	3.484	2.635	2.115
	MW-18	--	--	0.836	0.696	0.759	0.689	0.966	0.929	0.736	0.570	0.810	0.780	0.770	0.655	0.720	0.444	0.490	0.497	0.389	1.08	0.79	0.468	--	--	3.447
	MW-20	--	--	--	8.13	5.737	5.153	6.672	6.010	5.082	4.258	9.130	9.060	7.740	7.360	9.130	8.420	3.240	7.69	9.05	8.98	8.13	9.16	9.530	9.325	9.530
	PZ-5	1.372	1.193	1.527	--	1.533	1.364	0.815	1.745	1.832	1.634	NA	1.800	1.740	1.590	1.020	NA	NA	NA	NA	NA	NA	1.528	1.570	1.608	1.521
	PZ-6	1.666	--	1.445	--	1.774	--	1.573	--	1.727	--	1.720	--	1.800	1.630	0.990	NA	NA	NA	NA	--	NA	1.785	1.594	--	1.485
	PZ-8	1.316	1.021	--	--	NA	0.942	NA	1.380	NA	NA	0.900	0.522	NA	NA	0.550	NA	NA	NA	NA	NA	NA	0.881	NA***	--	--
	PZ-11R	3.222	1.398	4.986	3.639	2.867	2.846	6.129	4.125	3.180	3.200	8.940	4.930	3.620	5.110	8.880	5.630	4.050	4.82	7.94	7.15	4.71	4.457	0.0083***	5.670	5.070
	PZ-13R	7.593	2.762	5.503	7.164	6.601	4.704	6.226	9.009	6.874	4.840	12.700	9.350	7.320	6.720	14.460	9.540	8.640	8.30	16.01	10.09	9.57	9.06	10.06	9.937	9.530
	A2-PZ-1	1.271	0.709	1.247	1.22	1.097	0.769	1.186	1.097	0.931	0.638	1.180	1.450	1.380	1.020	1.060	1.120	1.110	1.04	0.97	1.07	0.94	1.18	--	--	0.490
	A2-PZ-2	--	--	--	1.738	1.134	0.826	1.015	1.081	1.023	0.699	0.770	1.140	1.200	0.990	1.190	1.230	1.110	1.13	1.21	1.54	1.14	1.05	--	--	0.592
Objective 2	MW-5	9.422	--	8.55	--	5.004	--	5.690	--	6.862	--	7.060	--	5.890	--	3.510	--	5.060	--	--	--	--	--	0.598***	--	--
	MW-13S	1.756	--	--	--	--	0.885	1.417	0.878	NA	NA	1.130	1.180	NA	0.920	0.744	0.403	NA	0.85	--	--	--	--	--	--	--
	MW-14BR	8.862	--	--	--	11.57	--	--	--	8.825	--	--	--	10.790	--	--	--	8.940	--	--	--	--	--	--	--	--
	MW-21	--	--	9.773	8.36	12.15	5.203	4.104	4.588	5.891	4.514	8.650	6.450	5.760	4.570	5.310	4.760	5.340	3.01	2.81	2.15	5.63	2.145	0.601***	5.411	6.300
	PZ-18	6.487	--	--	--	3.062	--	--	--	0.102	--	--	--	3.41	--	--	--	3.770	--	--	--	--	--	--	--	--
	PZ-26	0.636	--	--	--	0.67	--	--	--	0.599	--	--	--	0.740	--	--	--	0.740	--	--	--	--	--	--	--	--
Objective 3	MW-2	1.831	--	--	--	2.003	--	--	--	1.715	--	--	--	1.870	--	--	--	2.360	--	--	--	2.34	3.391	5.130	6.500	4.300
	MW-4	1.729	--	--	--	2.164	--	--	--	1.544	--	--	--	2.510	--	--	--	2.580	--	--	--	2.90	1.705	3.100	1.864	2.475
	MW-10	1.751	--	--	--	2.722	--	--	--	2.634	--	--	--	2.980	--	--	--	2.920	--	--	--	2.92	6.91	5.630	8.284	8.390
	PZ-7	1.389	--	1.063	--	1.22	--	1.091	--	1.019	--	1.030	--	0.930	--	0.980	--	NA	--	--	--	--	--	--	--	--
Others	MW-19	--	--	--	0.984	--	--	--	--	0.732	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PZ-2	--	--	--	2.806	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0029***	--	--
	PZ-27	1.082	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	A1-PZ-1	--	--	--	1.362	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	A2-PZ-7	0.978	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	OW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.896***	--	--
	MW-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.831***	--	--
	MW-F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.720***	--	--
	MW-13BR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.865***	--	--

See last page for notes.

Table D-7
Groundwater Sampling Field Parameters - September 2011 through July 2020
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

	Well ID	DO (mg/L)																								
Sampling Date		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	0.24	2.90	1.69	0.52	0.80	3.25	4.30	3.59	1.06	3.91	8.52	2.49	0.27	5.78	6.90	2.02	1.74	8.07	7.58	4.43	6.06	5.17	6.13***	1.38	0.37
	MW-3	0.71	1.01	1.76	0.46	0.68	1.06	2.71	0.86	0.33	0.39	6.13	1.14	0.14	0.45	3.35	0.53	0.18	3.20	3.57	1.75	5.71	2.04	2.33	1.72	1.78
	MW-18	--	--	0.82	1.03	0.2	0.16	4.4	0.64	0.33	1.04	0.75	0.21	0.16	2.80	0.33	2.30[A]	0.75	0.00	0.70	0.53	0.53	5.62	--	--	3.18
	MW-20	--	--	--	0.55	0.62	4.5	1.28	1.95	0.21	2.1	0.78	0.27	3.62	1.06	0.61	1.99[A]	0.30	0.42	0.70	0.25	0.93	1.37	0.69	0.58	0.31
	PZ-5	0.85	2.40	2.59	--	0.68	0.6	2.45	1.14	2.15	2.38	NA	4.8	3.57**	3.24	1.60	NA	NA	1.89	NA	NA	NA	3.35	4.3	1.20	2.64
	PZ-6	1.70	--	1.55	--	0.89	--	NA	--	2.39	--	0.52	--	2.28**	4.57**	2.51	NA	NA	2.75	NA	--	NA	1.88	4.05	3.24	0.98
	PZ-8	0.89	1.58	--	--	NA	1.48	NA	4.01	NA	NA	2.61	6.19	NA	NA	3.58	NA	NA	5.25	NA	NA	NA	3.5	NA***	7.35	--
	PZ-11R	0.60	4.34	7.45	5.19	2.91	3.31	8.82	2.30	3.94	4.31	7.48	6.27	1.92**	3.40**	8.92	0.84**	1.78	4.43***	2.64***	3.88***	3.48***	7.06	5.47***	3.78	2.83
	PZ-13R	0.04	2.48	3.44	2.09	0.80	2.83	3.52	2.89	2.34	4.58	2.53	3.85	4.40**	5.72**	9.02	1.07**	2.81	4.33***	3.16***	1.37***	3.65***	5.26	3.6	1.27	1.97
	A2-PZ-1	0.43	1.07	0.86	0.65	0.80	5.4	1.09	0.09	0.49	0.08	0.69	0.02	1.97	0.70	0.10	0.09	0.13	0.47	0.30	0.43	0.86	1.31	--	--	2.30
	A2-PZ-2	--	--	--	1.10	1.40	0.87	2.6	1.07	2.17	1.52	8.14	2.33	2.87**	6.45**	2.28	1.34	1.32	3.47	4.16	1.49	2.45	1.97	--	--	2.21
Objective 2	MW-5	0.03	--	1.04	--	0.22	--	3.67	--	1.54	--	1.73	--	1.18	--	1.27	--	1.45	--	--	--	--	--	7.83***	--	--
	MW-13S	1.52	--	--	--	--	2.95	1.97	0.77	NA	NA	5.82	1.21	NA	3.97	2.87	3.47**	NA	7.20***	--	--	--	--	--	--	--
	MW-14BR	1.90	--	--	--	4.17	--	--	--	1.59	--	--	--	1.93	--	--	--	0.64	--	--	--	--	--	--	--	--
	MW-21	--	--	0.54	0.33	0.89	0.15	0.57	0.53	0.13	2.7	2.75	0.5	0.37	0.85	0.31	1.23[A]	0.20	0.21	0.62	0.54	0.22	1.19	3.26***	0.73	1.41
	PZ-18	0.12	--	--	--	4.34	--	--	--	2.44	--	--	--	1.94**	--	--	--	0.56	--	--	--	--	--	--	--	--
	PZ-26	0.08	--	--	--	0.2	--	--	--	2.39	--	--	--	0.17	--	--	--	0.20	--	--	--	--	--	--	--	--
Objective 3	MW-2	0.60	--	--	--	0.2	--	--	--	0.18	--	--	--	0.76	--	--	--	0.67	--	--	--	0.25	0.91	0.23	0.49	0.20
	MW-4	0.57	--	--	--	0.4	--	--	--	2.19	--	--	--	3.74	--	--	--	1.08	--	--	--	1.54	8.94	2.31	2.27	0.83
	MW-10	0.09	--	--	--	0.2	--		--	0.15	--	--	--	0.08	--	--	--	0.00	--	--	--	0.37	1.65	0.83	0.68	0.46
	PZ-7	1.81	--	1.6	--	0.75	--	1.46	--	2.17	--	1.91	--	2.71**	--	2.05	--	NA	--	--	--	--	--	--	--	--
Others	MW-19	--	--	--	0.26	--	--	--	--	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PZ-2	--	--	--	0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.20***	--	--
	PZ-27	1.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	A1-PZ-1	--	--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	A2-PZ-7	4.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	OW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.77***	--	--
	MW-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.73***	--	--
	MW-F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.77***	--	--
	MW-13BR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.60***	--	--

See last page for notes.

Table D-7
Groundwater Sampling Field Parameters - September 2011 through July 2020
Groundwater Summary Report
Former Lockheed Martin French Road Facility
Utica, New York

	Well ID	ORP (mV)																								
Sampling Date		Sep-11	Jan-12	Apr-12	Jul-12	Oct-12	Jan-13	Apr-13	Jul-13	Oct-13	Feb-14	Apr-14	Jul-14	Oct-14	Jan-15	Apr-15	Jul-15	Oct-15	Jan-16	Apr-16	Jul-16	Oct-16	Jan-17	Jun-18	Sep-19	Jul-20
Objective 1	MW-1	121.2	-42.7	46.9	63.1	-203.6	82.0	97.30	69.0	50.7	32.3	202.1	151.7	150.9	111.7	115.0	125.6	171.8	65.2	70.7	212.5	3.0	-33.0	227***	-59	-53
	MW-3	89.6	-42.9	59.3	62.4	-216.6	119.6	81.20	70.3	62.7	29.2	208.6	127.4	177.1	120.9	84.9	147.5	129.1	105.0	104.0	220.9	80.0	-70.0	237	-56	-54
	MW-18	--	--	-77.4	92.8	-73.8	-53.8	-35.0	-84.3	-35.2	-94.5	40.2	-74.1	-76.9	-46.6	-30.6	-44.9	-82.6	-79.3	-2.0	90.7	-82	-21	--	--	-47
	MW-20	--	--	--	-100	-160.6	-67.4	-63.5	-114.3	-94.4	-98.4	-51.1	-92	60.3	-69.3	-88.0	-103.0	-106.0	-61.8	-78.5	-80.2	-57.0	-144.0	259	-33	-25
	PZ-5	-139.2	-88.3	-84.3	--	-132	121.16	92.40	-75.9	-48.6	-90.0	NA	181.20	53.4	86.0	63.8	NA	NA	127.2	NA	NA	NA	-30	212	-70	-59
	PZ-6	12.4	--	-74	--	-58.6	--	16.1	--	-40	--	30.3	--	30.2	51.6	71.1	NA	NA	106.5	NA	--	NA	-7	202	-97	-82
	PZ-8	73.7	-23.4	--	--	NA	115.4	NA	102.0	NA	NA	-19.3	241.7	NA	NA	227.3	NA	NA	136.5	NA	NA	NA	-44	NA***	-80	--
	PZ-11R	33.0	-70.7	-2.1	104.2	-2.0	146.6	44.50	88.5	62.2	61.4	2.40	125.00	204.1	118.6	85.4	55.5	146.0	126.3***	111.2***	161.3***	92***	-18	245***	-49	-49
	PZ-13R	-28.2	-28.1	201.3	-35.0	-18.5	3.3	5.30	83.5	-52.9	22.5	-23.40	-110.10	34.4	103.3	39.1	67.8	35.7	133.3***	138.9***	118.3***	78***	-20	245***	-4	-38
	A2-PZ-1	-48.4	-87.9	-91.4	50.4	-208.2	-39.7	-36.90	-110.3	-111.1	-112.1	-90.60	-99.80	-68.8	-74.7	-49.0	-109.6	-104.6	-43.8	-86.2	203.5	-86.0	2.0	--	--	-66
	A2-PZ-2	--	--	--	-78.3	-16.8	25.3	96.0	-16.0	-53.6	-1.1	60.9	-41.9	-10.0	21.3	-15.5	-55.4	44.6	1.4	26.6	84.5	-23.7	-10	--	--	-71
Objective 2	MW-5	-55.1	--	-83.6	--	-97.2	--	20.4	--	-21.8	--	-10.7	--	-63.1	--	-80.1	--	-110.7	--	--	--	--	--	244***	--	--
	MW-13S	83.2	--	--	--	--	160.7	65.2	153.7	NA	NA	215.8	109.8	NA	175.6	98.5	107.9	NA	133.7***	--	--	--	--	--	--	--
	MW-14BR	-27.4	--	--	--	-254.5	--	--	--	-141.3	--	--	--	-105.4	--	--	--	-204.5	--	--	--	--	--	--	--	--
	MW-21	--	--	-98.8	90.4	-112.7	-101.9	-85.6	-110.1	-68.5	-113.6	-77.2	-116.5	-86.7	-86.6	-112.3	-19.6	-131.1	-143.3	-102.6	58.7	-102	-124	213***	-56	-61
	PZ-18	-17.9	--	--	--	-48.4	--	--	--	-61.1	--	--	--	37.4	--	--	--	-81.6	--	--	--	--	--	--	--	--
	PZ-26	-55.6	--	--	--	-27.8	--	--	--	-40.9	--	--	--	-59.9	--	--	--	-89.0	--	--	--	--	--	--	--	--
Objective 3	MW-2	-122.4	--	--	--	-108	--	--	--	-52.9	--	--	--	-66.9	--	--	--	-98.9	--	--	--	-147	-44	236	-54	-60
	MW-4	68.8	--	--	--	-53	--	--	--	-12.7	--	--	--	41.4	--	--	--	-1.1	--	--	--	-147	-49	239	-56	-57
	MW-10	-145.3	--	--	--	-254.2	--	--	--	-118.3	--	--	--	-110.4	--	--	--	-134.8	--	--	--	-167	-80	228	-54	-47
	PZ-7	-20.0	--	-97.8	--	-88	--	-31.0	--	-60.9	--	-41.0	--	67.5	--	98.8	--	NA	--	--	--	--	--	--	--	--
Others	MW-19	--	--	--	-128.2	--	--	--	--	-35.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PZ-2	--	--	--	-154.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	238***	--	--
	PZ-27	-24.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	A1-PZ-1	--	--	--	-153.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	A2-PZ-7	46.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	OW-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	254***	--	--
	MW-23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	234***	--	--
	MW-F	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	237***	--	--
	MW-13BR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	172***	--	--

See last page for notes.

Table D-7
Groundwater Sampling Field Parameters - September 2011 through July 2020
Quarterly Data Summary
Former Lockheed Martin French Road Facility
Utica, New York

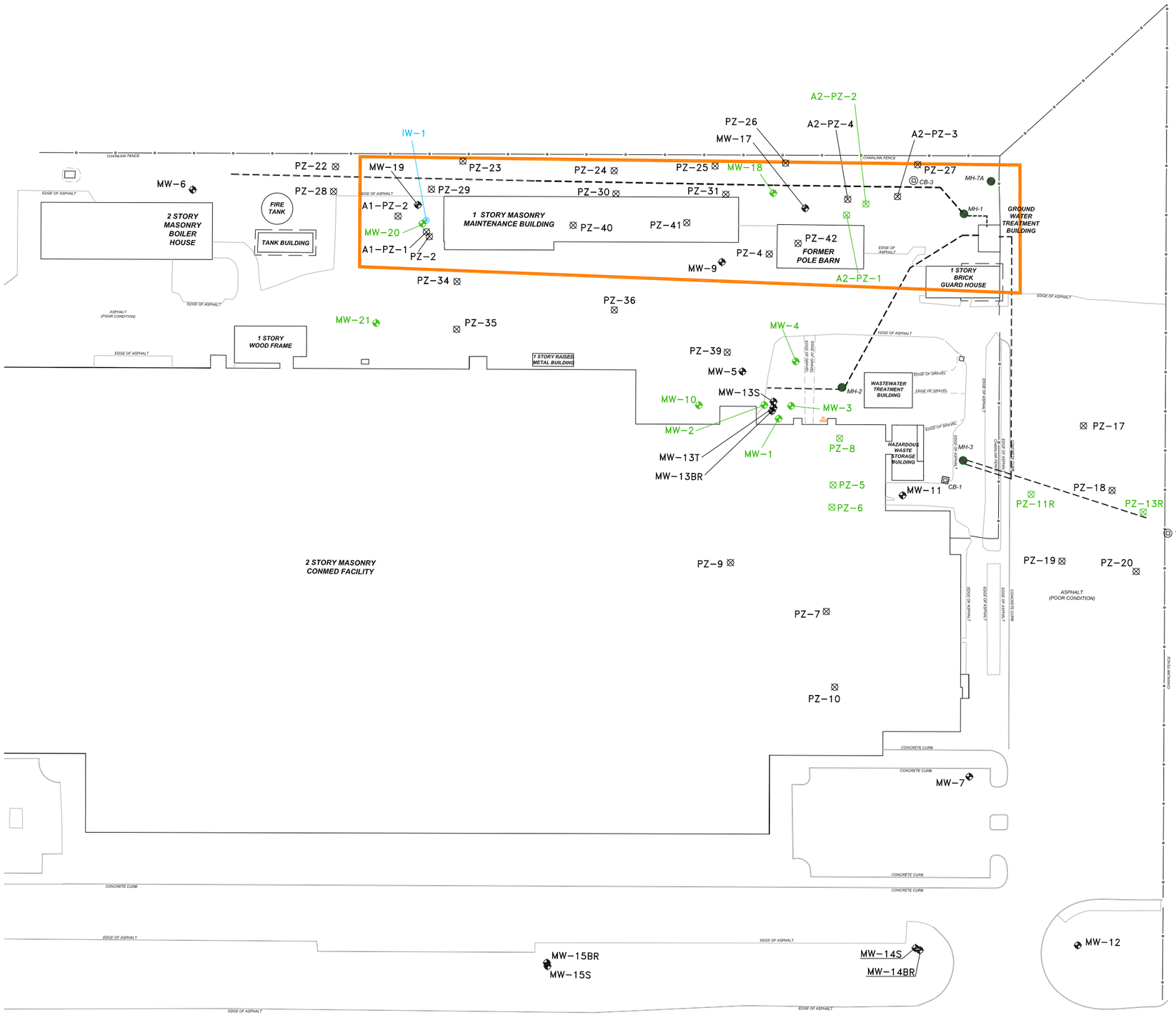
Notes:
1. DO = dissolved oxygen
2. mg/L = milligrams per liter
3. mS/cm = milliSiemens per centimeter
4. mV = millivolts
5. ORP = oxidation reduction potential
6. s.u. = standard units
7. * Instrument error
8. NA = not analyzed due to well being dry or insufficient sample volume.
9. -- = Not included in the specified sampling round.
10. Note for ORP analysis: only three wells are purged by the low flow evacuation method and parameters monitored using a flow-through cell: MW-1, MW-3, and MW-10. For the others, groundwater parameters are generally collected by bailer and are evaluated at the surface, which is not a reliable or reproducible method for evaluating ORP results.
11. ** Indicates downhole DO was not collected due to insufficient volume.
12. Field parameters for the following wells were collected prior to purging during the Q4 2014 event due to insufficient volume: PZ-5, PZ-6, PZ-7, PZ-9, and PZ-18.
13. Field parameters for the following wells were collected during purging during the Q4 2014 event due to the well going dry prior to purging three well volumes: PZ-13R, MW-14BR, A2-PZ-2, and A1-PZ-2.
14. Field parameters for the following wells were collected prior to purging due to insufficient volume during the Q1 2015 event: PZ-5, PZ-6, PZ-11R, and PZ-13R.
15. Field parameters for the following wells were collected prior to purging due to insufficient volume during the Q2 2015 event: PZ-5, PZ-6, PZ-7, and PZ-8.
16. Field parameters for the following wells were collected prior to purging due to insufficient volume during the Q3 2015 event: PZ-11R, PZ-13R, and MW-13S.
17. Field parameters for the following wells were collected during purging during the Q4 2015 event due to the well going dry prior to purging three well volumes: PZ-11R, PZ-18, and MW-14BR.
18. [A] Due to downhole DO instrument error, the DO value provided was measured using the YSI during bailer purging.
19. Beginning Q1 (January) 2016, all wells were purged and sampled using a bailer. Downhole DO and ORP were measured at all locations (assuming sufficient water column and unless otherwise noted) except at A1-PZ-2, which is too narrow to accommodate the downhole probes available.
20. *** Indicates downhole field parameters were not collected due to insufficient volume, or due to PFAS sampling.
21. Field parameters for the following wells were collected prior to or during purging due to insufficient volume during the Q1 2016 event: PZ-5, PZ-6, PZ-8, PZ-11R, PZ-13R, and MW-13S.
22. Field parameters for the following wells were collected prior to or during purging due to insufficient volume during the Q2-Q4 2016 events: PZ-11R and PZ-13R.
23. As per NYSDEC approval, AZ-PZ-2 was removed from the groundwater sampling program.

Table D-8
Groundwater Monitoring Data:
Per- and Polyfluoroalkyl Substances (PFAS) and 1,4-dioxane in A2-PZ-1, July 2020
Former Lockheed Martin French Road Facility
Utica, New York

			Per- and polyfluoroalkyl substances (PFAS)																						
Well ID	**Date**	**Initial Depth To Water (feet)**	**1,4-Dioxane**	**6:2 FTS**	**8:2 FTS**	**N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)**	**N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)**	**Perfluorobutanesulfonic acid (PFBS)**	**Perfluorobutanoic acid (PFBA)**	**Perfluorodecanesulfonic acid (PFDS)**	**Perfluorodecanoic acid (PFDA)**	**Perfluorododecanoic acid (PFDoA)**	**Perfluoroheptanesulfonic Acid (PFHpS)**	**Perfluoroheptanoic acid (PFHpA)**	**Perfluorohexanesulfonic acid (PFHxS)**	**Perfluorohexanoic acid (PFHxA)**	**Perfluorononanoic acid (PFNA)**	**Perfluorooctane Sulfonamide (FOSA)**	**Perfluorooctanesulfonic acid (PFOS)**	**Perfluorooctanoic acid (PFOA)**	**Perfluoropentanoic acid (PFPeA)**	**Perfluorotetradecanoic acid (PFTeA)**	**Perfluorotridecanoic Acid (PFTriA)**	**Perfluoroundecanoic acid (PFUnA)**
A2-PZ-1	7/8/2020	1.25	**1.5**	**43.4**	**42.0**	18.2 U	18.2 U	1.82 U	**27.4**	1.82 U	1.82 U	1.82 U	1.82 U	**6.19**	1.82 U	1.82 U	1.82 U	9.09 U	**2.14**	**9.32**	**13.5**	1.82 U	1.82 U	1.82 U
EQUIPMENT BLANK	7/8/2020	NA	NA	**39.7**	**39.1**	18.2 U	18.2 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	9.11 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U
FIELD BLANK	7/8/2020	NA	NA	**47.8**	**42.2**	17.9 U	17.9 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	8.95 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U	1.79 U
TRIP BLANK	7/8/2020	NA	NA	**41.6**	**39.3**	18.3 U	18.3 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	9.14 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U	1.83 U

Notes:
PFAS results are reported in ng/L
1,4 Dioxane result is reported in µg/L
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
DUP - Duplicate sample
U - Indicates the compound was analyzed for but not detected
NA - Not analyzed
Bold - Concentration detected above reporting limit

FIGURES



LEGEND:

- FORMER NORTHERN PERIMETER DITCH (FNPD)
- IW-1 — INJECTION WELL LOCATION
- MW-10 — MONITORING WELL LOCATION
- PZ-9 — PIEZOMETER LOCATION
- ANNUAL SAMPLING LOCATION
- GROUNDWATER COLLECTION TRENCH AND PIPING
- FENCE LINE
- MH-2 — GROUNDWATER COLLECTION MANHOLE LOCATION
- CB-2 — CATCH BASIN WITH INLET GRATE LOCATION

NOTES:

1. BASE PLAN ADAPTED FROM DRAWING ENTITLED ?2013 ANNUAL GROUNDWATER MONITORING REPORT, JANUARY 2013 GROUNDWATER CONTOURS? PREPARED BY ACRCADIS.
2. THIS DRAWING IS REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLAN COORDINATE SYSTEM (CENTRAL ZONE).
3. THE REFERENCED HORIZONTAL CONTROL STATION IS A GPS CONTINUOUSLY OPERATING REFERENCE STATION (CORS) DESIGNATED AS "ROME CORS ARP" (NYRM). NYRM IS A SPECIAL HORIZONTAL AND VERTICAL CONTROL STATION ESTABLISHED BY NATIONAL GEODETIC SURVEY IN JULY 1997.
4. IN THE FALL OF 2019, THE FORMER NORTHERN PERIMETER DITCH (FNPD) EXCAVATION ACTIVITIES WERE COMPLETED. FOLLOWING COMPLETION OF THE EXCAVATION ACTIVITIES, MONITORING WELLS MW-17 AND MW-18, AND PIEZOMETERS A2-PZ-1, A2-PZ-2, A2-PZ-3, AND A2-PZ-4 WERE RE-INSTALLED.

0 50 100
SCALE IN FEET

2020 ANNUAL SITE MANAGEMENT REPORT
APPENDIX D: Groundwater Monitoring Report
FORMER LOCKHEED MARTIN, FRENCH ROAD FACILITY

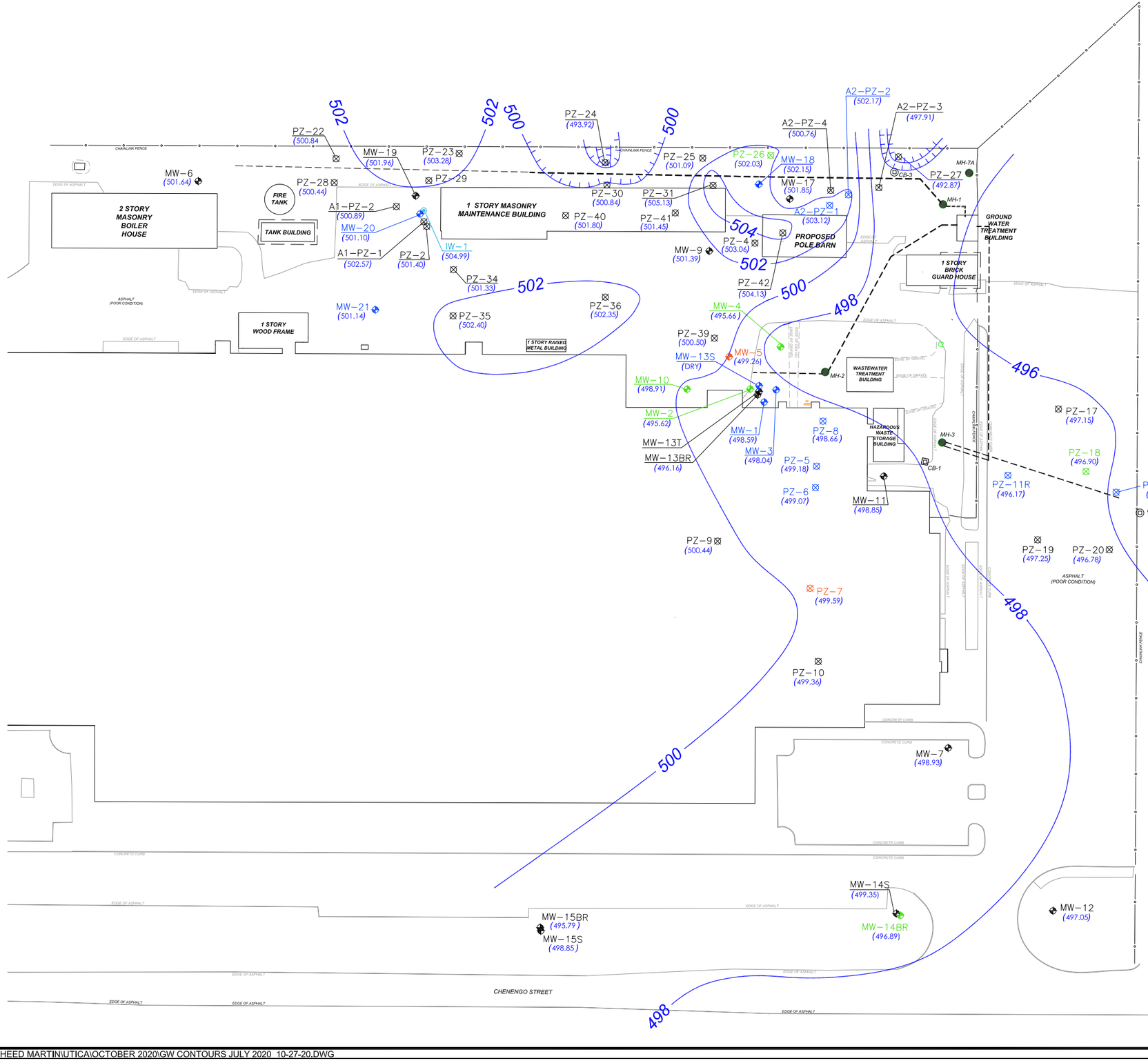
ANNUAL 2020 GROUNDWATER MONITORING

TETRA TECH

CHECKED	MRN
DRAFTED	CMP
PROJECT	117-0507677
DATE	09/29/20

FIGURE: D-1

S:\CAD\LOCKHEED MARTIN\UTICA\SEPTEMBER 2020\MONITORING WELL NETWORK_9-29-20.DWG



LEGEND:

- IW-1 — INJECTION WELL LOCATION
- MW-10 — MONITORING WELL LOCATION
- PZ-9 — PIEZOMETER LOCATION
- QUARTERLY SAMPLING LOCATION
- SEMI-ANNUAL SAMPLING LOCATION
- ANNUAL SAMPLING LOCATION
- (496.88) — QUARTERLY GROUNDWATER ELEVATION POINT (AMSL)
- 500 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER COLLECTION TRENCH AND PIPING
- FENCE LINE
- MH-2 — GROUNDWATER COLLECTION MANHOLE LOCATION
- CB-2 — CATCH BASIN WITH INLET GRATE LOCATION

NOTES:

1. BASE PLAN ADAPTED FROM DRAWING ENTITLED ?2013 ANNUAL GROUNDWATER MONITORING REPORT, JANUARY 2013 GROUNDWATER CONTOURS? PREPARED BY ACRCADIS.
2. THIS DRAWING IS REFERENCED HORIZONTALLY TO THE NORTH AMERICAN DATUM OF 1983 (NAD83) AND PROJECTED ON THE NEW YORK STATE PLAN COORDINATE SYSTEM (CENTRAL ZONE).
3. THE REFERENCED HORIZONTAL CONTROL STATION IS A GPS CONTINUOUSLY OPERATING REFERENCE STATION (CORS) DESIGNATED AS "ROME CORS ARP" (NYRM). NYRM IS A SPECIAL HORIZONTAL AND VERTICAL CONTROL STATION ESTABLISHED BY NATIONAL GEODETIC SURVEY IN JULY 1997.
4. CONTOURS DEVELOPED USING WATER LEVEL DATA FROM JULY 8-9, 2020.
5. MW-13S AND PZ-21 WERE GAUGED BUT WERE DRY.
6. IN THE FALL OF 2019, THE FORMER NORTHERN PERIMETER DITCH (FNPD) EXCAVATION ACTIVITIES WERE COMPLETED. FOLLOWING COMPLETION OF THE EXCAVATION ACTIVITIES, MONITORING WELLS MW-17 AND MW-18, AND PIEZOMETERS A2-PZ-1, A2-PZ-2, A2-PZ-3, AND A2-PZ-4 WERE RE-INSTALLED.

0 50 100
SCALE IN FEET

2020 ANNUAL SITE MANAGEMENT REPORT
APPENDIX D: Groundwater Monitoring Report
FORMER LOCKHEED MARTIN, FRENCH ROAD FACILITY
UTICA, NEW YORK

GROUNDWATER CONTOURS JULY 2020

TETRA TECH

CHECKED	MRN
DRAFTED	CMP
PROJECT	117-0507677
DATE	10/27/20

FIGURE: D-2

S:\CAD\LOCKHEED MARTIN\UTICA\OCTOBER 2020\GW CONTOURS JULY 2020_10-27-20.DWG

MW-20	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	2.7
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	**19.2 J**
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	2.4
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 U
Methylene Chloride	1.0 U

MW-21	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	1.0 U
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	**2.5 J**
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	2.4
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 U
Methylene Chloride	1.0 U

MW-10	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	**45.2**
trans-1,2-Dichloroethene	4.1
Vinyl chloride	**22.6**
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	2.4
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-18	
Tetrachloroethene	**106**
Trichloroethene	**93.0**
cis-1,2-Dichloroethene	**336**
trans-1,2-Dichloroethene	1.6
Vinyl chloride	1.7
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	**41.3**
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	**7.3**
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-2	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	**10.8**
trans-1,2-Dichloroethene	2.2
Vinyl chloride	**16.3**
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	4.5
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-1	
Tetrachloroethene	**21.9**
Trichloroethene	**10.7**
cis-1,2-Dichloroethene	**17.2**
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 U
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	2.4
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

A2-PZ-1	
Tetrachloroethene	1.9
Trichloroethene	**5.2**
cis-1,2-Dichloroethene	**42.6**
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	**5.7**
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	**5.3**
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	**12.7**
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

A2-PZ-2	
Tetrachloroethene	**23.3**
Trichloroethene	**23.7**
cis-1,2-Dichloroethene	**38.6**
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	**2.7**
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-4	
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
cis-1,2-Dichloroethene	3.4
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	**2.4**
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

MW-3	
Tetrachloroethene	1.4
Trichloroethene	4.3
cis-1,2-Dichloroethene	**18.7**
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	**3.7**
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	3.2
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

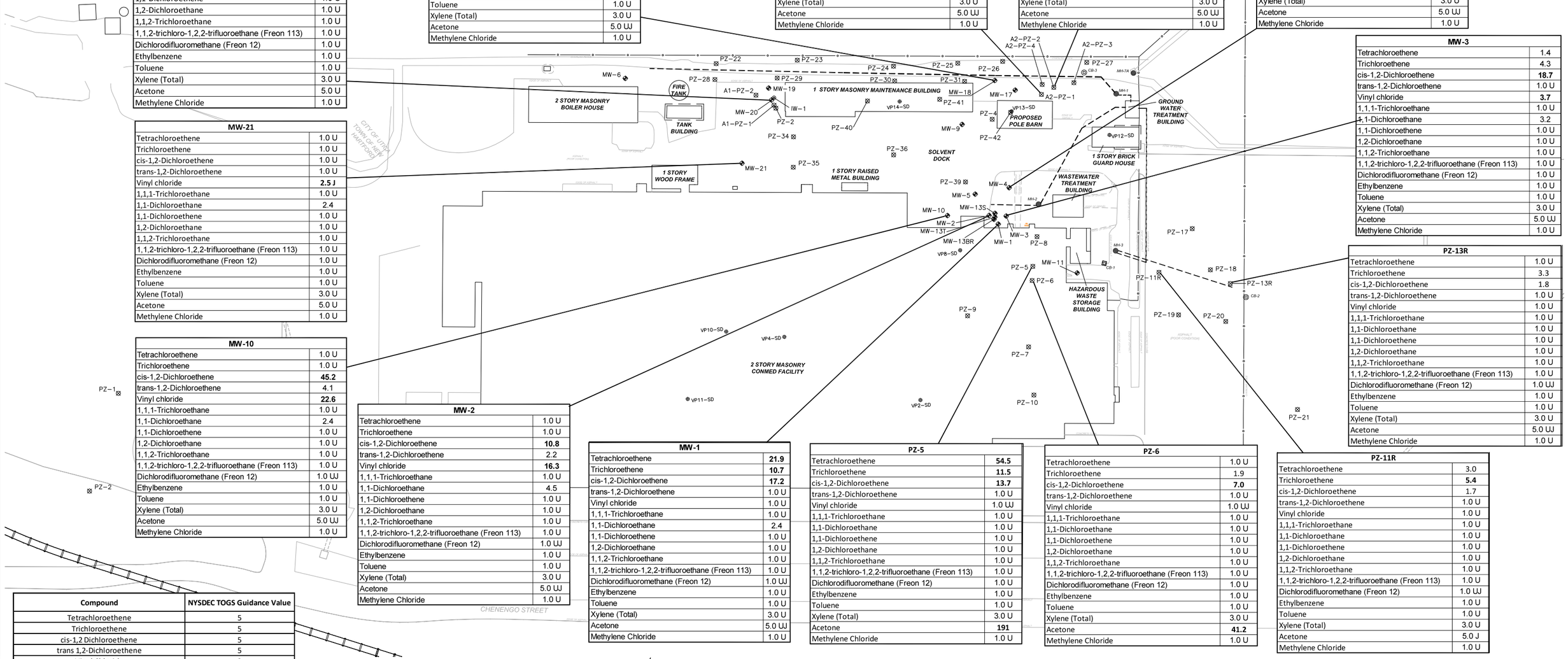
PZ-13R	
Tetrachloroethene	1.0 U
Trichloroethene	3.3
cis-1,2-Dichloroethene	1.8
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 U
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 UJ
Methylene Chloride	1.0 U

PZ-5	
Tetrachloroethene	**54.5**
Trichloroethene	**11.5**
cis-1,2-Dichloroethene	**13.7**
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 UJ
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	**191**
Methylene Chloride	1.0 U

PZ-6	
Tetrachloroethene	1.0 U
Trichloroethene	1.9
cis-1,2-Dichloroethene	**7.0**
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 UJ
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 U
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	**41.2**
Methylene Chloride	1.0 U

PZ-11R	
Tetrachloroethene	3.0
Trichloroethene	**5.4**
cis-1,2-Dichloroethene	1.7
trans-1,2-Dichloroethene	1.0 U
Vinyl chloride	1.0 U
1,1,1-Trichloroethane	1.0 U
1,1-Dichloroethane	1.0 U
1,1-Dichloroethene	1.0 U
1,2-Dichloroethane	1.0 U
1,1,2-Trichloroethane	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	1.0 U
Dichlorodifluoromethane (Freon 12)	1.0 UJ
Ethylbenzene	1.0 U
Toluene	1.0 U
Xylene (Total)	3.0 U
Acetone	5.0 J
Methylene Chloride	1.0 U

Compound	NYSDEC TOGS Guidance Value
Tetrachloroethene	5
Trichloroethene	5
cis-1,2 Dichloroethene	5
trans 1,2-Dichloroethene	5
Vinyl Chloride	2
1,1,1-Trichloroethane	5
1,1-Dichloroethane	5
1,2-Dichloroethane	0.6
1,1-Dichloroethene	5
1,1,2,Trichloroethane	1
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	5
Dichloro-difluoromethane (Freon 12)	5
Ethylbenzene	5
Toluene	5
Xylenes, total	5
Acetone	50
Methylene Chloride	5



0 70 140
SCALE IN FEET

LEGEND:

- MW-10 ⊕ MONITORING WELL LOCATION
- PZ-9 ⊠ PIEZOMETER LOCATION
- GROUNDWATER COLLECTION TRENCH AND PIPING
- FENCE LINE
- MH-2 GROUNDWATER COLLECTION MANHOLE LOCATION
- CB-2 CATCH BASIN WITH INLET GRATE LOCATION

NOTES:

1. LABORATORY ANALYSIS: EPA METHOD 8260C/5030C
2. CONCENTRATIONS IN MICROGRAMS PER LITER (ug/L)
3. QUALIFIERS:
   – J FLAG IDENTIFIES ESTIMATED CONCENTRATION
4. SAMPLES COLLECTED ON JULY 8, 2020.

2020 ANNUAL SITE MANAGEMENT REPORT
APPENDIX D: Groundwater Monitoring Report

FORMER LOCKHEED MARTIN, FRENCH ROAD FACILITY
UTICA, NEW YORK

VOC GROUNDWATER MONITORING DATA

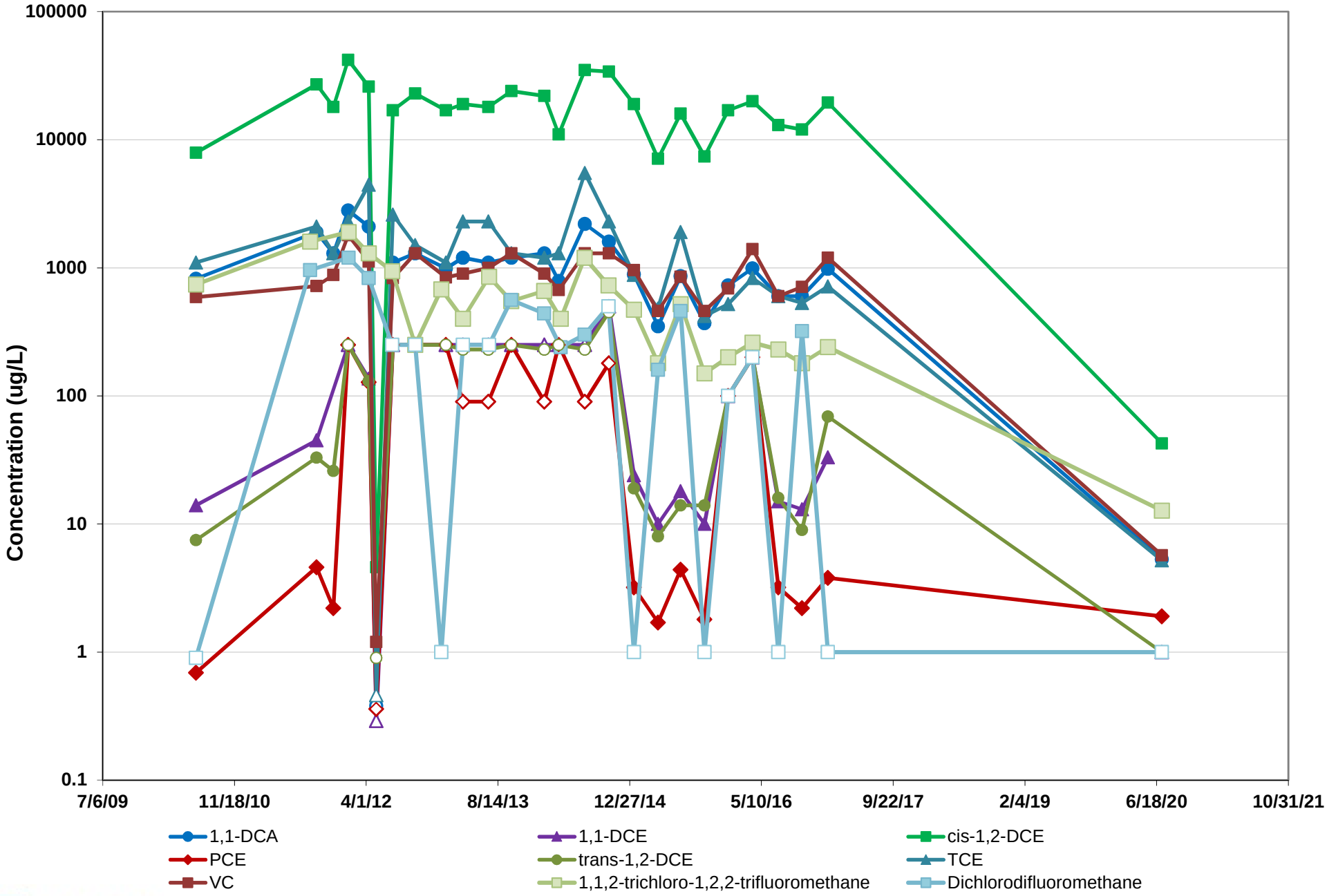
TETRA TECH

CHECKED	MRN
DRAFTED	CMP
PROJECT	117-0507677
DATE	10/15/20

FIGURE: D-3

S:\CAD\LOCKHEED MARTIN\UTICA\OCTOBER 2020\GW QUALITY VOC 10-15-20.DWG

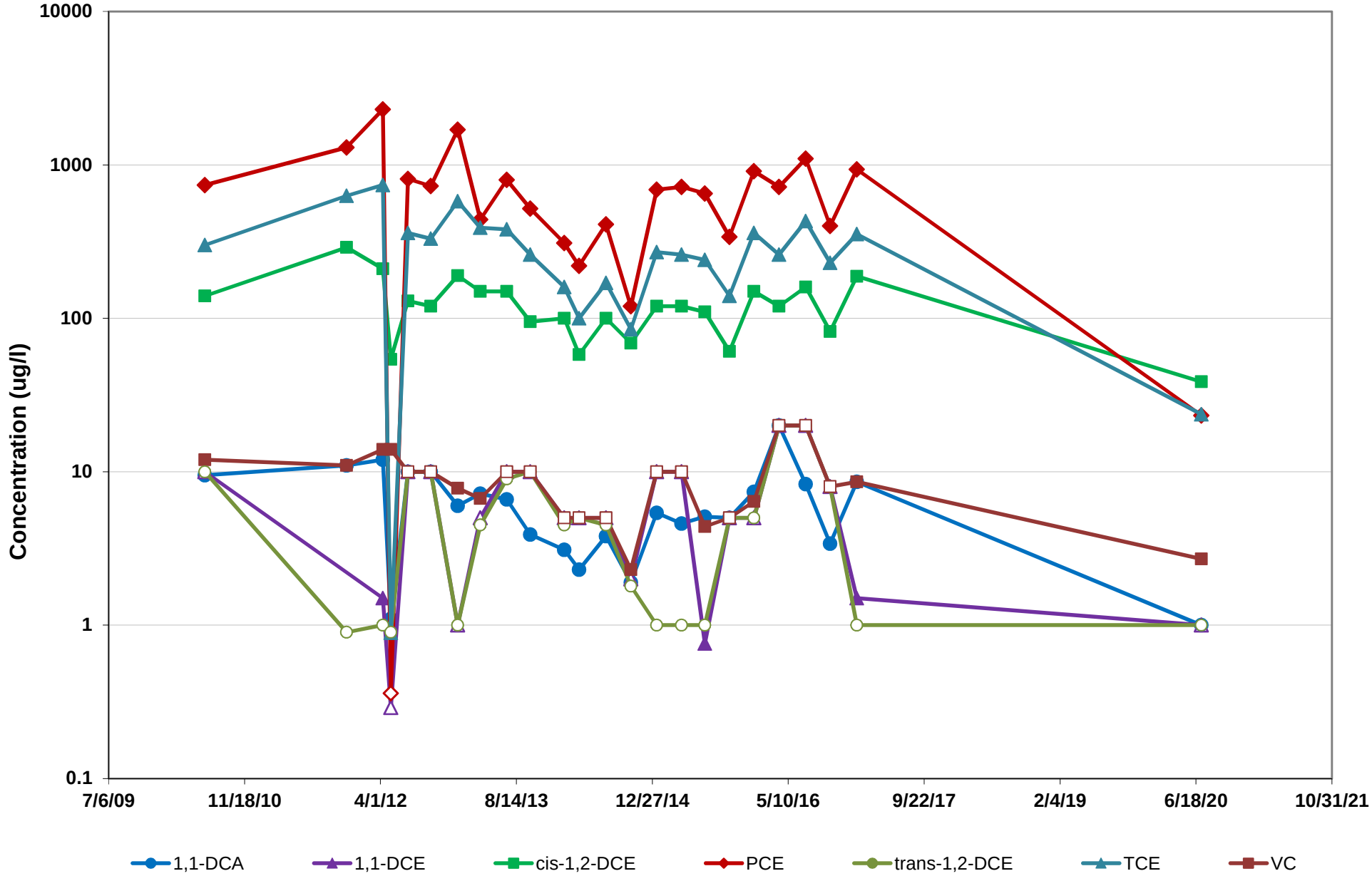
Figure D-3a: Well A2-PZ-1 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

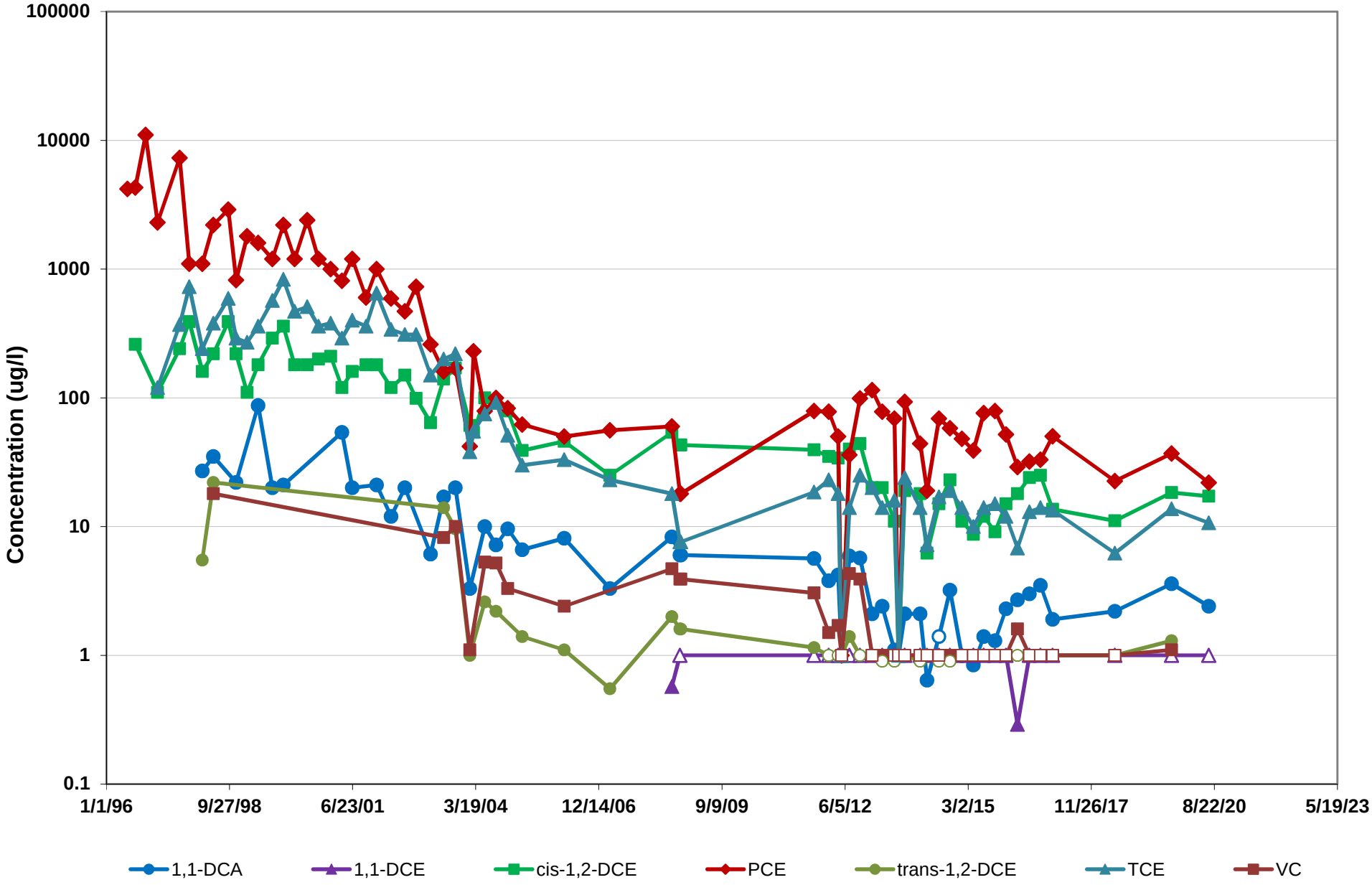
Figure D-3b: Well A2-PZ-2 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

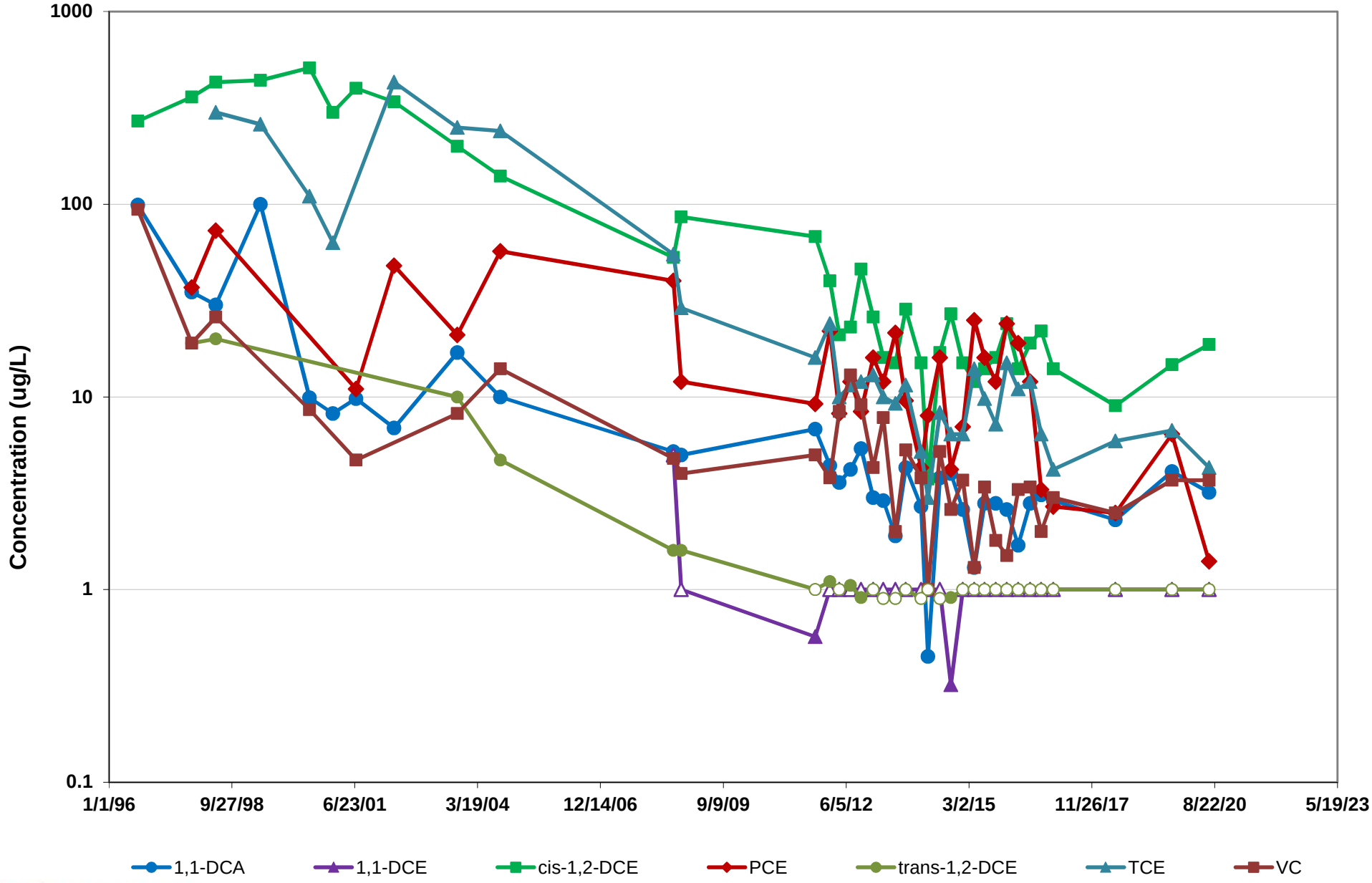
Figure D-3c: Well MW-1 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

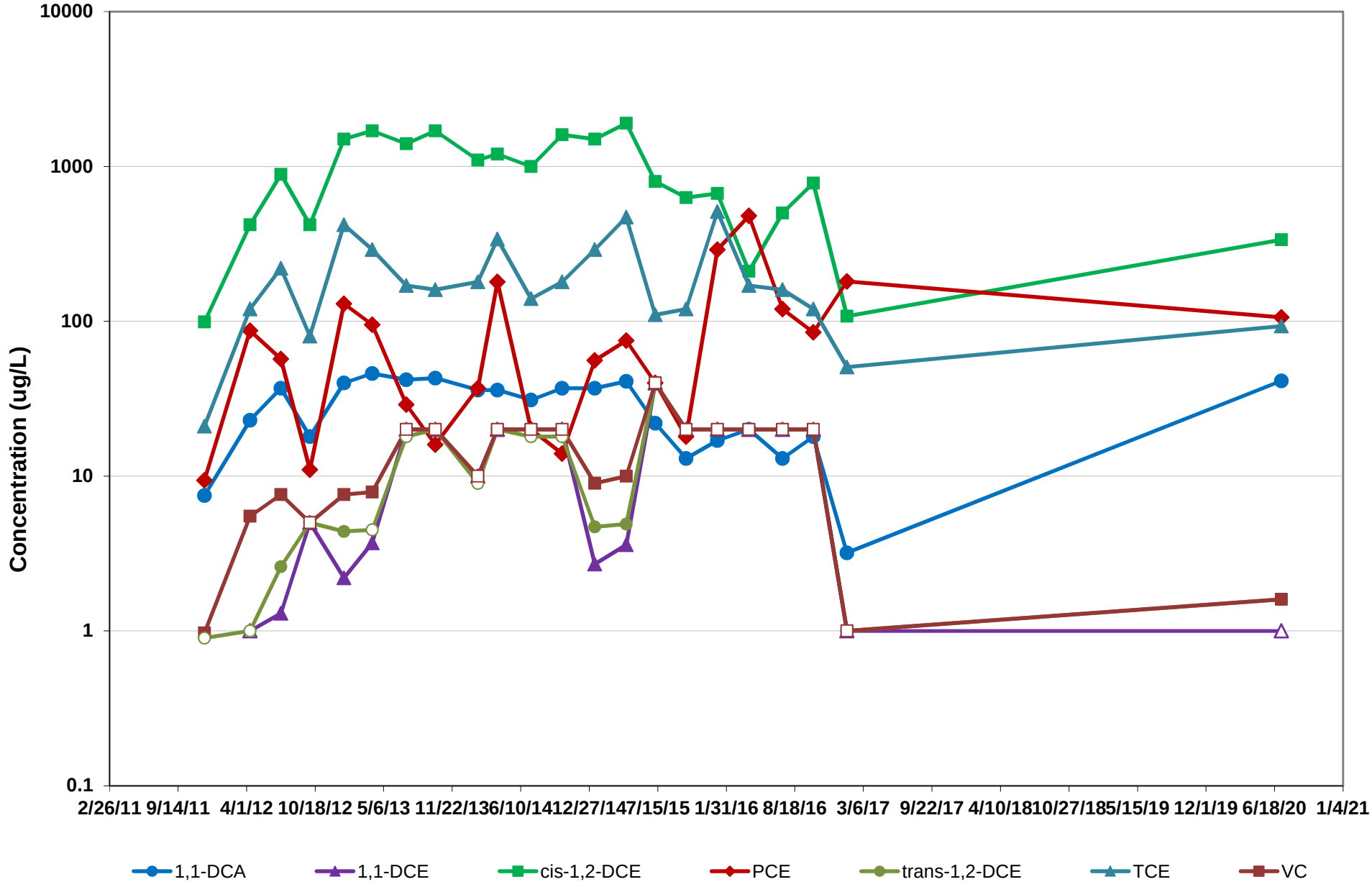
Figure D-3d: Well MW-3 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

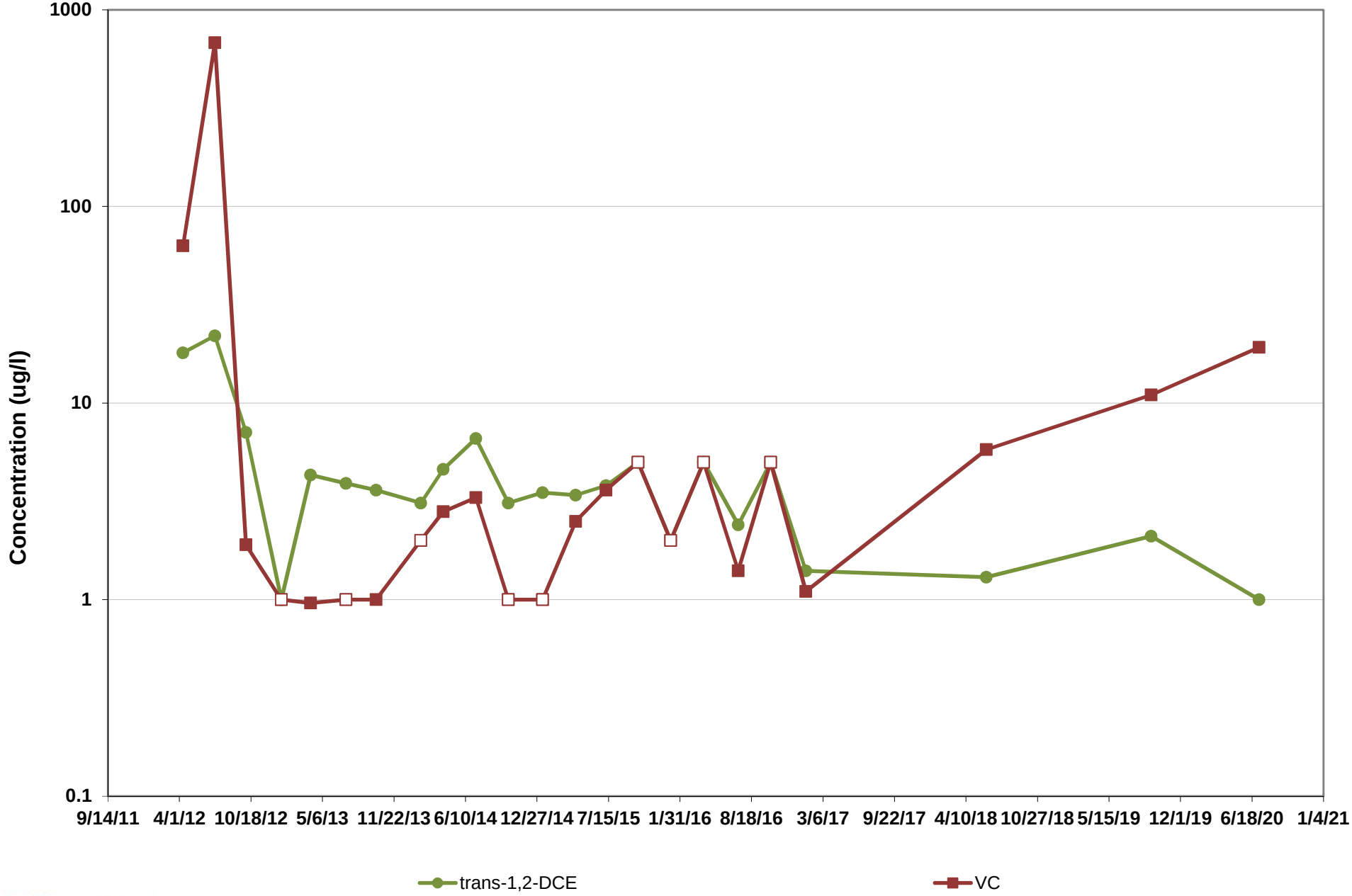
Figure D-3e: Well MW-18 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

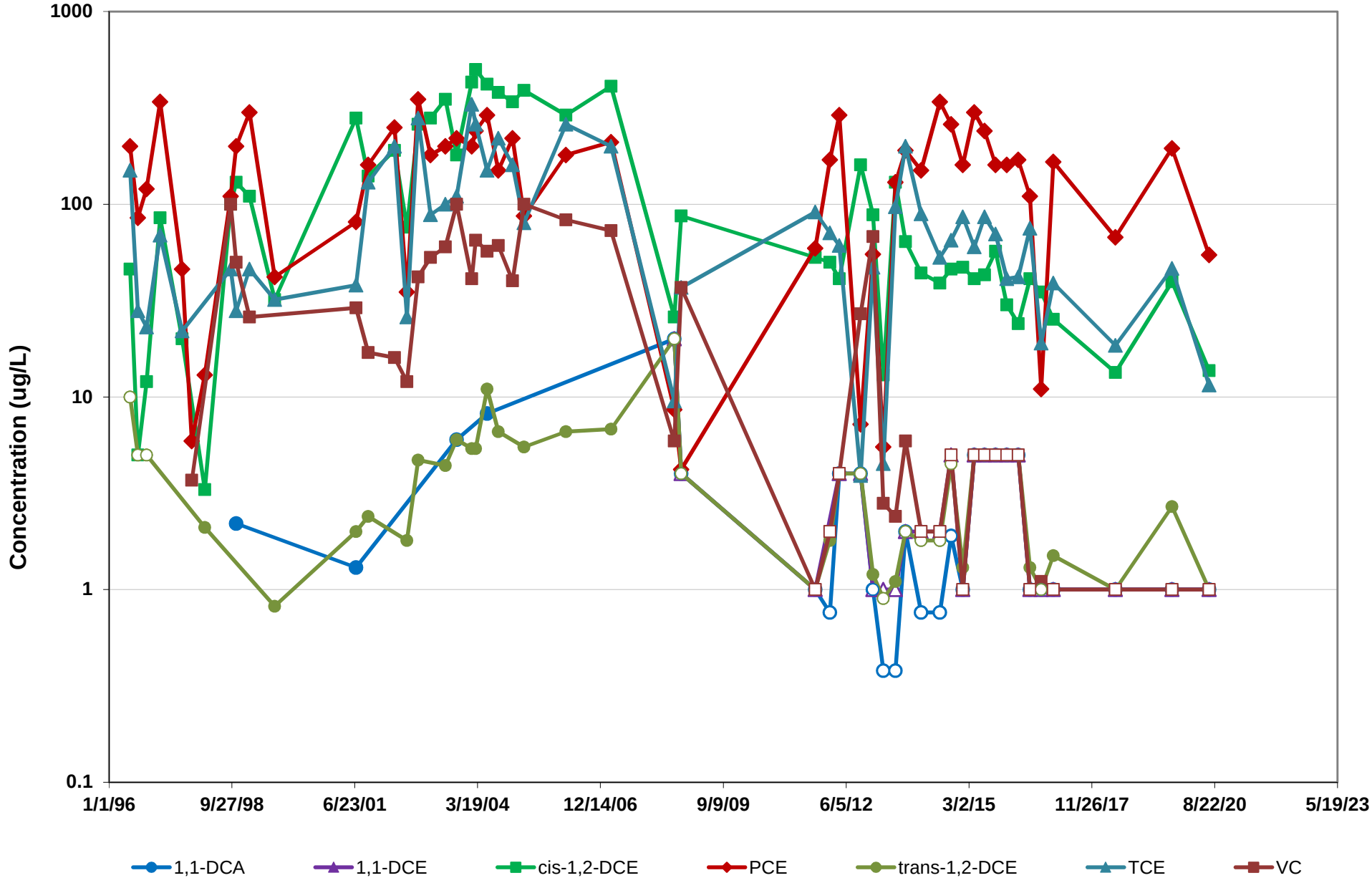
Figure D-3f: Well MW-20 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

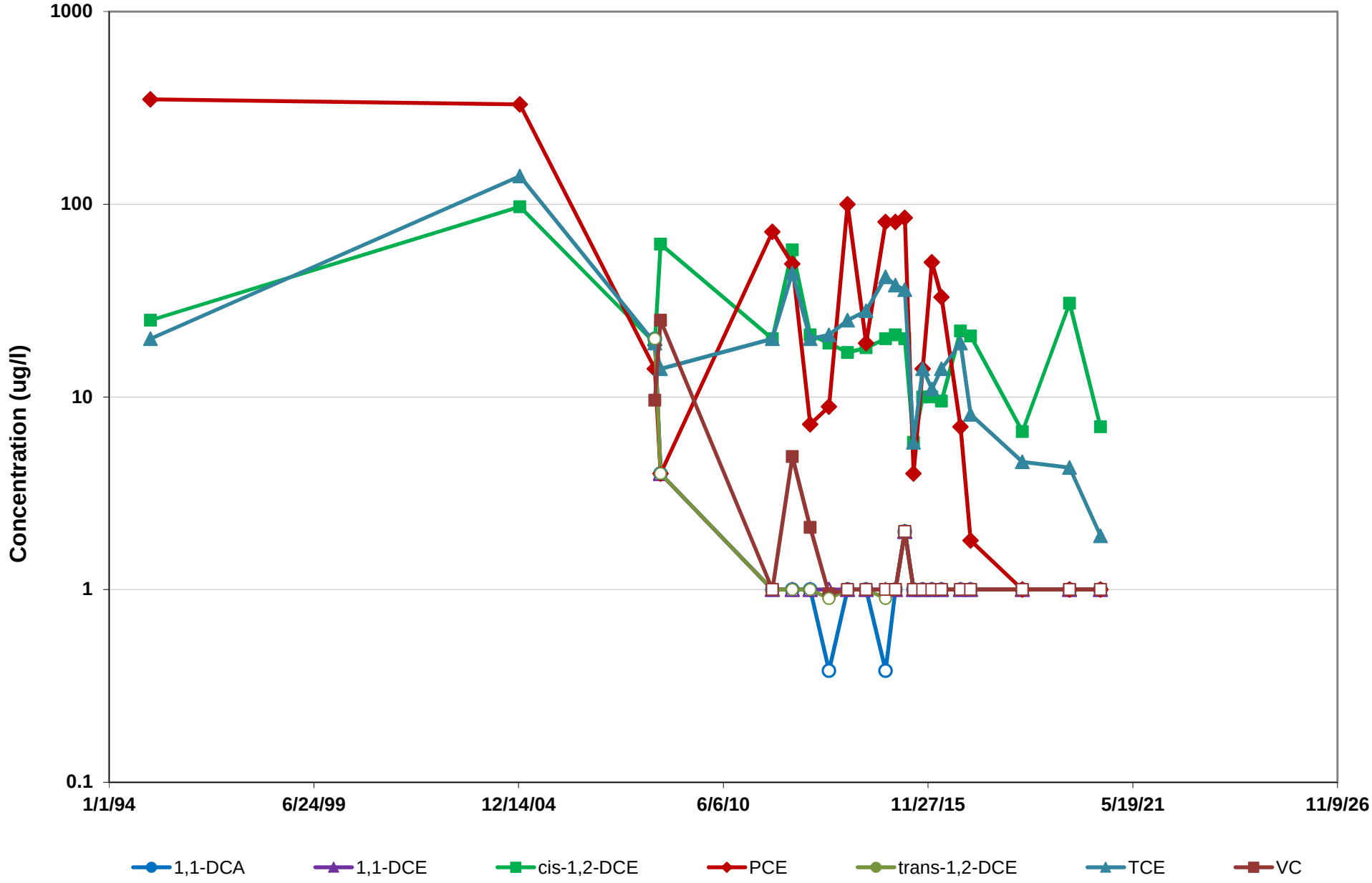
Figure D-3g: Well PZ-5 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

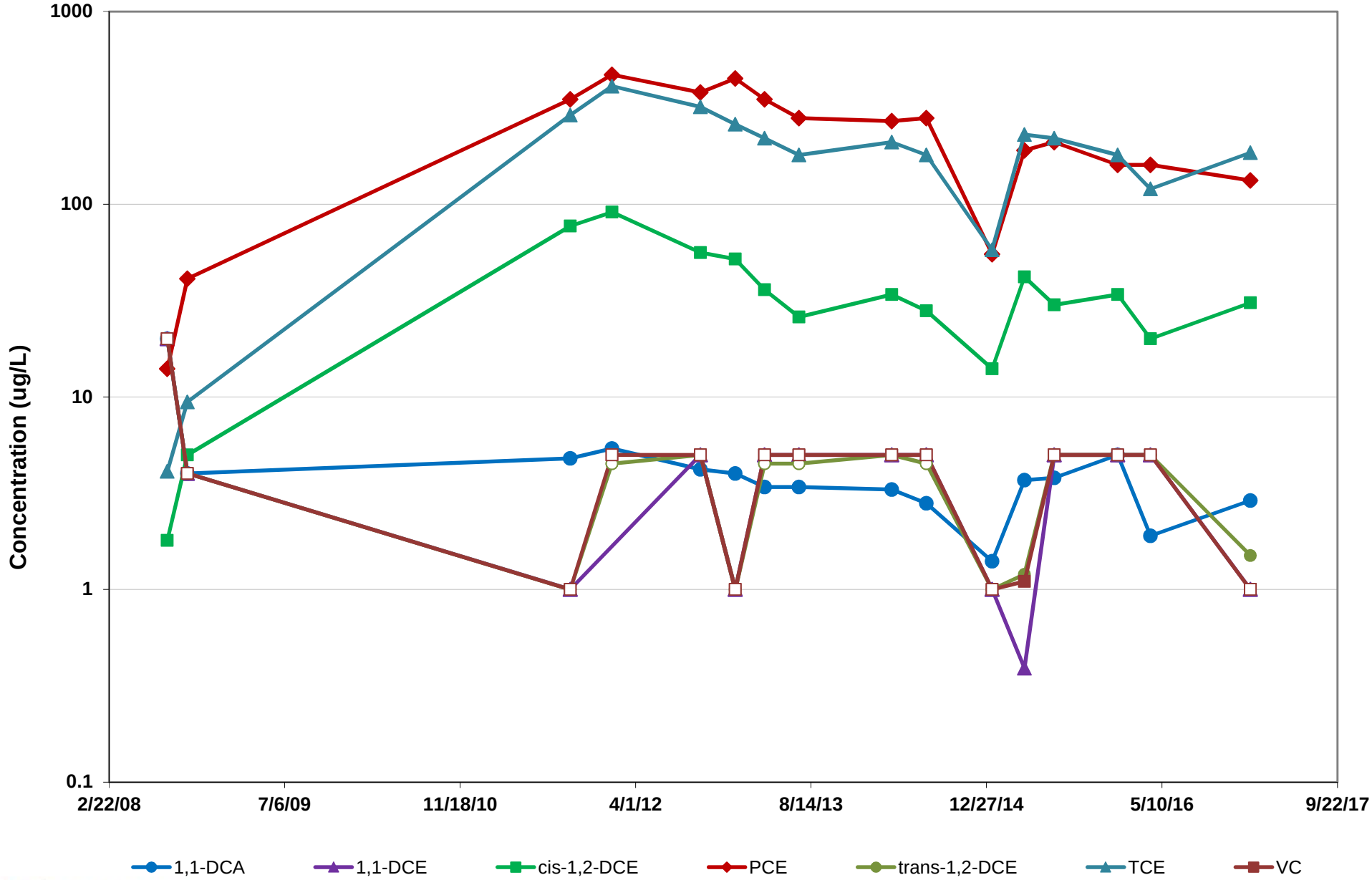
Figure D-3h: Well PZ-6 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

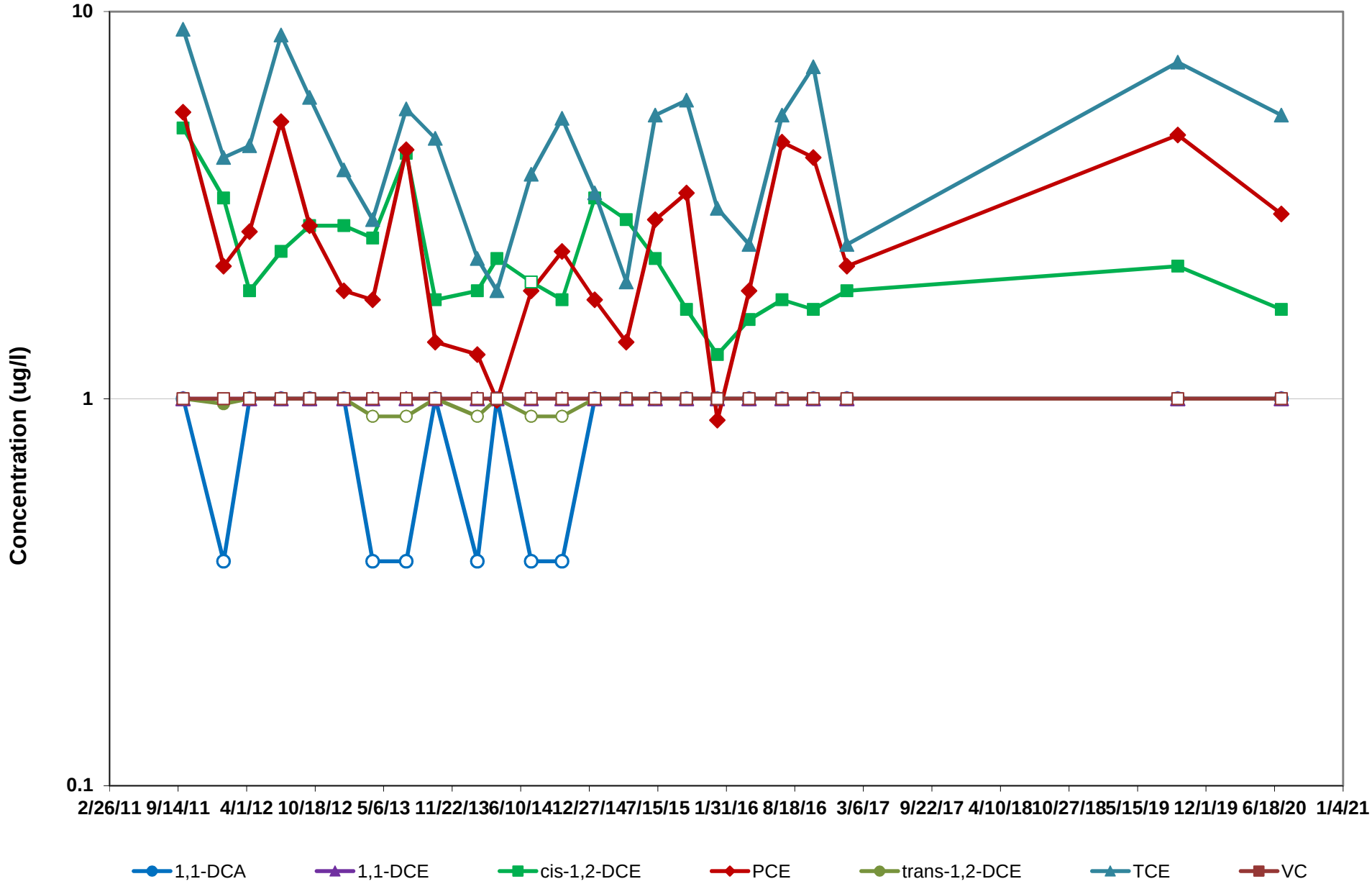
Figure D-3i: Well PZ-8 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

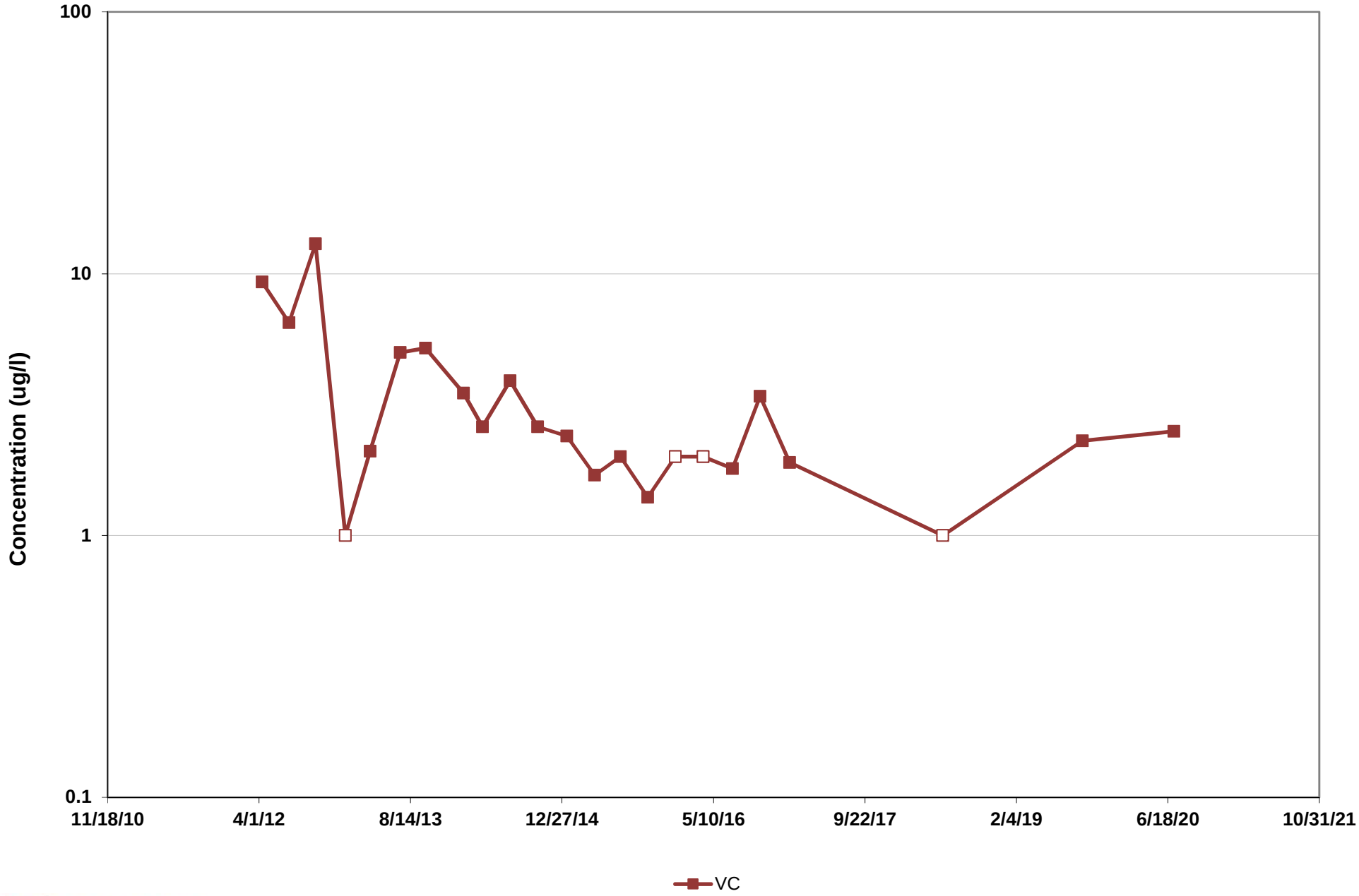
Figure D-3j: Well PZ-11R Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

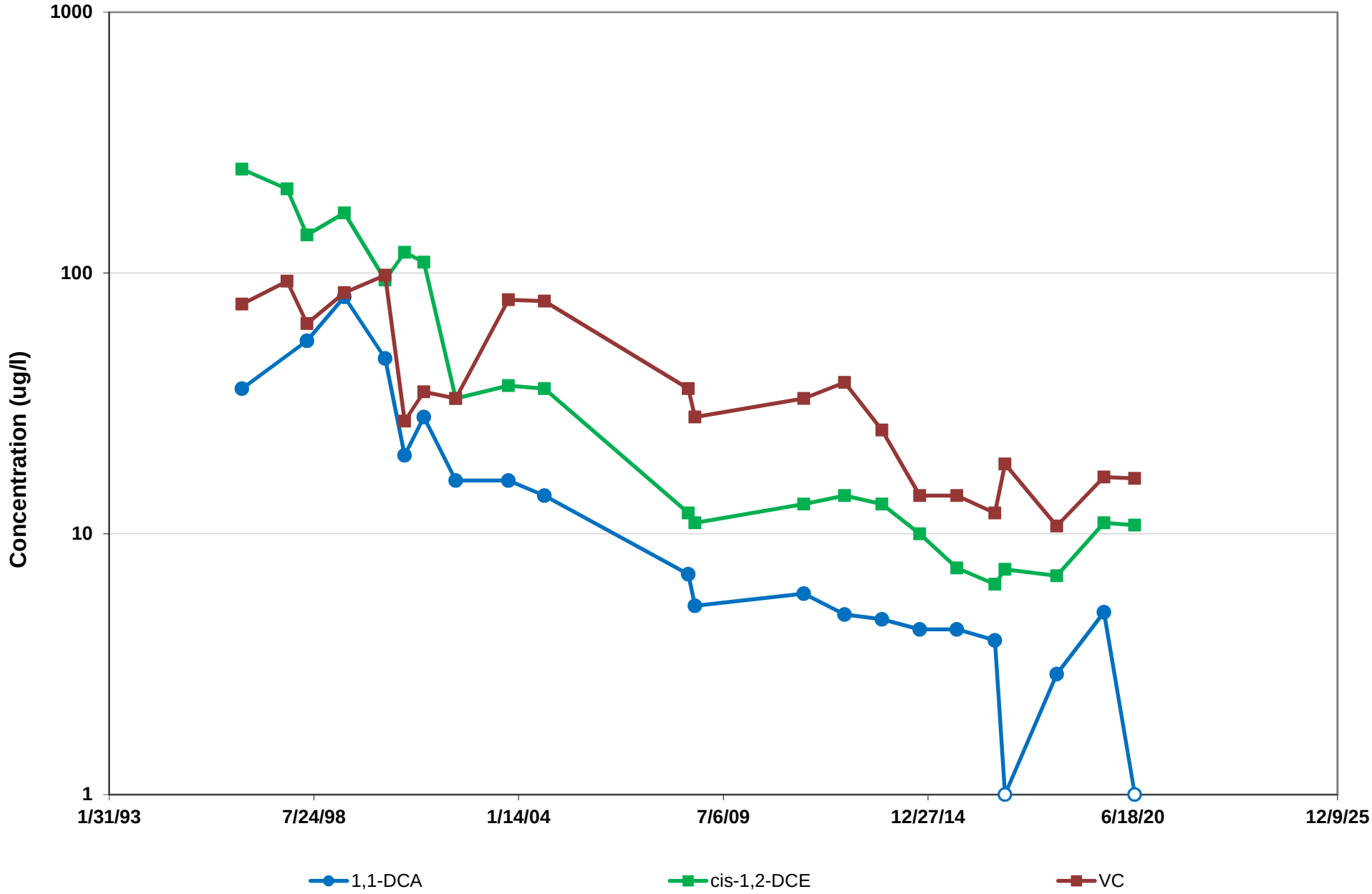
Figure D-3k: Well MW-21 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

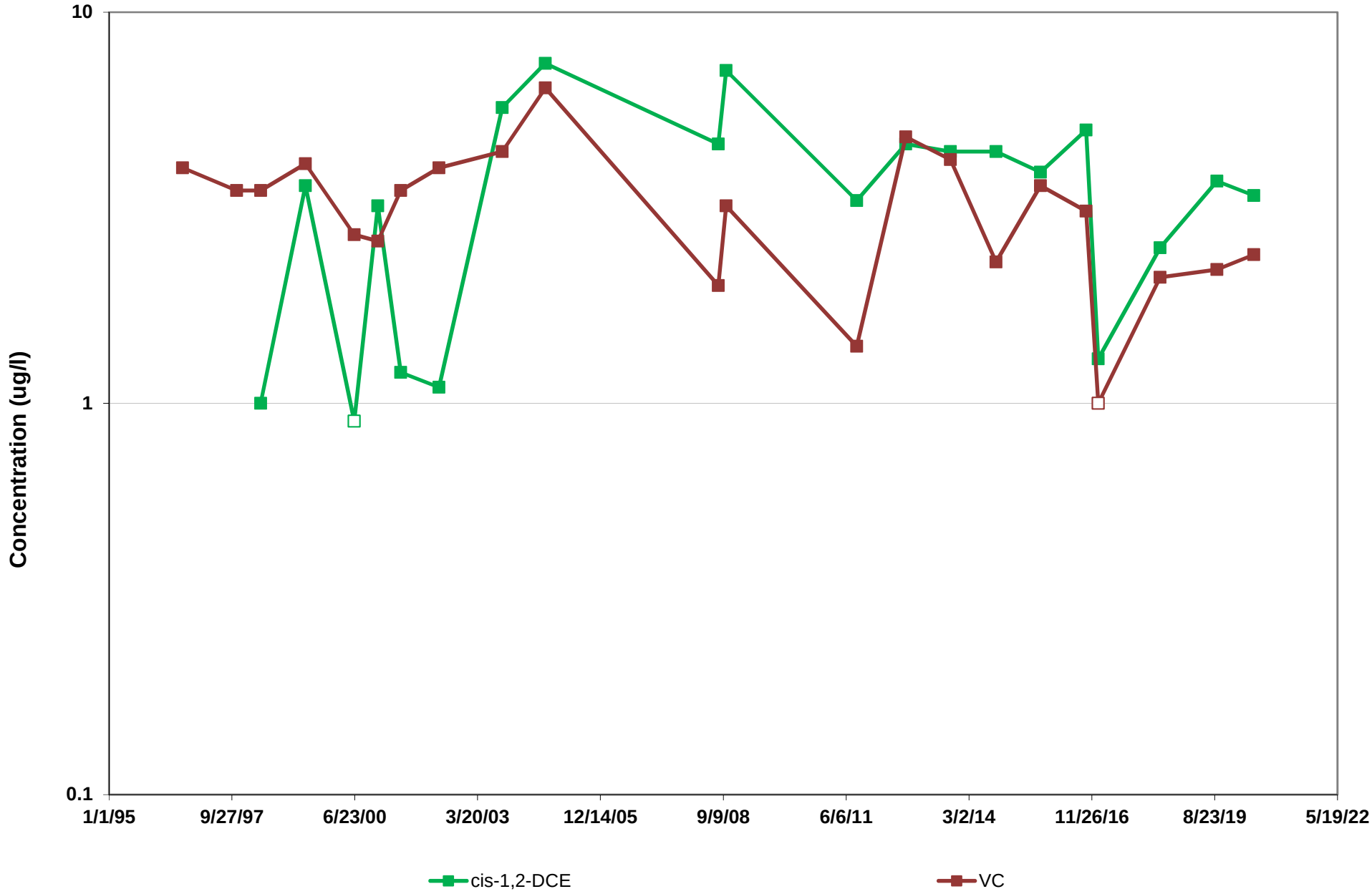
Figure D-3l: Well MW-2 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

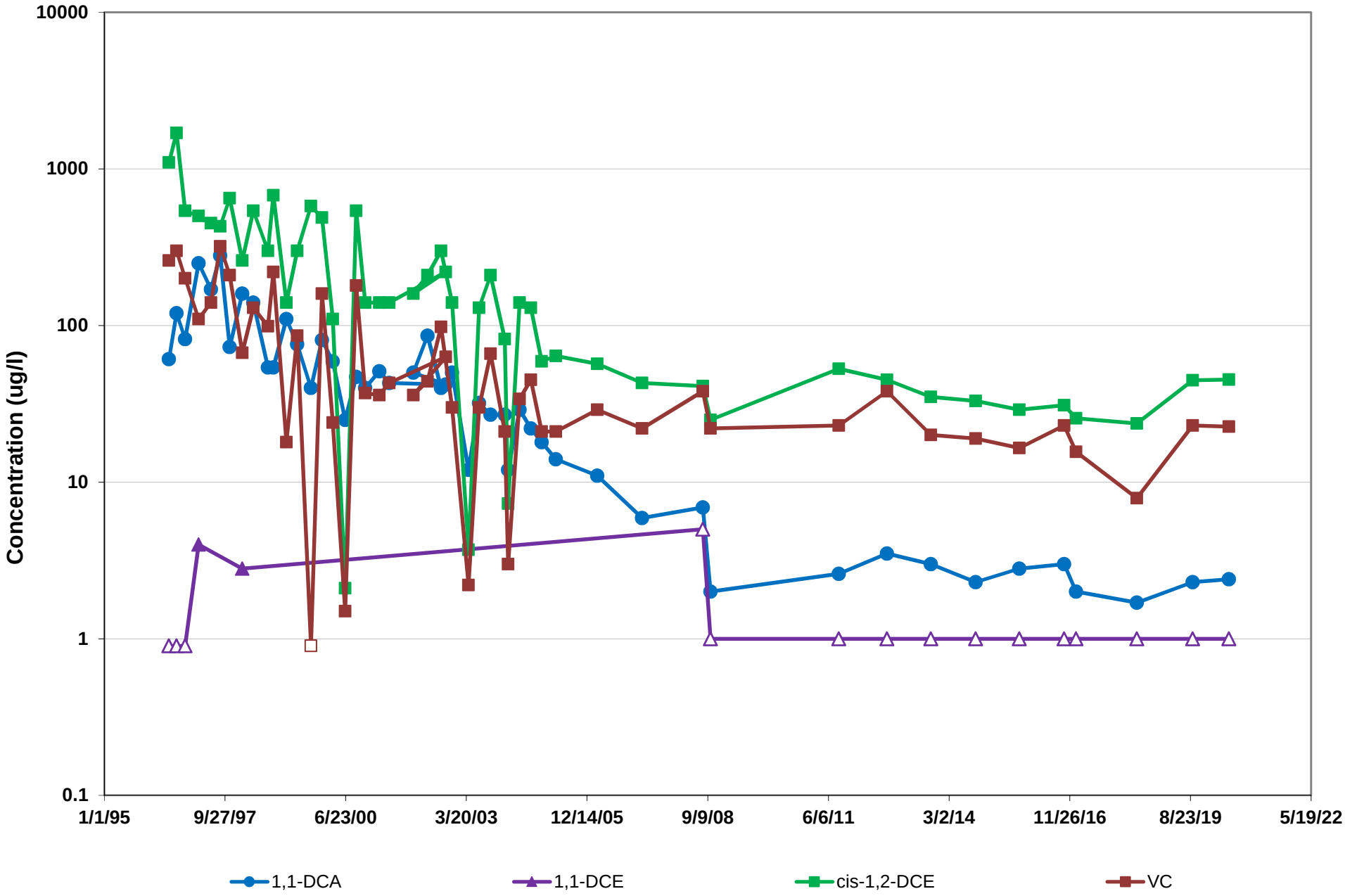
Figure D-3m: Well MW-4 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

Figure D-3n: Well MW-10 Groundwater Volatile Organic Compound Concentration Trends
Former Lockheed Martin Facility, Utica, New York



TETRA TECH

Non-detect sample results are represented with open symbols.

Appendix D-1

Historical Groundwater Data, 1996-2008

Appendix D-1
Historical Groundwater Data, 1996 to 2008

Former Lockheed Martin French Road Facility
Utica, New York

Location		Tetrachloroethene	Trichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	1,1,1-Trichloroethane	1,1-Dichloroethane	Benzene	Methylene Chloride	Chloroform	Chloroethane	Toluene	Chlorobenzene
	NYSDEC TOGS	5	5	5	5	2	5	5	1	5	7	5	5	5
MW-1	Jun-96	**4200**	0	0	0	--	--	0	0	0	0	--	--	--
	Aug-96	**4300**	0	0	**260**	--	--	0	0	0	0	--	--	--
	Nov-96	**11000**	0	0	0	--	--	0	0	0	0	--	--	--
	Feb-97	**2300**	**120**	0	110	--	--	0	0	**62**	**73**	--	--	--
	Jun-97	--	--	--	--	--	--	--	--	--	--	**5000**	--	--
	Aug-97	**7300**	**370**	--	**240**	--	--	--	--	--	--	--	--	--
	Nov-97	**1100**	**730**	--	**390**	--	--	--	--	--	--	--	--	--
	Feb-98	**1100**	**240**	**5.5**	**160**	--	--	**27**	0.24	**6.6**	0	--	--	--
	May-98	**2200**	**380**	**22**	**220**	**18**	--	**35**	0	--	--	--	--	--
	Sep-98	**2900**	**590**	0	**390**	0	--	0	0	--	--	--	--	--
	Nov-98	**820**	**290**	0	**220**	0	--	**22**	0	--	--	--	--	--
	Feb-99	**1800**	**270**	0	**110**	0	--	0	0	--	--	--	--	--
	May-99	**1600**	**360**	0	**180**	0	--	**87**	0	--	--	--	--	--
	Sep-99	**1200**	**570**	0	**290**	0	--	**20**	0.48	--	--	--	--	--
	Dec-99	**2200**	**830**	0	**360**	0	--	**21**	0.36	--	--	--	--	--
	Mar-00	**1200**	**470**	0	**180**	0	--	0	0	--	--	--	--	--
	Jun-00	**2400**	**510**	0	**180**	0	--	0	0	--	--	--	--	--
	Sep-00	**1200**	**360**	0	**200**	0	0	0	0	--	--	0	--	--
	Dec-00	**1000**	**380**	0	**210**	0	0	0	0	--	--	0	--	--
	Mar-01	**810**	**290**	0	**120**	0	0	**54**	--	--	--	0	--	--
	Jun-01	**1200**	**400**	--	**160**	--	--	**20**	--	--	--	--	--	--
	Oct-01	**600**	**360**	0	**180**	0		**17**	0	--	--	--	--	--
	Jan-02	**1000**	**650**	0	**180**	0	0	**21**	0	0	0	0	--	--
	May-02	**590**	**340**	--	**120**	--	--	**12**	--	--	--	--	--	--
	Aug-02	**470**	**310**	0	**150**	0	0	**20**	0	--	--	0	--	--
	Nov-02	**730**	**310**	0	**99**	0	0	0	0	--	--	0	--	--
	Mar-03	**260**	**150**	0	**64**	0	0	**6.1**	0	--	--	0	--	--
	Jul-03	**160**	**200**	**14**	**140**	**8.2**	0	**17**	0	--	--	0	--	--
	Oct-03	**170**	**220**	**9.6**	**170**	**10**	0	**20**	0	--	--	0	--	--
	Feb-04	**42**	**38**	1.00	**61.00**	1.10	0	3.30	0	--	--	0	--	--
	Mar-04	**230**	**55**	0	**54**	0	0	0	0	--	--	0	--	--
	Jun-04	**79**	**75**	2.6	**100**	**5.3**	0	**10**	0	--	--	0	--	--
	Sep-04	**100**	**92**	2.2	**92**	**5.2**	0	**7.2**	0	--	--	0	--	--
	Dec-04	**83**	**51**	0	**79**	**3.3**	0	**9.6**	0	--	--	0	--	--
	Mar-05	**62**	**30**	1.4	**39**	0	0	**6.6**	0	--	--	0	--	--
	Mar-06	**50**	**33**	1.1	**46**	**2.4**	0	**8.1**	0	--	--	0	--	--
	Mar-07	**56**	**23**	0.55	**25**	0	--	**3.3**	0	--	--	--	--	--
	Jul-08	**60**	**18**	2	**54**	**4.7**	0	**8.3**	--	--	--	--	--	--
	Oct-08	**18**	**7.6**	1.6	**43**	**3.9**	0	**6**	--	--	--	--	--	--
MW-2	Aug-96	0	0	17	**250**	**76**	--	**36**	--	--	--	--	--	--
	Nov-97	**25**	**47**	--	**210**	**93**	--	--	--	--	--	--	--	--
	May-98	**48**	**63**	17	**140**	**64**	2.5	**55**	0	--	--	2.1	--	--
	May-99	0	**68**	0	**170**	**84**	0	**81**	0.74	--	--	0	--	--
	Jun-00	0	0	4.3	**94**	**98**	0	**47**	0	--	--	0	--	--
	Dec-00	0	**29**	2.7	**120**	**27**	0	**20**	0	--	--	0	4.1	--
	Jul-01	--	--	5.4	**110**	**35**	--	**28**	--	--	--	--	--	--
	May-02	--	1.8	2.9	**33**	**33**	--	**16**	--	--	--	--	--	--
	Oct-03	--	0.39	5	**37**	**79**	--	**16**	--	--	--	--	--	--
	Sep-04	0	0	3.4	**36**	**78**	0	**14**	0	--	--	--	0	--
	Jul-08	0	0.62	2.1	**12**	**36**	0.57	**7**	--	--	--	--	--	--
	Oct-08	0	0	2.1	**11**	**28**	0	**5.3**	--	--	--	--	--	--
MW-3	Aug-96	0	--	0	270	**94**	--	**99**	--	--	--	--	--	--
	Nov-97	**37**	--	**19**	360	**19**	--	**35**	--	--	--	--	--	--
	May-98	**73**	**300**	**20**	430	**26**	--	**30**	0	--	--	--	--	0.36
	May-99	0	**260**	0	440	0	--	**100**	0.71	--	--	--	--	0.49
	Jun-00	0	**110**	0	510	**8.6**	--	**9.9**	0	--	--	--	--	0
	Dec-00	0	**63**	0	300	0	--	**8.2**	0	--	--	--	--	0
	Jul-01	**11**	--	--	400	**4.7**	--	**9.8**	--	--	--	--	--	--
	May-02	**48**	**430**	0	340	0	--	**6.9**	0	--	--	--	--	0
	Oct-03	**21**	**250**	**10**	200	**8.2**	--	**17**	--	--	--	--	--	--
	Sep-04	**57**	**240**	4.7	140	**14**	--	**10**	0	--	--	--	--	0
	Jul-08	**40**	**55**	1.6	53	**4.8**	--	**5.2**	--	--	--	--	--	--
	Oct-08	**12**	**29**	1.6	86	**4**	--	**5**	0	--	--	--	--	0

Appendix D-1
Historical Groundwater Data, 1996 to 2008

Former Lockheed Martin French Road Facility
Utica, New York

Location		Tetrachloroethene	Trichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	1,1,1-Trichloroethane	1,1-Dichloroethane	Benzene	Methylene Chloride	Chloroform	Chloroethane	Toluene	Chlorobenzene
	NYSDEC TOGS	5	5	5	5	2	5	5	1	5	7	5	5	5
MW-4	Aug-96	--	--	--	--	**4**	--	--	--	--	--	--	--	--
	Nov-97	--	--	--	--	**3.5**	--	--	--	--	--	--	--	--
	May-98	--	0	--	1	**3.5**	--	0	--	--	--	--	--	--
	May-99	--	1.1	--	3.6	**4.1**	--	1.3	--	--	--	--	--	--
	Jun-00	--	0	--	0	**2.7**	--	0	--	--	--	--	--	--
	Dec-00	--	0	--	3.2	**2.6**	--	0.55	--	--	--	--	2.6	--
	Jul-01	--	--	--	1.2	**3.5**	--	--	--	--	--	--	--	--
	May-02	--	0	--	1.1	**4**	--	0	--	--	--	--	0	--
	Oct-03	--	0	--	**5.7**	**4.4**	--	1.4	--	--	--	--	--	--
	Sep-04	--	0	--	**7.4**	**6.4**	--	1.2	--	--	--	--	0	--
	Jul-08	--	0	--	4.6	**2**	--	1.1	--	--	--	--	--	--
	Oct-08	--	0	--	**7.1**	**3.2**	--	1.9	--	--	--	--	0	--
MW-9	May-98	--	--	--	0.29	**9.8**	--	0	--	--	--	--	--	--
	May-99	--	--	--	1.1	**2.1**	--	1	--	--	--	--	--	--
	Jun-00	--	--	--	0.22	1.1	--	0	--	--	--	--	--	--
	Jul-01	--	--	--	0.29	**2.7**	--	0.32	--	--	--	--	--	--
	May-02	--	--	--	0.52	**4.4**	--	0.22	--	--	--	--	--	--
	Oct-03	--	--	0.42	1.8	0.58	--	0.92	--	--	--	1.4	--	--
	Sep-04	--	--	0	2	1.4	--	0.9	--	--	--	0.62	--	--
	Jul-08	--	--	1.2	2.5	**7.8**	--	0.88	--	--	--	--	--	--
	Oct-08	0	0	0	0	0	0	0	--	--	--	--	--	--
MW-10	Jun-96	--	0	**67**	**1100**	**260**	0	**61**	--	0	0	0	--	--
	Aug-96	--	0	0	**1700**	**300**	0	**120**	--	0	0	0	--	--
	Nov-96	--	0	**37**	**540**	**200**	0	**82**	--	0	0	0	--	--
	Feb-97	--	**12**	**42**	**500**	**110**	**16**	**250**	--	**14**	**9**	**20**	--	--
	Jun-97	--	**12**	**30**	**450**	**140**	--	**170**	--	--	--	--	--	--
	Aug-97	--	0	**27**	**430**	**320**	0	**280**	--	--	--	0	--	--
	Nov-97	--	--	**39**	**650**	**210**	--	**73**	--	--	--	--	--	--
	Feb-98	--	1.9	**20**	**260**	**67**	0	**160**	--	2.9	0	**18**	--	--
	May-98	--	3	**40**	**540**	**130**	4.5	**140**	--	--	--	**14**	--	--
	Sep-98	--	0	**20**	**300**	**99**	0	**54**	--	--	--	0	--	--
	Nov-98	--	0	**39**	**680**	**220**	0	**54**	--	--	--	0	--	--
	Feb-99	--	0	**7.1**	**140**	**18**	5	**110**	--	--	--	**14**	--	--
	May-99	--	**11**	**22**	**300**	**86**	0	**76**	--	--	--	**11**	--	--
	Sep-99	--	0	**23**	**580**	0	0	**40**	--	--	--	0	--	--
	Dec-99	--	0	**21**	**490**	**160**	0	**81**	--	--	--	0	--	--
	Mar-00	--	0	**7.8**	**110**	**24**	0	**59**	--	--	--	0	--	--
	Jun-00	--	0	0	2.1	1.5	0	**25**	--	--	--	0	--	--
	Sep-00	--	0	**24**	**540**	**180**	0	**47**	--	--	--	0	--	--
	Dec-00	--	0	**7.4**	**140**	**37**	0	**40**	--	--	--	2.3	--	--
	Mar-01	--	0	**12**	**140**	**36**	2.4	**51**	--	--	--	0	--	--
	Jun-01	--	--	**7.5**	**140**	**43**	--	**43**	--	--	--		--	--
	Oct-02	--	2.4	**14**	**220**	**63**	0	**42**	--	--	--	0	--	--
	Jan-02	--	0	**9.8**	**160**	**36**	0	**50**	--	--	--	0	--	--
	May-02	--	2.9	**10**	**210**	**44**	0	**86**	--	--	--		--	--
	Aug-02	--	**6.2**	**17**	**300**	**98**	0	**40**	--	--	--	0	--	--
	Nov-02	--	3.6	**8.2**	**140**	**30**	0	**50**	--	--	--	0	--	--
	Apr-03	--	0	0.39	3.7	**2.2**	0	**12**	--	--	--	0	--	--
	Jul-03	--	4.2	**7.5**	**130**	**30**	0	**32**	--	--	--	0	--	--
	Oct-03	--	**6.2**	11	**210**	**66**	--	**27**	--	--	--		--	--
	Feb-04	--	4.50	4.40	**82**	**21**	0	**27**	--	--	--	0	--	--
MW-10	Mar-04	--	0	0.64	**7.3**	**3**	0	**12**	--	--	--	0	--	--
	Jun-04	--	**11**	10	**140**	**34**	0	**29**	--	--	--	0	--	--
	Sep-04	--	**7.2**	**6.2**	**130**	**45**	0	**22**	--	--	--	0	--	--
	Dec-04	--	2.6	3.1	**59**	**21**	0	**18**	--	--	--	0	--	--
	Mar-05	--	3.5	3.3	**64**	**21**	0	**14**	--	--	--	0	--	--
	Mar-06	--	3.1	3.8	**57**	**29**	0	**11**	--	--	--	0	--	--
	Mar-07	--	1.9	2.8	**43**	**22**	0	**5.9**	--	--	--	0	--	--
	Jul-08	--	3.9	3.3	**41**	**38**	--	**6.9**	--	--	--	--	--	--
	Oct-08	--	1.7	1.6	**25**	**22**	--	2	--	--	--	--	--	--

Appendix D-1
Historical Groundwater Data, 1996 to 2008

Former Lockheed Martin French Road Facility
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Location		Tetrachloroethene	Trichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	1,1,1-Trichloroethane	1,1-Dichloroethane	Benzene	Methylene Chloride	Chloroform	Chloroethane	Toluene	Chlorobenzene
	NYSDEC TOGS	5	5	5	5	2	5	5	1	5	7	5	5	5
PZ-2	Jun-96	0	0	--	**28**	**14**	--	0	--	0	--	--	--	--
	Aug-96	0	0	--	0	0	--	0	--	0	--	--	--	--
	Nov-96	0	0	--	**15**	**11**	--	0	--	0	--	--	--	--
	Feb-97	0	1.2	--	**12**	**11**	--	0	--	4.1	--	--	--	--
	Jun-97	--	--	--	**16**	**17**	--	--	--	--	--	--	--	--
	Aug-97	**12**	**6**	--	**9**	**7**	--	--	--	--	--	--	--	--
	Nov-97	**6**		--	--	**4.3**	--	--	--	--	--	--	--	--
	Feb-98	**52**	**13**	--	**20**	**7.3**	--	0.44	--	0.68	--			0
	May-98	1.3	1.2	1.2	**14**	**14**	--	0.28	--	0	--	0.8	0	0
	Sep-98	0	0	0	2	0	--	0	--	0	--	0	0	1.9
	Nov-98	0.78	0.53	0	0.96	0.75	--	0	--	0	--	0	1.9	**9.2**
	Feb-99	1.3	1.2	0	2	**2.2**	--	0.21	--	0	--	0	0	2.8
	May-99	1	1.4	0.22	1.6	1.3	--	1.1	--	0	--	0	0	6
	Sep-99	0	0.28	0.2	1.8	1.7	--	0	--	0	--	0	0	4.5
	Dec-99	0.24	1.2	0	2	1.9	--	0	--	0	--	0	0	0.48
	Mar-00	0	0	0	**6**	**2**	--	0	--	0	--	0	0	1.1
	Jun-00	**13**	0.51	0	1.4	0	--	0	--	0	--	0	**7**	0
	Sep-00	0.2	0	0	2.5	1.6	--	0	--	0	--	0	0.29	2.7
	Dec-00	**8.5**	3.5	0	1.8	0.7	--	0	--	0	--	0	0	0.63
	Mar-01	0.35	1.6	0	4.6	**3.4**	--	--	--	--	--		1.5	0.77
	Jun-01	0.68	1.4	--	4.8	**2**	--	--	--	--	--		0.21	1.3
	Oct-01	0	0	0	0.47	0.77	--	0	--	--	--	0	0.2	**5.4**
	Jan-02	0	0.34	0	1.4	1.6	--	0	--	--	--	0	--	1.6
	May-02	0.27	0	0	0.3	0.51	--	0	--	--	--		0.25	0.32
	Aug-02	0.27	0.25	0	0.37	0.3	--	0	--	--	--	0	1.8	**7.4**
	Nov-02	0	0.82	0.21	18	**3.8**	--	0	--	--	--	0	0	2.6
	Mar-03	0.67	0.61	0	10	**3.6**	--	0	--	--	--	0	0.21	1.2
	Jul-03	1.7	0.55	0	**5.1**	**3**	--	0	--	--	--	0	0	1
	Oct-03	0.2	0.25	0.44	0.78	0.63	--	0	--	--	--	0	--	**9.5**
	Feb-04	0.61	1.20	0	3.80	1.40	--	0	--	--	--	0	0.00	0.86
	Mar-04	0.92	0	0	0	0.87	--	0	--	--	--	0	0	0.25
	Jun-04	0.54	0	0	1.3	1.1	--	0	--	--	--	0	0	0.5
	Sep-04	0	0.22	0	1.2	0.97	--	0	--	--	--	0	0	2.5
	Dec-04	0	0.24	0	1.5	0.89	--	0	--	--	--	0	0	0.76
	Mar-05		0.21	0	2	1.9	--	0	--	--	--	0	0	0.33
	Mar-06	1	0	0	0	0	--	0	--	--	--	0	0	0
	Jul-08	0.43	0	0	0	0	--	--	--	--	--	--	--	--
	Oct-08	0.52	0	--	0	0	--	0	--	--	--	--	--	--
PZ-4	Aug-96	--	--	--	0	--	--	--	--	--	12	--	--	--
	Nov-97	--	--	--	**8.1**	--	--	--	--	--	--	--	--	--
	May-98	4.4	0.43	--	4.9	--	0.76	1.2	--	--	--	--	--	--
	May-99	2.8	1.2	--	3.4	--	1.4	1.4	--	--	--	--	--	--
	Jun-00	1.9	0	--	3	--	0.55	1	--	--	--	--	**42**	--
	Dec-00	0	0	--	2.2	--	0	0	--	--	--	--	0	--
	Jul-01	0.69	--	--	1.6	--	--	0.52	--	--	--	--	--	--
	May-02	1.8	0	--	**9.2**	--	0.68	1.6	--	--	--	--	0.93	--
	Oct-03	0.35	0	--	1.6	--	0	1	--	--	--	--	--	--
	Sep-04	0.22	0	--	1.3	--	0	0.52	--	--	--	--	0	--
	Jul-08	0.8	0	--	2.7	--	0	0.9	--	--	--	--	--	--

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Location		Tetrachloroethene	Trichloroethene	trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	1,1,1-Trichloroethane	1,1-Dichloroethane	Benzene	Methylene Chloride	Chloroform	Chloroethane	Toluene	Chlorobenzene
	NYSDEC TOGS	5	5	5	5	2	5	5	1	5	7	5	5	5
PZ-5	Jun-96	**200**	**150**	<10	**46**	0	--	0	--	<50	--	--	0	0
	Aug-96	**85**	**28**	<5	**5**	0	--	0	16	<25	13	--	0	0
	Nov-96	**120**	**23**	<5	**12**	0	--	0	0	<25	--	--	**8**	0
	Feb-97	**340**	**69**	--	**85**	--	--	--	0	--	6.7	--	0	--
	Jun-97	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aug-97	**46**	**22**	--	**20**		--	--	--	--	--	--	--	--
	Nov-97	**5.9**	--	--	--	**3.7**	--	--	--	--	--	--	--	--
	Feb-98	**13**	--	2.1	3.3	0	--	0	0	3.1	--	--	0	**8.7**
	May-98	--	--	--	--	--	--	--	--	--	--	--	--	--
	Sep-98	**110**	**46**	0	**100**	**100**	--	0	0	--	--	--	0	0
	Nov-98	**200**	**28**	0	**130**	**50**	--	2.2	0	--	--	--	0	0
	Feb-99	**300**	**46**	0	**110**	**26**	--	0	0	--	--	--	0	0
	May-99	--	--	--	--	--	--	--	--	--	--	--	--	--
	Sep-99	**42**	**32**	0.82	**32**	0	--	0	0	--	--	--	0	0
	Dec-99	--	--	--	--	--	--	--	--	--	--	--	--	--
	Mar-00	--	--	--	--	--	--	--	--	--	--	--	--	--
	Jun-00	--	--	--	--	--	--	--	--	--	--	--	--	--
	Sep-00	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dec-00	--	--	--	--	--	--	--	--	--	--	--	--	--
	Mar-01	--	--	--	--	--	--	--	--	--	--	--	--	--
	Jul-01	**81**	**38**	2	**280**	**29**	--	1.3	0	--	--	--	0	0
	Oct-01	**160**	**130**	2.4	**140**	**17**	--	0	0	--	--	--	0	0
	Jan-02	--	--	--	--	--	--	--	--	--	--	--	--	--
	May-02	**250**	**200**	0	**190**	**16**	--	0	0	--	--	--	0	0
	Aug-02	**35**	**26**	1.8	**76**	**12**	--	0	0	--	--	--	0	0
	Nov-02	**350**	**280**	4.7	**260**	**42**	--	0	0	--	--	--	0	0
	Mar-03	**180**	**88**	0	**280**	**53**	--	0	0	--	--	--	0	0
	Jul-03	**200**	**100**	4.4	**350**	**60**	--	0	0	--	--	--	0	0
	Oct-03	**220**	**110**	6	**180**	**100**	--	**6**	0	--	--	--	0	0
	Feb-04	**200**	**330**	5.40	**430**	**41**	--	0	0	--	--	--	0	0
	Mar-04	**240**	**260**	5.4	**500**	**65**	--	0	0	--	--	--	0	0
	Jun-04	**290**	**150**	11	**420**	**57**	--	**8.2**	0	--	--	--	**15**	**9.3**
	Sep-04	**150**	**220**	6.6	**380**	**61**	--	0	0	--	--	--	0	0
	Dec-04	**220**	**160**	0	**340**	**40**	--	0	0	--	--	--	0	0
	Mar-05	**87**	**80**	5.5	**390**	**100**	--	0	0	--	--	--	0	0
	Mar-06	**180**	**260**	6.6	**290**	**83**	--	0	0	--	--	--	0	0
	Mar-07	**210**	**200**	6.8	**410**	**73**	--	0	0	--	--	--	0	0
	Aug-08	**8.6**	**9.5**	--	**26**	**5.9**	--	0	--	--	--	--	--	--
	Oct-08	4.2	**37**	--	**87**	**37**	--	0	--	--	--	--	--	--
PZ-6	Feb-95	**350**	**20**	--	**25**	--	--	--	--	--	24	--	--	--
	Dec-04	**330**	**140**	--	**97**	--	--	--	--	--	--	--	--	--
	Aug-08	**14**	**19**	--	**19**	**9.6**	--	--	--	--	--	--	--	--
	Oct-08	0	**14**	--	**62**	**25**	--	--	--	--	--	--	--	--

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Former Lockheed Martin French Road Facility
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Location		Ethylbenzene	1,1-Dichloroethene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	m-Xylene	o-Xylene	Trichloroflouromethane	Bromodichloromethane	Dibromochloromethane	1,1,2,2-Tetrachloroethane
	NYSDEC TOGS	5	0.7	3	3			5	50		5
MW-1	Jun-96	--	--	--	--	--	--	--	--	--	--
	Aug-96	--	--	--	--	--	--	--	--	--	--
	Nov-96	--	--	--	--	--	--	--	--	--	--
	Feb-97	--	--	--	--	--	--	--	--	--	--
	Jun-97	--	--	--	--	--	--	--	--	--	--
	Aug-97	--	--	--	--	--	--	--	--	--	--
	Nov-97	--	--	--	--	--	--	--	--	--	--
	Feb-98	--	--	--	--	--	--	--	--	--	--
	May-98	--	--	--	--	--	--	--	--	--	--
	Sep-98	--	--	--	--	--	--	--	--	--	--
	Nov-98	--	--	--	--	--	--	--	--	--	--
	Feb-99	--	--	--	--	--	--	--	--	--	--
	May-99	--	--	--	--	--	--	--	--	--	--
	Sep-99	--	--	--	--	--	--	--	--	--	--
	Dec-99	--	--	--	--	--	--	--	--	--	--
	Mar-00	--	--	--	--	--	--	--	--	--	--
	Jun-00	--	--	--	--	--	--	--	--	--	--
	Sep-00	--	--	--	--	--	--	--	--	--	--
	Dec-00	--	--	--	--	--	--	--	--	--	--
	Mar-01	--	--	--	--	--	--	--	--	--	--
	Jun-01	--	--	--	--	--	--	--	--	--	--
	Oct-01	--	--	--	--	--	--	--	--	--	--
	Jan-02	--	--	--	--	--	--	--	--	--	--
	May-02	--	--	--	--	--	--	--	--	--	--
	Aug-02	--	--	--	--	--	--	--	--	--	--
	Nov-02	--	--	--	--	--	--	--	--	--	--
	Mar-03	--	--	--	--	--	--	--	--	--	--
	Jul-03	--	--	--	--	--	--	--	--	--	--
	Oct-03	--	--	--	--	--	--	--	--	--	--
	Feb-04	--	--	--	--	--	--	--	--	--	--
	Mar-04	--	--	--	--	--	--	--	--	--	--
	Jun-04	--	--	--	--	--	--	--	--	--	--
	Sep-04	--	--	--	--	--	--	--	--	--	--
	Dec-04	--	--	--	--	--	--	--	--	--	--
	Mar-05	--	--	--	--	--	--	--	--	--	--
	Mar-06	--	--	--	--	--	--	--	--	--	--
	Mar-07	--	--	--	--	--	--	--	--	--	--
	Jul-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--
MW-2	Aug-96	--	--	--	--	--	--	--	--	--	--
	Nov-97	--	--	--	--	--	--	--	--	--	--
	May-98	--	--	--	--	--	--	--	--	--	--
	May-99	--	--	--	--	--	--	--	--	--	--
	Jun-00	--	--	--	--	--	--	--	--	--	--
	Dec-00	--	--	--	--	--	--	--	--	--	--
	Jul-01	--	--	--	--	--	--	--	--	--	--
	May-02	--	--	--	--	--	--	--	--	--	--
	Oct-03	--	--	--	--	--	--	--	--	--	--
	Sep-04	--	--	--	--	--	--	--	--	--	--
	Jul-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--
MW-3	Aug-96	--	--	--	--	--	--	--	--	--	--
	Nov-97	--	--	--	--	--	--	--	--	--	--
	May-98	--	--	--	--	--	--	--	--	--	--
	May-99	--	--	--	--	--	--	--	--	--	--
	Jun-00	--	--	--	--	--	--	--	--	--	--
	Dec-00	--	--	--	--	--	--	--	--	--	--
	Jul-01	--	--	--	--	--	--	--	--	--	--
	May-02	--	--	--	--	--	--	--	--	--	--
	Oct-03	--	--	--	--	--	--	--	--	--	--
	Sep-04	--	--	--	--	--	--	--	--	--	--
	Jul-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--

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Former Lockheed Martin French Road Facility
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Location		Ethylbenzene	1,1-Dichloroethene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	m-Xylene	o-Xylene	Trichloroflouromethane	Bromodichloromethane	Dibromochloromethane	1,1,2,2-Tetrachloroethane
	NYSDEC TOGS	5	0.7	3	3			5	50		5
MW-4	Aug-96	--	--	--	--	--	--	--	--	--	--
	Nov-97	--	--	--	--	--	--	--	--	--	--
	May-98	--	--	--	--	--	--	--	--	--	--
	May-99	--	--	--	--	--	--	--	--	--	--
	Jun-00	--	--	--	--	--	--	--	--	--	--
	Dec-00	--	--	--	--	--	--	--	--	--	--
	Jul-01	--	--	--	--	--	--	--	--	--	--
	May-02	--	--	--	--	--	--	--	--	--	--
	Oct-03	--	--	--	--	--	--	--	--	--	--
	Sep-04	--	--	--	--	--	--	--	--	--	--
	Jul-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--
MW-9	May-98	--	--	--	--	--	--	--	--	--	--
	May-99	--	--	--	--	--	--	--	--	--	--
	Jun-00	--	--	--	--	--	--	--	--	--	--
	Jul-01	--	--	--	--	--	--	--	--	--	--
	May-02	--	--	--	--	--	--	--	--	--	--
	Oct-03	--	--	--	--	--	--	--	--	--	--
	Sep-04	--	--	--	--	--	--	--	--	--	--
	Jul-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--
MW-10	Jun-96	0	0	--	--	--	--	--	--	--	--
	Aug-96	0	0	--	--	--	--	--	--	--	--
	Nov-96	0	0	--	--	--	--	--	--	--	--
	Feb-97	0	**4**	--	--	--	--	--	--	--	--
	Jun-97	--	--	--	--	--	--	--	--	--	--
	Aug-97	--	--	--	--	--	--	--	--	--	--
	Nov-97	--	--	--	--	--	--	--	--	--	--
	Feb-98	1.2	**2.8**	--	--	--	--	--	--	--	--
	May-98	0	--	--	--	--	--	--	--	--	--
	Sep-98	0	--	--	--	--	--	--	--	--	--
	Nov-98	0	--	--	--	--	--	--	--	--	--
	Feb-99	0	--	--	--	--	--	--	--	--	--
	May-99	0	--	--	--	--	--	--	--	--	--
	Sep-99	0.69	--	--	--	--	--	--	--	--	--
	Dec-99	0.59	--	--	--	--	--	--	--	--	--
	Mar-00	0	--	--	--	--	--	--	--	--	--
	Jun-00	0	--	--	--	--	--	--	--	--	--
	Sep-00	0	--	--	--	--	--	--	--	--	--
	Dec-00	0	--	--	--	--	--	--	--	--	--
	Mar-01	--	--	--	--	--	--	--	--	--	--
	Jun-01	--	--	--	--	--	--	--	--	--	--
	Oct-02	0	--	--	--	--	--	--	--	--	--
	Jan-02	--	--	--	--	--	--	--	--	--	--
	May-02	0	--	--	--	--	--	--	--	--	--
	Aug-02	0	--	--	--	--	--	--	--	--	--
	Nov-02	0	--	--	--	--	--	--	--	--	--
	Apr-03	0	--	--	--	--	--	--	--	--	--
	Jul-03	0	--	--	--	--	--	--	--	--	--
	Oct-03	--	--	--	--	--	--	--	--	--	--
	Feb-04	0	--	--	--	--	--	--	--	--	--
MW-10	Mar-04	--	--	--	--	--	--	--	--	--	--
	Jun-04	0	--	--	--	--	--	--	--	--	--
	Sep-04	0	--	--	--	--	--	--	--	--	--
	Dec-04	0	--	--	--	--	--	--	--	--	--
	Mar-05	0	--	--	--	--	--	--	--	--	--
	Mar-06	0	--	--	--	--	--	--	--	--	--
	Mar-07	0.7	--	--	--	--	--	--	--	--	--
	Jul-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--

Appendix D-1
Historical Groundwater Data, 1996 to 2008

Former Lockheed Martin French Road Facility
Utica, New York

Location		Ethylbenzene	1,1-Dichloroethene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	m-Xylene	o-Xylene	Trichloroflouromethane	Bromodichloromethane	Dibromochloromethane	1,1,2,2-Tetrachloroethane
	NYSDEC TOGS	5	0.7	3	3			5	50		5
PZ-2	Jun-96	--	--	--	--	--	--	--	--	--	--
	Aug-96	--	--	--	--	--	--	--	--	--	--
	Nov-96	--	--	--	--	--	--	--	--	--	--
	Feb-97	--	--	--	--	--	--	--	--	--	--
	Jun-97	--	--	--	--	--	--	--	--	--	--
	Aug-97	--	--	--	--	--	--	--	--	--	--
	Nov-97	--	--	--	--	--	--	--	--	--	--
	Feb-98	--	--	0	--	--	--	--	--	--	--
	May-98	--	--	**22**	0	0	0	--	--	--	--
	Sep-98	--	--	**36**	0	0	0	--	--	--	--
	Nov-98	--	--	**7.6**	0	2.4	9	--	--	--	--
	Feb-99	--	--	**11**	0.43	0.61	0.51	--	--	--	--
	May-99	--	--	**15**	0.22	1.3	0	--	--	--	--
	Sep-99	--	--	**20**	0.31	0	0	--	--	--	--
	Dec-99	--	--	**6.7**	0	0	0	--	--	--	--
	Mar-00	--	--	**4.9**	0	0	0	--	--	--	--
	Jun-00	--	--	0.98	0	0	0	--	--	--	--
	Sep-00	--	--	7	0	0	0	--	--	--	--
	Dec-00	--	--	2.6	0	0	0	--	--	--	--
	Mar-01	--	--	**3.1**	--	--	--	--	--	--	--
	Jun-01	--	--	**5.3**	--	--	--	--	--	--	--
	Oct-01	--	--	**5.8**	0	0	0	--	--	--	--
	Jan-02	--	--	**3.8**	--	--	--	--	--	--	--
	May-02	--	--	1.2	0	0	0	--	--	--	--
	Aug-02	--	--	**8.7**	0.22	1.2	4.8	--	--	--	--
	Nov-02	--	--	**3.1**	0	0.35	0.38	--	--	--	--
	Mar-03	--	--	1.7	0	0.25	0.24	--	--	--	--
	Jul-03	--	--	2.2	0	0	0	--	--	--	--
	Oct-03	--	--	**3.7**	--	--	0.22	--	--	--	--
	Feb-04	--	--	1.60	0.00	0.00	0.00	--	--	--	--
	Mar-04	--	--	0.78	0	0	0	--	--	--	--
	Jun-04	--	--	1.1	0	0	0	--	--	--	--
	Sep-04	--	--	1.2	0	0	0	--	--	--	--
	Dec-04	--	--	1.6	0	0	0	--	--	--	--
	Mar-05	--	--	0.79	0	0	0	--	--	--	--
	Mar-06	--	--	0	0	0	0	--	--	--	--
	Jul-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--
PZ-4	Aug-96	--	--	--	--	--	--	2	5	3	--
	Nov-97	--	--	--	--	--	--	--	--	--	--
	May-98	--	--	--	--	--	--	--	--	--	--
	May-99	--	--	--	--	--	--	--	--	--	--
	Jun-00	--	--	--	--	--	--	--	--	--	--
	Dec-00	--	--	--	--	--	--	--	--	--	--
	Jul-01	--	--	--	--	--	--	--	--	--	--
	May-02	--	--	--	--	--	--	--	--	--	--
	Oct-03	--	--	--	--	--	--	--	--	--	--
	Sep-04	--	--	--	--	--	--	--	--	--	--
	Jul-08	--	--	--	--	--	--	--	--	--	--

Appendix D-1
Historical Groundwater Data, 1996 to 2008

Former Lockheed Martin French Road Facility
Utica, New York

Location		Ethylbenzene	1,1-Dichloroethene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	m-Xylene	o-Xylene	Trichloroflouromethane	Bromodichloromethane	Dibromochloromethane	1,1,2,2-Tetrachloroethane
	NYSDEC TOGS	5	0.7	3	3			5	50		5
PZ-5	Jun-96	--	--	0	--	--	--	--	--	--	--
	Aug-96	--	--	0	--	--	--	--	--	--	--
	Nov-96	--	--	0	--	--	--	--	--	--	--
	Feb-97	--	--	--	--	--	--	--	--	--	--
	Jun-97	--	--	--	--	--	--	--	--	--	--
	Aug-97	--	--	--	--	--	--	--	--	--	--
	Nov-97	--	--	--	--	--	--	--	--	--	--
	Feb-98	--	--	**260**	--	--	--	--	--	--	--
	May-98	--	--	--	--	--	--	--	--	--	--
	Sep-98	--	--	**11**	--	--	--	--	--	--	--
	Nov-98	--	--	0	--	--	--	--	--	--	--
	Feb-99	--	--	0	--	--	--	--	--	--	--
	May-99	--	--	--	--	--	--	--	--	--	--
	Sep-99	--	--	0	--	--	--	--	--	--	--
	Dec-99	--	--	--	--	--	--	--	--	--	--
	Mar-00	--	--	--	--	--	--	--	--	--	--
	Jun-00	--	--	--	--	--	--	--	--	--	--
	Sep-00	--	--	--	--	--	--	--	--	--	--
	Dec-00	--	--	--	--	--	--	--	--	--	--
	Mar-01	--	--	--	--	--	--	--	--	--	--
	Jul-01	--	--	0	--	--	--	--	--	--	--
	Oct-01	--	--	0	--	--	--	--	--	--	--
	Jan-02	--	--	--	--	--	--	--	--	--	--
	May-02	--	--	0	--	--	--	--	--	--	--
	Aug-02	--	--	0	--	--	--	--	--	--	--
	Nov-02	--	--	0	--	--	--	--	--	--	--
	Mar-03	--	--	0	--	--	--	--	--	--	--
	Jul-03	--	--	0	--	--	--	--	--	--	--
	Oct-03	--	--	--	--	--	--	--	--	--	--
	Feb-04	--	--	0	--	--	--	--	--	--	--
	Mar-04	--	--	0	--	--	--	--	--	--	--
	Jun-04	--	--	**7.2**	--	--	--	--	--	--	--
	Sep-04	--	--	0	--	--	--	--	--	--	--
	Dec-04	--	--	0	--	--	--	--	--	--	--
	Mar-05	--	--	0	--	--	--	--	--	--	--
	Mar-06	--	--	0	--	--	--	--	--	--	--
	Mar-07	--	--	0	--	--	--	--	--	--	--
	Aug-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--
PZ-6	Feb-95	--	--	--	--	--	--	--	--	--	--
	Dec-04	--	--	--	--	--	--	--	--	--	--
	Aug-08	--	--	--	--	--	--	--	--	--	--
	Oct-08	--	--	--	--	--	--	--	--	--	--

Appendix D-2

Historical Groundwater Data, 2008-2009

Appendix D-2
Historical Groundwater Data, 2008-2009

Former Lockheed Martin, French Road Facility
Utica, New York

CONSTITUENT	NYSDEC GW STANDARDS	PZ-2		PZ-4	PZ-5		PZ-6		PZ-7		PZ-8		PZ-9			PZ-10		MW-1	
		7/29/2008	10/2/2008	7/30/2008	8/6/2008	10/2/2008	8/6/2008	10/2/2008	8/6/2008	10/2/2008	8/6/2008	10/2/2008	8/6/2008	10/2/2008	2/5/2009	8/6/2008	10/2/2008	7/30/2008	10/3/2008
1,1,1-TRICHLOROETHANE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	1.1 J	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,1,2,2-TETRACHLOROETHANE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 5 J	< 1	1.7 J	< 20 J	< 4	< 20 J	< 4	< 5 J	< 1	< 20 J	< 4	< 5 J	< 1	<1	< 5 J	< 1	< 5	< 1
1,1,2-TRICHLOROETHANE	1	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,1-DICHLOROETHANE	5	< 5 J	< 1	0.90 J	< 20 J	< 4	< 20 J	< 4	0.91 J	< 1	< 20 J	< 4	3.0 J	1.9	1.3	1.3	< 1	**8.3**	**6.0**
1,1-DICHLOROETHENE	0.7	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	0.57 J	< 1
1,2,4-TRICHLOROBENZENE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,2-DIBROMO-3-CHLOROPROPANE	0.04	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,2-DIBROMOETHANE	NS	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,2-DICHLOROBENZENE	3	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,2-DICHLOROETHANE	0.6	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,2-DICHLOROPROPANE	1	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,3-DICHLOROBENZENE	3	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
1,4-DICHLOROBENZENE	3	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
2-BUTANONE	50	2.6 J	< 5	< 25	< 100 J	< 20	< 100 J	< 20	< 25	< 5	< 100 J	< 20	2.6 J	< 5	<5	2.7 J	< 5	< 25	< 5
2-HEXANONE	50	< 25 J	< 5	< 25	< 100 J	< 20	< 100 J	< 20	< 25	< 5	< 100 J	< 20	< 25	< 5	<5	< 25	< 5	< 25	< 5
4-METHYL-2-PENTANONE	NS	< 25 J	< 5	< 25	< 100 J	< 20	< 100 J	< 20	< 25	< 5	< 100 J	< 20	< 25	< 5	<5	< 25	< 5	< 25	< 5
ACETONE	50	17 J	11	< 25	41 J	< 20	45 J	< 20	33	13	**770 J**	37	**150**	6.9	6.3	26	7.2	< 25	< 5
BENZENE	1	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
BROMODICHLOROMETHANE	50	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
BROMOFORM	50	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
BROMOMETHANE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
CARBON DISULFIDE	NS	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	3.2	0.45 J	< 5	2.6	< 5	< 1
CARBON TETRACHLORIDE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
CHLOROBENZENE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
CHLOROETHANE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
CHLOROFORM	7	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	**20 J**	**8.2**	0.40 J	< 1	<1	< 5	< 1	< 5	< 1
CHLOROMETHANE	NS	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
CIS-1,2-DICHLOROETHENE	5	< 5 J	< 1	2.7 J	**26 J**	**87**	**19 J**	**62**	< 5	< 1	1.8 J	5.0	< 5	< 1	<1	< 5	< 1	**54**	**43**
CIS-1,3-DICHLOROPROPENE	0.4	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
CYCLOHEXANE	NS	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
DIBROMOCHLOROMETHANE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
DICHLORODIFLUOROMETHANE	5	< 5 J	< 1	3.0 J	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
ETHYLBENZENE	5	< 5 J	< 1	< 5	**10 J**	1.7 J	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
ISOPROPYLBENZENE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
METHYL ACETATE	NS	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
METHYL-T-BUTYL ETHER (MTBE)	NS	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
METHYLCYCLOHEXANE	NS	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
METHYLENE CHLORIDE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	4.8	1.5 J	< 1	**8.6**	< 5	< 1	< 5	< 1
STYRENE (MONOMER)	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
TETRACHLOROETHENE	5	0.43 J	0.52 J	0.80 J	**8.6 J**	4.2	**14 J**	< 4	< 5	< 1	**14 J**	**41**	< 5	< 1	<1	< 5	< 1	**60**	**18**
TOLUENE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
XYLENE (TOTAL)	5	< 15 J	< 3	< 15	**34 J**	3.9 J	< 20 J	< 12	< 15	< 3	< 60 J	< 12	< 15	< 3	<3	< 15	< 3	< 15	< 3
TRANS-1,2-DICHLOROETHENE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	2.0 J	1.6
TRANS-1,3-DICHLOROPROPENE	0.4	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
TRICHLOROETHENE	5	< 5 J	< 1	< 5	**9.5 J**	**37**	**19 J**	**14**	0.94 J	< 1	4.1 J	**9.4**	< 5	< 1	0.27 J	< 5	0.54 J	**18**	**7.6**
TRICHLOROFLUOROMETHANE	5	< 5 J	< 1	< 5	< 20 J	< 4	< 20 J	< 4	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	< 5	< 1
VINYL CHLORIDE	2	< 5 J	< 1	< 5	**5.9 J**	**37**	**9.6 J**	**25**	< 5	< 1	< 20 J	< 4	< 5	< 1	<1	< 5	< 1	**4.7 J**	**3.9**

Notes:
Data compared to TOGS 1.1.1 Ambient
Water Quality Standards and Guidance Values
NS - No Standard
All units are ug/L unless otherwise noted
Exceedences noted in **bold**.
J - Estimated Value

Appendix D-2
Historical Groundwater Data, 2008-2009

Former Lockheed Martin, French Road Facility
Utica, New York

CONSTITUENT	NYSDEC GW STANDARDS	MW-2		MW-3		MW-4		MW-5		MW-7		MW-9		MW-10		MW-11		MW-13S
		7/30/2008	10/2/2008	7/30/2008	10/2/2008	7/30/2008	10/2/2008	7/30/2008	10/3/2008	7/29/2008	10/1/2008	7/30/2008	10/2/2008	7/30/2008	10/3/2008	7/29/2008	10/1/2008	7/30/2008
1,1,1-TRICHLOROETHANE	5	0.57 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	1.2 J
1,1,2,2-TETRACHLOROETHANE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,1,2-TRICHLOROETHANE	1	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,1-DICHLOROETHANE	5	**7.0**	**5.3**	**5.2**	5.0	1.1 J	1.9	< 5	< 1	< 5 J	< 1	0.88 J	< 1	6.9	2.0	< 5	< 1	4.6 J
1,1-DICHLOROETHENE	0.7	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,2,4-TRICHLOROBENZENE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,2-DIBROMO-3-CHLOROPROPANE	0.04	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,2-DIBROMOETHANE	NS	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,2-DICHLOROBENZENE	3	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,2-DICHLOROETHANE	0.6	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,2-DICHLOROPROPANE	1	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,3-DICHLOROBENZENE	3	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
1,4-DICHLOROBENZENE	3	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
2-BUTANONE	50	< 25	< 5	< 25	< 5	< 25	< 5	< 25	< 5	< 25 J	< 5	< 25	< 5	< 25	< 5	< 25	< 5	< 25
2-HEXANONE	50	< 25	< 5	< 25	< 5	< 25	< 5	< 25	< 5	< 25 J	< 5	< 25	< 5	< 25	< 5	< 25	< 5	< 25
4-METHYL-2-PENTANONE	NS	< 25	< 5	< 25	< 5	< 25	< 5	< 25	< 5	< 25 J	< 5	< 25	< 5	< 25	< 5	< 25	< 5	< 25
ACETONE	50	< 25	< 5	< 25	< 5	< 25	< 5	< 25	14	4.4 J	6.1	< 25	12	< 25	< 5	< 25	< 5	< 25
BENZENE	1	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
BROMODICHLOROMETHANE	50	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
BROMOFORM	50	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
BROMOMETHANE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
CARBON DISULFIDE	NS	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	2.8	< 5
CARBON TETRACHLORIDE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
CHLOROBENZENE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
CHLOROETHANE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
CHLOROFORM	7	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
CHLOROMETHANE	NS	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
CIS-1,2-DICHLOROETHENE	5	**12**	**11**	**53**	**86**	4.6 J	**7.1**	< 5	< 1	< 5 J	< 1	2.5 J	< 1	**41**	**25**	< 5	< 1	< 5
CIS-1,3-DICHLOROPROPENE	0.4	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
CYCLOHEXANE	NS	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
DIBROMOCHLOROMETHANE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
DICHLORODIFLUOROMETHANE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
ETHYLBENZENE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
ISOPROPYLBENZENE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
METHYL ACETATE	NS	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
METHYL-T-BUTYL ETHER (MTBE)	NS	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
METHYLCYCLOHEXANE	NS	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
METHYLENE CHLORIDE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
STYRENE (MONOMER)	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
TETRACHLOROETHENE	5	< 5	< 1	**40**	**12**	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
TOLUENE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
XYLENE (TOTAL)	5	< 15	< 3	< 15	< 3	< 15	< 3	< 15	< 3	< 15 J	< 3	< 15	< 3	< 5	< 3	< 15	< 3	< 15
TRANS-1,2-DICHLOROETHENE	5	2.1 J	2.1	1.6 J	1.6	< 5	< 1	< 5	< 1	< 5 J	< 1	1.2 J	< 1	3.3 J	1.6	< 5	< 1	< 5
TRANS-1,3-DICHLOROPROPENE	0.4	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
TRICHLOROETHENE	5	0.62 J	< 1	**55**	**29**	< 5	< 1	< 5	< 1	0.68 J	0.98 J	< 5	< 1	3.9 J	1.7	< 5	< 1	0.53 J
TRICHLOROFLUOROMETHANE	5	< 5	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5 J	< 1	< 5	< 1	< 5	< 1	< 5	< 1	< 5
VINYL CHLORIDE	2	**36**	**28**	**4.8 J**	**4.0**	2.0 J	**3.2**	< 5	< 1	< 5 J	< 1	**7.8**	< 1	**38**	**22**	< 5	< 1	< 5

Notes:
Data compared to TOGS 1.1.1 Ambient
Water Quality Standards and Guidance Values
NS - No Standard
All units are ug/L unless otherwise noted
Exceedences noted in **bold**.
J - Estimated Value

Appendix D-2
Historical Groundwater Data, 2008-2009

Former Lockheed Martin, French Road Facility
Utica, New York

CONSTITUENT	NYSDEC GW STANDARDS	MW-13T		MW-13BR			MW-14S		MW-14BR			MW-15S		MW-15BR		
		7/30/2008	10/3/2008	7/30/2008	10/3/2008	2/5/2009	7/29/2008	10/1/2008	7/29/2008	10/1/2008	2/5/2009	7/29/2008	10/3/2008	7/29/2008	10/1/2008	2/5/2009
1,1,1-TRICHLOROETHANE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,1,2,2-TETRACHLOROETHANE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,1,2-TRICHLOROETHANE	1	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,1-DICHLOROETHANE	5	**6.2**	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,1-DICHLOROETHENE	0.7	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,2,4-TRICHLOROBENZENE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,2-DIBROMO-3-CHLOROPROPANE	0.04	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,2-DIBROMOETHANE	NS	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,2-DICHLOROBENZENE	3	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,2-DICHLOROETHANE	0.6	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,2-DICHLOROPROPANE	1	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,3-DICHLOROBENZENE	3	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
1,4-DICHLOROBENZENE	3	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
2-BUTANONE	50	< 25	< 5	< 25	< 5	<5	< 25	< 5	< 200	< 5	<5	< 25	< 5	< 25	< 5	1.4 J
2-HEXANONE	50	< 25	< 5	< 25	< 5	<5	< 25	< 5	< 200	< 5	<5	< 25	< 5	< 25	< 5	<5
4-METHYL-2-PENTANONE	NS	< 25	< 5	< 25	< 5	<5	< 25	< 5	< 200	< 5	<5	< 25	< 5	< 25	< 5	<5
ACETONE	50	< 25	10	< 25	< 5	3.8 J	2.3 J	< 5	**2100**	**380**	25	1.3 J	5.0	6.0 J	5.8	7.2
BENZENE	1	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
BROMODICHLOROMETHANE	50	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
BROMOFORM	50	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
BROMOMETHANE	5	< 5	< 1	< 5	< 1	<1	< 5 J	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
CARBON DISULFIDE	NS	< 5	< 1	< 5	< 1	<1	0.26 J	2.8	< 40	3.0	<1	< 5	2.8	0.30 J	2.6	<1
CARBON TETRACHLORIDE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
CHLOROBENZENE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
CHLOROETHANE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
CHLOROFORM	7	< 5	< 1	< 5	< 1	<1	2.2 J	2.1	**14 J**	**7.5**	3.3	4.3 J	4.5	**11**	5.4	1.1
CHLOROMETHANE	NS	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
CIS-1,2-DICHLOROETHENE	5	2.5 J	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
CIS-1,3-DICHLOROPROPENE	0.4	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
CYCLOHEXANE	NS	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
DIBROMOCHLOROMETHANE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
DICHLORODIFLUOROMETHANE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
ETHYLBENZENE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
ISOPROPYLBENZENE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
METHYL ACETATE	NS	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
METHYL-T-BUTYL ETHER (MTBE)	NS	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
METHYLCYCLOHEXANE	NS	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
METHYLENE CHLORIDE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	1.4	<1	< 5	< 1	< 5	0.73 J	<1
STYRENE (MONOMER)	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
TETRACHLOROETHENE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
TOLUENE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
XYLENE (TOTAL)	5	< 15	< 3	< 15	< 3	<3	< 15	< 3	< 120	< 3	<3	< 15	< 3	< 15	< 3	<3
TRANS-1,2-DICHLOROETHENE	5	0.71 J	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
TRANS-1,3-DICHLOROPROPENE	0.4	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
TRICHLOROETHENE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
TRICHLOROFLUOROMETHANE	5	< 5	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1
VINYL CHLORIDE	2	**26**	< 1	< 5	< 1	<1	< 5	< 1	< 40	< 1	<1	< 5	< 1	< 5	< 1	<1

Notes:
Data compared to TOGS 1.1.1 Ambient
Water Quality Standards and Guidance Values
NS - No Standard
All units are ug/L unless otherwise noted
Exceedences noted in **bold**.
J - Estimated Value

Appendix D-3

Historical Groundwater Data, June 2010

Appendix D-3
Historical Groundwater Data, June 2010

Former Lockheed Martin, French Road Facility
Utica, New York

CONSTITUENT	NYSDEC GW STANDARDS	A1-PZ1 6/28/2010	A1-PZ2 6/28/2010	A2-PZ1 6/25/2010	A2-PZ2 6/25/2010	A2-PZ3 6/25/2010	A2-PZ4 6/25/2010	A2-PZ5 6/25/2010	A2-PZ6 6/25/2010	A2-PZ7 6/25/2010	A2-PZ8 6/25/2010	PZ-2 6/24/2010	PZ-4 6/28/2010
1,1,2-Trichlorotrifluoroethane	NS	ND J	ND J	740 DJ	ND	ND	ND	ND	6.0 J	ND	ND	ND	ND J
Bromodichloromethane	50	ND J	ND J	ND	ND J	ND	ND	ND	ND	ND	ND	ND	ND J
Bromoform	50	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	NS	ND J	ND J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Carbon Tetrachloride	5	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	0.64 J	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	**820 D**	**9.5 J**	ND	ND	ND	**88**	**66**	ND	ND	ND
Chloromethane	NS	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
cis-1,2-Dichloroethene	5	**32**	**140**	**7900 D**	**140**	0.89 J	ND	ND	**670 D**	**870 D**	6.6	1.7	ND
cis-1,3-Dichloropropene	0.4	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Cyclohexane	NS	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Dichlorodifluoromethane	5	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
1,1-Dichloroethene	0.7	ND	ND	**14**	ND	ND	ND	ND	ND	**6.5**	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	**7.1**	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND J	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND J	ND J
Methyl tert-Butyl Ether	NS	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Methylcyclohexane	NS	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Methylene Chloride	5	ND	ND	4.6	ND	ND	ND	ND	2.2	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	0.69 J	**740**	1.1	ND	ND	2.1	**2400 D**	ND	ND	ND
Toluene	5	ND J	ND J	0.89 J	ND	ND	ND	ND	ND	2.2	ND	ND	ND J
trans-1,2-Dichloroethene	5	ND	ND	**7.5**	ND	ND	ND	ND	1.1	**5.4**	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Trichloroethene	5	ND	ND	**1100 D**	**300**	1.7	ND	ND	**79**	**2700 D**	ND	ND	ND
Trichlorofluoromethane	5	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
Vinyl chloride	2	ND	**21**	**590 D**	**12**	ND	ND	ND	**37**	**42**	ND	1.1	ND
Xylenes, total	5	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
1,2-Dibromo-3-chloropropane	0.04	ND J	ND J	ND J	ND	ND	ND J	ND J	ND J	ND J	ND J	ND J	ND J
1,2-Dibromoethane (EDB)	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.87 J	ND
1,2-Dichloroethane	0.6	ND	ND	**1.8**	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	5	**32**	**140**	**7900 D**	**140**	0.89 J	ND	ND	**670 D**	**870 D**	6.6	1.7 J	ND
1,1,1-Trichloroethane	5	ND J	ND J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND J
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND	ND	ND	7.0 J	ND	ND	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	0.78 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND	3.9 J	ND	ND	ND	ND	2.7 J	ND	ND	ND	ND
Acetone	50	ND J	ND J	7.5 J	ND	ND	3.2 J	ND J	26 J	ND J	ND J	5.1 J	ND J
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Data compared to TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values
NS - No Standard
All units are ug/L unless otherwise noted
bgs - below ground surface
Exceedences noted in **bold** and highlighted.
J - Estimated Value
D -Diluted Value

Appendix D-3
Historical Groundwater Data, June 2010

Former Lockheed Martin, French Road Facility
Utica, New York

CONSTITUENT	NYSDEC GW STANDARDS	PZ-22 6/28/2010	PZ-23 6/28/2010	PZ-24 6/25/410	PZ-25 6/25/2010	PZ-26 6/25/2010	PZ-27 6/25/2010	PZ-28 6/25/2010	PZ-29 6/28/2010	PZ-30 6/25/2010	PZ-31 6/25/2010	PZ-32 6/25/2010	PZ-34 6/24/2010
1,1,2-Trichlorotrifluoroethane	NS	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	34 J	ND
Bromodichloromethane	50	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Bromoform	50	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	NS	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Carbon Tetrachloride	5	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.8	**16**	ND
Chloromethane	NS	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	**6.6**	4.8	ND	ND	**8.5**	**370**
cis-1,3-Dichloropropene	0.4	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Cyclohexane	NS	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Dichlorodifluoromethane	5	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
1,1-Dichloroethene	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**6.9**	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND J
Methyl tert-Butyl Ether	NS	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	1.4	ND
Methylcyclohexane	NS	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	ND	**5.8**	ND	ND	**43**	ND
Toluene	5	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Trichloroethene	5	ND	ND	ND	ND	ND	ND	ND	0.84 J	ND	ND	**49**	**12**
Trichlorofluoromethane	5	ND J	ND J	ND	ND	ND J	ND J	ND	ND J	ND	ND J	ND	ND
Vinyl chloride	2	ND	ND	ND	ND	ND	ND	ND	**12 J**	ND	ND	ND	**130**
Xylenes, total	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND J	ND J	ND	ND	ND	ND	ND	ND J	ND	ND J	ND	ND
1,2-Dibromo-3-chloropropane	0.04	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J
1,2-Dibromoethane (EDB)	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	5	ND	ND	ND	ND	ND	ND	**6.6**	4.8	ND	ND	**8.5**	**370**
1,1,1-Trichloroethane	5	ND J	ND J	ND	ND	ND	ND	ND	ND J	ND	ND J	**11**	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	8.5 J	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
Data compared to TOGS 1.1.1 Ambient Water Quality
NS - No Standard
All units are ug/L unless otherwise noted
bgs - below ground surface
Exceedences noted in **bold** and highlighted.
J - Estimated Value
D -Diluted Value

Appendix D-3
Historical Groundwater Data, June 2010

Former Lockheed Martin, French Road Facility
Utica, New York

CONSTITUENT	NYSDEC GW STANDARDS	PZ-35 6/24/2010	PZ-36 6/24/2010	PZ-39 6/24/2010	PZ-40 6/24/2010	PZ-41 6/24/2010	PZ-42 6/24/2010	MW-6 6/30/2010	MW-9 6/24/2010
1,1,2-Trichlorotrifluoroethane	NS	ND	ND	ND	ND	ND	ND	ND J	ND J
Bromodichloromethane	50	ND	ND	ND	ND	ND	ND	ND J	ND
Bromoform	50	ND	ND	ND	ND	ND	ND	ND J	ND
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	NS	ND	ND	ND	0.62 J	ND	ND	ND J	ND
Carbon Tetrachloride	5	ND	ND	ND	ND	ND	ND	ND J	ND
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	ND	ND	ND	ND	ND	ND	ND J	ND
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	7	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	5	2.0 J	1.9	1.0	ND	ND	**21**	ND	0.62
Chloromethane	NS	ND	ND	ND	ND	ND	ND	ND J	ND
cis-1,2-Dichloroethene	5	**10 J**	**6.3**	3.0	ND	ND	**31**	ND	ND
cis-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND J	ND
Cyclohexane	NS	ND	ND	ND	ND	ND	ND	ND J	ND
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	ND J	ND
1,1-Dichloroethene	0.7	0.73 J	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	5	ND J	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Acetate	NS	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND J
Methyl tert-Butyl Ether	NS	ND	ND	ND	ND	ND	ND	ND J	ND J
Methylcyclohexane	NS	ND	ND	ND	ND	ND	ND	ND J	ND
Methylene Chloride	5	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	5	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	0.77	ND	**7.4**	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND J	ND
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	0.4	ND	ND	ND	ND	ND	ND	ND J	ND
Trichloroethene	5	**7.1 J**	1.2	**6.5**	ND	ND	**18**	ND	ND
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND	ND J	ND
Vinyl chloride	2	**2.9**	ND	**3.6**	ND	ND	ND	ND	ND
Xylenes, total	5	ND J	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND J	ND
1,2-Dibromo-3-chloropropane	0.04	ND J	ND J	ND J	ND J	ND J	ND J	ND J	ND
1,2-Dibromoethane (EDB)	NS	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.6	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene, Total	5	**11**	**6.3**	3.0	ND	ND	**31**	ND	ND
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND J	ND
1,2-Dichloropropane	1	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	3	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	50	ND	ND	ND	ND	ND	ND	3.2 J	ND
2-Hexanone	50	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	1	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	50	ND	4.2 J	3.3 J	7.5 J	ND	ND	5.5 J	26
Benzene	1	ND J	ND	ND	ND	ND	ND	ND	ND

Notes:
Data compared to TOGS 1.1.1 Ambient Water Quality
NS - No Standard
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bgs - below ground surface
Exceedences noted in **bold** and highlighted.
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D -Diluted Value

Appendix D-4

Annual Groundwater Sampling Data, September 2011

Appendix D
Annual Groundwater Sampling Data, September 2011

Former Lockheed Martin, French Road Facility
Utica, New York

Location ID: / Date Collected:	Water Guidance Values	Units	A1-PZ-2 09/27/11	A2-PZ-1 09/26/11	A2-PZ-7 09/26/11	MW-1 09/28/11	MW-2 09/27/11	MW-3 09/28/11	MW-4 09/27/11	MW-5 09/28/11	MW-10 09/29/11	MW-13S 09/27/11	MW-14BR 09/29/11	PZ-5 09/28/11	PZ-6 09/28/11	PZ-7 09/28/11	PZ-8 09/28/11	PZ-11R 09/29/11	PZ-13R 09/27/11	PZ-18 09/27/11	PZ-26 09/26/11	PZ-27 09/27/11
Volatile Organics																						
1,1,1-Trichloroethane	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-trichloro-1,2,2-trifluoroethane	5	ug/L	1.0 U	**1600 EJ**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	ug/L	1.0 U	**3.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	ug/L	2.1	**1,900 D**	**9.8**	**5.8**	**5.9**	**6.8**	0.70 J	0.69 J	2.6	2.4	1.0 U	1.0 U	1.0 U	0.83 J	4.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	ug/L	1.0 U	**45**	0.73 J	1.0 U	1.0 U	0.57 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	0.04	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane	0.0006	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	ug/L	1.0 U	**5.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	50	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	50	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone	- -	ug/L	5.0 U	6.2	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50	ug/L	6.6 J	9.5 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	16	3.1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	1	ug/L	1.0 U	0.52 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	50	ug/L	1.0 U	1.0 U	1.0 U	1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	60	ug/L	1.0 U	1.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Tetrachloride	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	ug/L	**99**	**27,000 D**	**120 D**	**40**	**13**	**68**	3.3	1.0 U	**53**	1.0 U	1.0 U	**53**	**20**	1.0 U	**77**	5.0	2.4	0.85 J	1.0 U	1.0 U
cis-1,3-Dichloropropene	0.4	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	ug/L	1.0 U	960 EJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl acetate	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether	10	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylcyclohexane	- -	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.57 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	ug/L	1.0 U	4.6	**360 D**	**77**	1.0 U	**9.2**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**59**	**72**	1.0 U	**350 D**	**5.5**	1.7	1.0 U	1.0 U	1.0 U
Toluene	5	ug/L	1.0 U	**5.1**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	ug/L	1.0 U	**33**	1.0 U	1.0 U	2.0	1.0 U	1.0 U	1.0 U	3.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	ug/L	1.7	**2,100 D**	**280 D**	**18**	1.0 U	**16**	1.0 U	1.0 U	2.5	1.0 U	1.0 U	**91 D**	**20**	0.58 J	**290 D**	**9.0**	**5.5**	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	ug/L	**27**	**720 D**	**6.5**	**3.1**	**33**	**5.0**	1.4	1.0 U	**23**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (total)	5	ug/L	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.70 J	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Miscellaneous																						
Alkalinity	- -	mg/L	425	482	NA	338	NA	356	NA	NA	211	NA	NA	NA	NA	NA	NA	NA	390	NA	NA	NA
Nitrate	10	mg/L	0.05 UJ	0.05 UJ	NA	0.73 [0.76]	NA	0.091	NA	NA	0.05 U	NA	NA	NA	NA	NA	NA	NA	0.063	NA	NA	NA
Sulfate	250	mg/L	2.4 UB	36.2 UB	NA	166 [167]	NA	160	NA	NA	108	NA	NA	NA	NA	NA	NA	NA	42.1	NA	NA	NA
Dissolved Gases (GC)																						
Methane	- -	ug/L	710 D	1,200 D	NA	130 [66]	NA	57	NA	NA	97 D	NA	NA	NA	NA	NA	NA	NA	120 D	NA	NA	NA

Notes:
NA: Not Analyzed.
U: The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J: Indicates an estimated value.
B: Indicates an estimated value between the instrument detection limit and the Reporting Limit (RL).

Appendix D-5

2020 Groundwater Sampling Logs

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes & A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
MW-1	8.68	5.6	8; bailed dry

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	7.30
Dissolved Oxygen (mg/L)	2.03
Redox Potential (mV)	-49
Conductivity (µS/cm)	1633
Temperature (°C)	67.4

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After ~~3rd Well Volume Purge~~/Final*:

Field Parameter	Measurement
Water level (ft)	13.72
pH	7.38
Dissolved Oxygen (mg/L)	0.37
Redox Potential	-53
Conductivity	1568
Temperature	59.6

Groundwater Sample Collection:

Sample ID	MW-1
Time	1708
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:
1st: Clear

2nd: Clear; Bailed dry

~~3rd~~:

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes + A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
MW-2	8.98	4.9	

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	7.62
Dissolved Oxygen (mg/L)	1.97
Redox Potential (mV)	-67
Conductivity (µS/cm)	4700
Temperature (°C)	69.5

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	7.54
Dissolved Oxygen (mg/L)	1.69
Redox Potential (mV)	-64
Conductivity (µS/cm)	4510
Temperature (°C)	67.1

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	6.11
pH	7.50
Dissolved Oxygen (mg/L)	0.20
Redox Potential	-60
Conductivity	4300
Temperature	63.5

Groundwater Sample Collection:

Sample ID	MW-2
Time	16:15
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:
1st: Redish algae, turbid
2nd: slight turbid; brown/gray
3rd: Slight turbid; brown/gray

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Hayes ; A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
MW-3	11.41	0.3	~~2~~ 1.5

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	7.43
Dissolved Oxygen (mg/L)	2.79
Redox Potential (mV)	-57
Conductivity (µS/cm)	2188
Temperature (°C)	63.3

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	7.44
Dissolved Oxygen (mg/L)	2.53
Redox Potential (mV)	-56
Conductivity (µS/cm)	2221
Temperature (°C)	61.4

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	13.57
pH	7.34
Dissolved Oxygen (mg/L)	1.78
Redox Potential	-54
Conductivity	2115
Temperature	58.1

Groundwater Sample Collection:

Sample ID	MW-3
Time	1730
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:

1st: Clear

2nd: Clear

3rd: Clear

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H Haynes & A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
MW-4	11.07	0.5	2

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	7.54
Dissolved Oxygen (mg/L)	2.78
Redox Potential (mV)	-54
Conductivity (µS/cm)	2742
Temperature (°C)	64.0

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	7.31
Dissolved Oxygen (mg/L)	2.87
Redox Potential (mV)	-55
Conductivity (µS/cm)	2571
Temperature (°C)	58.9

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	13.19
pH	1.46
Dissolved Oxygen (mg/L)	0.83
Redox Potential	-57
Conductivity	2475
Temperature	56.6

Groundwater Sample Collection:

Sample ID	MW-4
Time	1800
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:
Collected duplicate MW-4-Dup @ 1805

1st: Clear

2nd: Clear

3rd: Clear

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes + A. Flake Date: 7/9/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
MW-10	5.57	1.4	4

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	6.82
Dissolved Oxygen (mg/L)	3.24
Redox Potential (mV)	-30
Conductivity (µS/cm)	8730
Temperature (°C)	70.7

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	7.16
Dissolved Oxygen (mg/L)	3.11
Redox Potential (mV)	-38
Conductivity (µS/cm)	8500
Temperature (°C)	69.8

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	7.57
pH	7.26
Dissolved Oxygen (mg/L)	0.46
Redox Potential	-47
Conductivity	8390
Temperature	69.3

Groundwater Sample Collection:

Sample ID	MW-10
Time	0745
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:

1st: slight turbid, tan

2nd: slight turbid; tan

3rd: slight turbid; tan

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Heglas + A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
MW-18	3.01	1.8	~~5.5~~ 6

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	7.72
Dissolved Oxygen (mg/L)	3.82
Redox Potential (mV)	-80
Conductivity (µS/cm)	377.5
Temperature (°C)	69.0

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	7.74
Dissolved Oxygen (mg/L)	3.84
Redox Potential (mV)	-67
Conductivity (µS/cm)	384.5
Temperature (°C)	66.8

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	3.27
pH	7.25
Dissolved Oxygen (mg/L)	3.18
Redox Potential	-47
Conductivity	344.7
Temperature	61.7

Groundwater Sample Collection:

Sample ID	MW-18
Time	1530
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:

1st: turbid; brown

2nd: slight turbid; brown/gray

3rd: Slight turbid; brown/gray

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

*VOC

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes + A. Flake Date: 7/9/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
MW-20	2.30	2	6

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	6.92
Dissolved Oxygen (mg/L)	2.00
Redox Potential (mV)	~~to~~ -28
Conductivity (µS/cm)	9900
Temperature (°C)	67.9

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	6.89
Dissolved Oxygen (mg/L)	1.58
Redox Potential (mV)	-26
Conductivity (µS/cm)	9920
Temperature (°C)	58.3

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	3.03
pH	6.86
Dissolved Oxygen (mg/L)	0.31
Redox Potential	-25
Conductivity	9530
Temperature	65.4

Groundwater Sample Collection:

Sample ID	MW-20
Time	0900
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:

1st: turbid. brown
sulfur smell

2nd: turbid: brown

3rd: slight turbid: brown

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

COC *

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes + A. Flake Date: 7/9/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
MW-21	2.52	2	6

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	7.56
Dissolved Oxygen (mg/L)	2.97
Redox Potential (mV)	-66
Conductivity (µS/cm)	6140
Temperature (°C)	72.5

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	7.51
Dissolved Oxygen (mg/L)	2.22
Redox Potential (mV)	-61
Conductivity (µS/cm)	6790
Temperature (°C)	70.5

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	3.06
pH	7.49
Dissolved Oxygen (mg/L)	1.41
Redox Potential	-61
Conductivity	6300
Temperature	73.2

Groundwater Sample Collection:

Sample ID	MW-21
Time	0830
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:

1st: turbid; brown

2nd; turbid; brown

3rd: slight turbid; brown

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Heynes + A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
A2-PZ-1	1.25	0.5	2

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	7.33
Dissolved Oxygen (mg/L)	3.06
Redox Potential (mV)	-54
Conductivity (µS/cm)	502
Temperature (°C)	70.8 °F

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	7.30
Dissolved Oxygen (mg/L)	2.75
Redox Potential (mV)	-52
Conductivity (µS/cm)	494
Temperature (°C)	68.6

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	1.57
pH	7.78
Dissolved Oxygen (mg/L)	2.30
Redox Potential	~~492~~ -66
Conductivity	490
Temperature	69.1

Groundwater Sample Collection:

Sample ID	A2-PZ-1
Time	10:15
Preservative	HCl, TRISMA
Requested Analysis	VOC Method USEPA SW8260 PFAS

Comments: 1,4-Dioxane

1st: turbid, brown

2nd: turbid, brown

3rd/sample: turbid, brown

Total depth 14.08ft

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes + A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
A2-PZ-2	2.62	0.5	1.5

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	7.54
Dissolved Oxygen (mg/L)	2.87
Redox Potential (mV)	-66
Conductivity (µS/cm)	655
Temperature (°C)	75.3

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	7.52
Dissolved Oxygen (mg/L)	2.76
Redox Potential (mV)	-55
Conductivity (µS/cm)	607
Temperature (°C)	68.1

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	3.38
pH	7.56
Dissolved Oxygen (mg/L)	2.21
Redox Potential	-71
Conductivity	592
Temperature	68.5

Groundwater Sample Collection:

Sample ID	A2-PZ-2
Time	1245
Preservative	HCl, ~~[illegible]~~
Requested Analysis	VOC Method USEPA SW8260 ~~[illegible]~~

Comments:

1st: turbid; gray-brown

2nd; slight turbid; gray brown

3rd; slight turbid; gray brown

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes + A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
PZ-5	9.02		< 0.5 gal

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	Bailed dry
pH	7.64
Dissolved Oxygen (mg/L)	2.64
Redox Potential	-59
Conductivity	1,521
Temperature	71.4

Groundwater Sample Collection:

Sample ID	PZ-5
Time	10:30
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:
Collected sample before purge: 7/8/20 14:00 - discard
Thin parameters
Collected sample on 7/9/20
Well went dry, could only fill one VOA

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes + A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
PZ-6	9.21		<0.5 gal

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	Bailed dry
pH	7.85
Dissolved Oxygen (mg/L)	0.98
Redox Potential	-82
Conductivity	1485
Temperature	72.1

Groundwater Sample Collection:

Sample ID	PZ-6
Time	10:45
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:

Collected sample before purge 7/8/20 1415 - discard
Thin parameters

Collected second VOA after purge only one VOA could be filled - well dry

Sample clear

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

*COC

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes + A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
PZ-11-R	8.71	0.04	< 0.5

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	Bailed dry
pH	7.29
Dissolved Oxygen (mg/L)	2.83
Redox Potential	-49
Conductivity	5070
Temperature	66.7

Groundwater Sample Collection:

Sample ID	PZ-11R
Time	7/9/20 10:00
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:

Collected parameters then bailed dry
Takes time to recharge
↳ sampled 7/9/20
* Sample first VOA is better
Collected from one bailer
slight turbid brown

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

#COC

TETRA TECH

Tetra Tech Inc.
Groundwater Monitoring - Field Data Log
Former Lockheed Martin French Road Facility
Utica, NY

Tetra Tech Personnel: H. Haynes & A. Flake Date: 7/8/20

Monitoring Well ID	Initial Water Level (ft)	Well Volume (gal)	Total Volume Purged (gal)
PZ-13R	8.50		<0.5 gal

After 1st Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After 2nd Well Volume Purge:

Field Parameter	Measurement
pH	
Dissolved Oxygen (mg/L)	
Redox Potential (mV)	
Conductivity (µS/cm)	
Temperature (°C)	

After 3rd Well Volume Purge/Final*:

Field Parameter	Measurement
Water level (ft)	Bailed dry
pH	7.14
Dissolved Oxygen (mg/L)	1.97
Redox Potential	-38
Conductivity	9530
Temperature	69.4

Groundwater Sample Collection:

Sample ID	PZ-13R
Time	10:15 7/9/20
Preservative	HCl
Requested Analysis	VOC Method USEPA SW8260

Comments:
Collected parameters then bailed dry

Collected sample after recharge on 7/9/20

*Measurements should be collected downhole after 3rd or final well volume purge. Note in comments if not collected downhole.

Appendix D-6

2020 Groundwater Laboratory Analysis Reports

Appendix D-7

Data Usability Summary Report

TETRA TECH

DATA USABILITY SUMMARY REPORT
PROJECT: LOCKHEED MARTIN CORPORATION (LMC) UTICA
NEW YORK
DATE SAMPLES COLLECTED: JULY 8 & 9, 2020

LAB REPORT No. 70137879

1.0 INTRODUCTION

Eighteen aqueous samples including a field duplicate pair, one equipment blank, one field blank, and one trip blank were collected by Tetra Tech, Inc., at the Lockheed Martin Utica site on July 8-9, 2020. The samples were sent to Pace Analytical Services, LLC, in Melville, New York. All analyses were conducted in accordance with USEPA SW846 8260C, 8270C SIM and Method International Organization for Standardization (ISO) 25101 analytical and reporting protocols.

The data package deliverables provided by the laboratory included a Category B deliverable as outlined in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocols.

Data validation was performed on the aforementioned samples in accordance with EPA Region II data validation guidelines. Data validation review requirements were applied with specifications of the methods and as outlined in the USEPA Region II Standard Operating Procedures (SOPs) Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 8260B & 8260C (September 2014) and the EPA Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537 (November 2018).

The Data Usability Summary Report (DUSR) was prepared after the process of data validation was completed and summarizes the overall data quality and usability in accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation (NYSDEC 2010).

The DUSR review is based on the following parameters:

* ● Data completeness
* ● Hold times/Sample Preservation
* ● GC/MS System Tuning and Performance
* ● Mass Calibration
* ● LC/MS/MS System Tuning and Performance
* ● Mass Spectral Acquisition Rate
* ● Ion Transition Check
* ● Instrument Sensitivity Check
● Initial/Continuing calibrations
* ● Laboratory Preparation/Method and Field Blank Results
* ● Surrogate Spike Recoveries
* ● Internal Standard Results
* ● Injection Internal Standard Recoveries
● Laboratory Control Sample Results
* ● Matrix Spike/Matrix Spike Duplicate Results
* ● Field Duplicate Precision
* ● Laboratory Duplicate Precision
* ● Compound Identification/Quantitation
* ● Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

This report was prepared to provide a critical review of the laboratory analysis and reported chemical results. Overall, the data quality is acceptable. The results of the Quality Assurance Review are presented in Section 3.0. Summary tables are provided. Attachments 1, 2, and 3 are provided so that the data user can review the qualified analytical results, results reported by the laboratory, and the supporting documentation associated with data findings and data quality.

2.0 SAMPLES INCLUDED IN REVIEW

Lab Report No. 70137879

Sample ID	Lab ID	Date Collected	Test Requested
A2-PZ-1	70137879001	7/8/2020	VOCs, 1,4-Dioxane, PFAS
A2-PZ-2	70137879005	7/8/2020	VOCs
MW-1	70137879008	7/8/2020	VOCs
MW-10	70137879012	7/9/2020	VOCs
MW-18	70137879006	7/8/2020	VOCs
MW-2	70137879007	7/8/2020	VOCs
MW-20	70137879017	7/9/2020	VOCs
MW-21	70137879018	7/9/2020	VOCs
MW-3	70137879009	7/8/2020	VOCs
MW-4-DUP	70137879011	7/8/2020	VOCs
MW-4	70137879010	7/8/2020	VOCs
PZ-11R	70137879015	7/9/2020	VOCs
PZ-13R	70137879016	7/9/2020	VOCs
PZ-5	70137879013	7/9/2020	VOCs
PZ-6	70137879014	7/9/2020	VOCs
TRIP BLANK	70137879004	7/8/2020	VOCs, 1,4-Dioxane, PFAS
EQUIPMENT BLANK	70137879003	7/8/2020	VOCs, 1,4-Dioxane, PFAS
FIELD BLANK	70137879002	7/8/2020	VOCs, 1,4-Dioxane, PFAS

Legend:
VOCs = Volatile Organic Compounds in accordance with SW846 8260C.
1,4-Dioxane = 1,4-Dioxane in accordance with SW846 28260C SIM.
PFAS = Polyfluoroalkyl Substances in accordance with Method ISO 25101.

3.0 RESULTS

3.1 DATA COMPLETENESS

With regard to the data package deliverables, the contents of the data package were complete and contained all necessary summary forms and raw instrument data. The laboratory had the incorrect sample date for several samples in the data package. The correct sample dates are shown in the above table and in the electronic deliverable.

3.2 QUALITY CONTROL PARAMETERS

Hold Times/Sample Preservation: Technical hold times and preservation were assessed by comparing the sample dates and preservation code on the sample COC with that of the analysis dates.

- All project samples were properly preserved and analyzed within the required hold time for all analyses.

GC/MS Performance Check (Tuning) Summary: Gas chromatograph/mass spectrometer (GC/MS) instrument tuning and performance checks are performed to ensure the instrument's ability to provide appropriate mass-resolution, identification and sensitivity.

- The BFB tuning compound mass-ion abundance criteria for the VOC analyses were reported within control limits.

Mass Calibration & LC/MS/MS System Tuning and Performance

- The mass calibration and LC/MS/MS tuning criteria were acceptable.

Mass Spectral Acquisition Rate

- The mass spectral acquisition rate of a minimum of 10 spectra scans across each chromatographic peak was met by the laboratory.

Ion Transition Check

- The correct ion transition ratios were used by the laboratory for each PFAS compound.

Instrument Sensitivity Check (ISC)

- The ISC was analyzed prior to sample analyses and at the proper frequency during analyses. All criteria were acceptable.

Initial and Continuing Calibration Results: Control limits for initial and continuing instrument calibrations are established to ensure that the instrument is capable of producing accurate quantitative data. The following issues were noted:

- The Initial Calibration Verification (ICV) performed on instrument 70MSV5 on 06/26/2020 had Percent Differences (%Ds) for 2-butanone and vinyl chloride above the 30% quality control criterion. Samples PZ-5, PZ-6, MW-20, and MW-21 were affected. The detected and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively.

- The ICV performed on instrument 70MSDV8 on 07/07/2020 had %Ds for 2-butanone and vinyl chloride and a Percent Drift (%Drift) for bromomethane above the 30% quality control criterion. Samples A2-PZ-1, A2-PZ-2, MW-1, MW-10, MW-18, MW-2, MW-3, MW-4, MW-4-DUP, PZ-11R, PZ-13R, and TRIP BLANK were affected. The detected

and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively.

- The VOC continuing calibration performed on instrument 70MSV5 on 7/21/2020 @ 14:29 had %Ds for methylene chloride, naphthalene, 1,2,3-trichlorobenzene, and vinyl chloride which exceeded the 20% quality control limit. Samples PZ-5, PZ-6, MW-20, and MW-21 were affected. The detected and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively.

- The VOC continuing calibration performed on instrument 70MSDV8 on 7/16/2020 @ 10:37 had %Ds for bromoform, carbon tetrachloride, and dichlorodifluoromethane and Percent Drifts (%Drifts) for acetone and bromomethane which exceeded the 20% quality control limit. Samples A2-PZ-1, A2-PZ-2, MW-1, MW-10, MW-18, MW-2, MW-3, MW-4, MW-4-DUP, PZ-11R, PZ-13R, and TRIP BLANK were affected. The detected and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively.

- All VOC initial calibration Percent Relative Standard Deviations (%RSDs) and initial and continuing calibration Relative Response Factors (RRFs) were within the quality control limits. Acetone and bromomethane were evaluated via linear and quadratic equation, respectively.

- All 1,4-dioxane and PFAS initial/continuing calibration %RSDs, %Ds, and RRFs were within the quality control limits.

Laboratory Preparation/Method and Field Blank Contamination:

- No target compound contaminants were detected in the VOC, 1,4-dioxane, and PFAS laboratory method blanks associated with the reviewed parameters in this data set. In addition, no target compound contaminants were detected in the field quality control blanks.

System Monitoring Compound (Surrogate) Recoveries:

- All surrogate recoveries fell within control limits for the project samples received for VOC and 1,4-dioxane samples reviewed.

Internal Standard Results:

- The VOC and 1,4-dioxane internal standard area counts and retention times fell within control limits for the project samples received and reviewed.

- The PFAS extracted internal standard %Rs were within the 50-150% quality control limits.

Injected Internal Standards Recoveries:

- The PFAS injected internal standard areas counts and retention times fell within control limits for the project samples received and reviewed.

Laboratory Control Spike/Laboratory Control Spike Duplicate (LCS/LCSD) Results:

- The VOC LCS analyzed on 07/21/2020 had Percent Recoveries (%Rs) for bromobenzene, trans-1,4-dichloro-2-butene, cis-1,3-dichloropropene, and 1,1,1,2-tetrachloroethane above the upper quality control limits. In addition, naphthalene and 1,2,3-trichlorobenzene were below the lower quality control limits. Samples PZ-5, PZ-6, MW-20, AND MW-21 were affected. The detected and non-detected results reported for these compounds were qualified as estimated, (J) and (UJ), respectively. No action was taken for the remaining compounds because these compounds were not detected in the affected samples.

- The remaining LCS and LCS/LCSD target compound %Rs and Relative Percent Differences (RPDs) were within the quality control limits for the VOC, 1,4-dioxane, and PFAS fractions.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results:

- The MS/MSD parent sample was not a sample of concern in the VOC fraction; therefore, it was not evaluated. The 1,4-dioxane MS analysis had an acceptable %R.

Field Duplicate Precision: Field duplicates are collected to provide information on sampling precision and homogeneity.

- MW-4-DUP was collected as a field duplicate sample of MW-4. The results associated with these two samples fell within quality control limits, thereby satisfying precision.

Laboratory Duplicate Precision:

- The parent sample analyzed for laboratory duplicate precision in the VOC fraction was not a sample of concern, therefore, no action was taken. Sample EQUIPMENT BLANK was analyzed for laboratory duplicate precision in the 1,4-dioxane fraction. The RPD was within the quality control limits, thereby satisfying laboratory precision.

Target Compound Identification and Quantitation: The laboratory calculations are verified and compound identifications are reviewed and assessed by the data reviewer.

- The GC/MS raw data (quantitation reports and chromatograms) were provided for review. No laboratory calculation errors were noted for the sample selected for verification during data validation.

Detection Limits: Non-detected results were reported to the Reporting Limit (RL). Sample MW-18 was analyzed at a 2X dilution for cis-1,2-dichloroethene and sample PZ-5 was analyzed at 5X for acetone.

4.0 CONCLUSIONS

Overall, based on the outcome of data validation and as summarized in the DUSR, the data quality is acceptable with the qualifiers noted in this report.

Tetra Tech, Inc.
Michelle L. Woeber
Chemist/Data Validator

Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

November 11, 2020

Attachments:

Attachment 1 – Qualified Analytical Results
Attachment 2 – Results as Reported by the Laboratory
Attachment 3 – Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated value with an unknown bias. 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.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

Attachment 1

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate
Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08218	NSAMPLE	A2-PZ-1			A2-PZ-2			MW-1			MW-10		
SDG: 70137879	LAB_ID	70137879001			70137879005			70137879008			70137879012		
FRACTION: OV	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/9/2020		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,1-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE		5.3			1	U		2.4			2.4		
1,1-DICHLOROETHENE		1	U		1	U		1	U		1	U	
1,1-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,2,4,5-TETRAMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,3,5-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,4-DIETHYLBENZENE		1	U		1	U		1	U		1	U	
2,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
2-BUTANONE		5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
2-HEXANONE		5	U		5	U		5	U		5	U	
4-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
4-ISOPROPYLTOLUENE		1	U		1	U		1	U		1	U	
4-METHYL-2-PENTANONE		5	U		5	U		5	U		5	U	
ACETONE		5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
BENZENE		1	U		1	U		1	U		1	U	
BROMOBENZENE		1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMOFORM		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
BROMOMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C

PROJ_NO: 08218	NSAMPLE	MW-18			MW-2			MW-20			MW-21		
SDG: 70137879	LAB_ID	70137879006			70137879007			70137879017			70137879018		
FRACTION: OV	SAMP_DATE	7/8/2020			7/8/2020			7/9/2020			7/9/2020		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,1-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE		41.3			4.5			1	U		1	U	
1,1-DICHLOROETHENE		1	U		1	U		1	U		1	U	
1,1-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROBENZENE		1	U		1	U		1	UJ	CE	1	UJ	CE
1,2,3-TRICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,2,4,5-TETRAMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,3,5-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,4-DIETHYLBENZENE		1	U		1	U		1	U		1	U	
2,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
2-BUTANONE		5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
2-HEXANONE		5	U		5	U		5	U		5	U	
4-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
4-ISOPROPYLTOLUENE		1	U		1	U		1	U		1	U	
4-METHYL-2-PENTANONE		5	U		5	U		5	U		5	U	
ACETONE		5	UJ	C	5	UJ	C	5	U		5	U	
BENZENE		1	U		1	U		1	U		1	U	
BROMOBENZENE		1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMOFORM		1	UJ	C	1	UJ	C	1	U		1	U	
BROMOMETHANE		1	UJ	C	1	UJ	C	1	U		1	U	

PROJ_NO: 08218	NSAMPLE	MW-3			MW-4			MW-4-D			PZ-11R		
SDG: 70137879	LAB_ID	70137879009			70137879010			70137879011			70137879015		
FRACTION: OV	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/9/2020		
MEDIA: WATER	QC_TYPE	NM			NM			FD			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF							MW-4					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,1-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE		3.2			1	U		1	U		1	U	
1,1-DICHLOROETHENE		1	U		1	U		1	U		1	U	
1,1-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,2,4,5-TETRAMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,3,5-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,4-DIETHYLBENZENE		1	U		1	U		1	U		1	U	
2,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
2-BUTANONE		5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
2-HEXANONE		5	U		5	U		5	U		5	U	
4-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
4-ISOPROPYLTOLUENE		1	U		1	U		1	U		1	U	
4-METHYL-2-PENTANONE		5	U		5	U		5	U		5	U	
ACETONE		5	UJ	C	5	UJ	C	5	UJ	C	5	J	C
BENZENE		1	U		1	U		1	U		1	U	
BROMOBENZENE		1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMOFORM		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
BROMOMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C

PROJ_NO: 08218	NSAMPLE	PZ-13R			PZ-5			PZ-6			TRIP BLANK		
SDG: 70137879	LAB_ID	70137879016			70137879013			70137879014			70137879004		
FRACTION: OV	SAMP_DATE	7/9/2020			7/9/2020			7/9/2020			7/8/2020		
MEDIA: WATER	QC_TYPE	NM			NM			NM			TB		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,1-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE		1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE		1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE		1	U		1	U		1	U		1	U	
1,1-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
1,2,3-TRICHLOROBENZENE		1	U		1.3	J	CE	1	UJ	CE	1	U	
1,2,3-TRICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,2,4,5-TETRAMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2,4-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE		1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,3,5-TRIMETHYLBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,3-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE		1	U		1	U		1	U		1	U	
1,4-DIETHYLBENZENE		1	U		1	U		1	U		1	U	
2,2-DICHLOROPROPANE		1	U		1	U		1	U		1	U	
2-BUTANONE		5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
2-HEXANONE		5	U		5	U		5	U		5	U	
4-CHLOROTOLUENE		1	U		1	U		1	U		1	U	
4-ISOPROPYLTOLUENE		1	U		1	U		1	U		1	U	
4-METHYL-2-PENTANONE		5	U		5	U		5	U		5	U	
ACETONE		5	UJ	C	191			41.2			5	UJ	C
BENZENE		1	U		1	U		1	U		1	U	
BROMOBENZENE		1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE		1	U		1	U		1	U		1	U	
BROMOFORM		1	UJ	C	1	U		1	U		1	UJ	C
BROMOMETHANE		1	UJ	C	1	U		1	U		1	UJ	C

PROJ_NO: 08218	NSAMPLE	A2-PZ-1			A2-PZ-2			MW-1			MW-10		
SDG: 70137879	LAB_ID	70137879001			70137879005			70137879008			70137879012		
FRACTION: OV	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/9/2020		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
CHLOROBENZENE		1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE		1	U		1	U		1	U		1	U	
CHLORODIFLUOROMETHANE		1	U		1	U		1	U		1	U	
CHLOROETHANE		1	U		1	U		1	U		1	U	
CHLOROFORM		1	U		1	U		1	U		1	U	
CHLOROMETHANE		1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		42.6			38.6			17.2			45.2		
CIS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
DIBROMOMETHANE		1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
ETHANOL		250	U		250	U		250	U		250	U	
ETHYLBENZENE		1	U		1	U		1	U		1	U	
HEXACHLOROBUTADIENE		1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE		1	U		1	U		1	U		1	U	
M+P-XYLENES		2	U		2	U		2	U		2	U	
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		1	U		1	U		1	U		1	U	
NAPHTHALENE		1	U		1	U		1	U		1	U	
N-BUTYLBENZENE		1	U		1	U		1	U		1	U	
N-PROPYLBENZENE		1	U		1	U		1	U		1	U	
O-XYLENE		1	U		1	U		1	U		1	U	
SEC-BUTYLBENZENE		1	U		1	U		1	U		1	U	
STYRENE		1	U		1	U		1	U		1	U	
TERT-BUTYLBENZENE		1	U		1	U		1	U		1	U	
TETRACHLOROETHENE		1.9			23.3			21.9			1	U	
TOLUENE		1	U		1	U		1	U		1	U	
TOTAL XYLENES		3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE		1	U		1	U		1	U		4.1		
TRANS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
TRANS-1,4-DICHLORO-2-BUTENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		5.2			23.7			10.7			1	U	
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U		1	U	
VINYL CHLORIDE		5.7	J	C	2.7	J	C	1	UJ	C	22.6	J	C

PROJ_NO: 08218	NSAMPLE	MW-18			MW-2			MW-20			MW-21		
SDG: 70137879	LAB_ID	70137879006			70137879007			70137879017			70137879018		
FRACTION: OV	SAMP_DATE	7/8/2020			7/8/2020			7/9/2020			7/9/2020		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												

PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE	1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	UJ	C	1	UJ	C	1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLORODIFLUOROMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	336			10.8			2.7			1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
DIBROMOMETHANE	1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE	1	UJ	C	1	UJ	C	1	U		1	U	
ETHANOL	250	U		250	U		250	U		250	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
HEXACHLOROBUTADIENE	1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE	1	U		1	U		1	U		1	U	
M+P-XYLENES	2	U		2	U		2	U		2	U	
METHYL TERT-BUTYL ETHER	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	1	U		1	U		1	UJ	C	1	UJ	C
NAPHTHALENE	1	U		1	U		1	UJ	CE	1	UJ	CE
N-BUTYLBENZENE	1	U		1	U		1	U		1	U	
N-PROPYLBENZENE	1	U		1	U		1	U		1	U	
O-XYLENE	1	U		1	U		1	U		1	U	
SEC-BUTYLBENZENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TERT-BUTYLBENZENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	106			1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TOTAL XYLENES	3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE	1.6			2.2			1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRANS-1,4-DICHLORO-2-BUTENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	93			1	U		1	U		1	U	
TRICHLOROFLUOROMETHANE	1	U		1	U		1	U		1	U	
VINYL CHLORIDE	1.7	J	C	16.3	J	C	19.2	J	C	2.5	J	C

PROJ_NO: 08218	NSAMPLE	MW-3			MW-4			MW-4-D			PZ-11R		
SDG: 70137879	LAB_ID	70137879009			70137879010			70137879011			70137879015		
FRACTION: OV	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/9/2020		
MEDIA: WATER	QC_TYPE	NM			NM			FD			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF							MW-4					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
CHLOROBENZENE		1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE		1	U		1	U		1	U		1	U	
CHLORODIFLUOROMETHANE		1	U		1	U		1	U		1	U	
CHLOROETHANE		1	U		1	U		1	U		1	U	
CHLOROFORM		1	U		1	U		1	U		1	U	
CHLOROMETHANE		1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		18.7			3.4			3.6			1.7		
CIS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
DIBROMOMETHANE		1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
ETHANOL		250	U		250	U		250	U		250	U	
ETHYLBENZENE		1	U		1	U		1	U		1	U	
HEXACHLOROBUTADIENE		1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE		1	U		1	U		1	U		1	U	
M+P-XYLENES		2	U		2	U		2	U		2	U	
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		1	U		1	U		1	U		1	U	
NAPHTHALENE		1	U		1	U		1	U		1	U	
N-BUTYLBENZENE		1	U		1	U		1	U		1	U	
N-PROPYLBENZENE		1	U		1	U		1	U		1	U	
O-XYLENE		1	U		1	U		1	U		1	U	
SEC-BUTYLBENZENE		1	U		1	U		1	U		1	U	
STYRENE		1	U		1	U		1	U		1	U	
TERT-BUTYLBENZENE		1	U		1	U		1	U		1	U	
TETRACHLOROETHENE		1.4			1	U		1	U		3		
TOLUENE		1	U		1	U		1	U		1	U	
TOTAL XYLENES		3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE		1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
TRANS-1,4-DICHLORO-2-BUTENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		4.3			1	U		1	U		5.4		
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U		1	U	
VINYL CHLORIDE		3.7	J	C	2.4	J	C	2.5	J	C	1	UJ	C

PROJ_NO: 08218	NSAMPLE	PZ-13R			PZ-5			PZ-6			TRIP BLANK		
SDG: 70137879	LAB_ID	70137879016			70137879013			70137879014			70137879004		
FRACTION: OV	SAMP_DATE	7/9/2020			7/9/2020			7/9/2020			7/8/2020		
MEDIA: WATER	QC_TYPE	NM			NM			NM			TB		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON DISULFIDE		1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE		1	UJ	C	1	U		1	U		1	UJ	C
CHLOROBENZENE		1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE		1	U		1	U		1	U		1	U	
CHLORODIFLUOROMETHANE		1	U		1	U		1	U		1	U	
CHLOROETHANE		1	U		1	U		1	U		1	U	
CHLOROFORM		1	U		1	U		1	U		1	U	
CHLOROMETHANE		1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		1.8			13.7			7			1	U	
CIS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
DIBROMOMETHANE		1	U		1	U		1	U		1	U	
DICHLORODIFLUOROMETHANE		1	UJ	C	1	U		1	U		1	UJ	C
ETHANOL		250	U		250	U		250	U		250	U	
ETHYLBENZENE		1	U		1	U		1	U		1	U	
HEXACHLOROBUTADIENE		1	U		1	U		1	U		1	U	
ISOPROPYLBENZENE		1	U		1	U		1	U		1	U	
M+P-XYLENES		2	U		2	U		2	U		2	U	
METHYL TERT-BUTYL ETHER		1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE		1	U		1	UJ	C	1	UJ	C	1	U	
NAPHTHALENE		1	U		1	UJ	CE	1	UJ	CE	1	U	
N-BUTYLBENZENE		1	U		1	U		1	U		1	U	
N-PROPYLBENZENE		1	U		1	U		1	U		1	U	
O-XYLENE		1	U		1	U		1	U		1	U	
SEC-BUTYLBENZENE		1	U		1	U		1	U		1	U	
STYRENE		1	U		1	U		1	U		1	U	
TERT-BUTYLBENZENE		1	U		1	U		1	U		1	U	
TETRACHLOROETHENE		1	U		54.5			1	U		1	U	
TOLUENE		1	U		1	U		1	U		1	U	
TOTAL XYLENES		3	U		3	U		3	U		3	U	
TRANS-1,2-DICHLOROETHENE		1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE		1	U		1	U		1	U		1	U	
TRANS-1,4-DICHLORO-2-BUTENE		1	U		1	U		1	U		1	U	
TRICHLOROETHENE		3.3			11.5			1.9			1	U	
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U		1	U	
VINYL CHLORIDE		1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C

PROJ_NO: 08218	NSAMPLE	A2-PZ-1			EQUIPMENT BLANK			FIELD BLANK			TRIP BLANK		
SDG: 70137879	LAB_ID	70137879001			70137879003			70137879002			70137879004		
FRACTION: OVSIM	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/8/2020		
MEDIA: WATER	QC_TYPE	NM			EB			FB			TB		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,4-DIOXANE		1.5			0.2	U		0.2	U		0.2	U	

PROJ_NO: 08218	NSAMPLE	AZ-PZ-1			EQUIPMENT BLANK			FIELD BLANK			TRIP BLANK		
SDG: 70137879	LAB_ID	200-54421-1			200-54421-3			200-54421-2			200-54421-4		
FRACTION: PFAS	SAMP_DATE	7/8/2020			7/8/2020			7/8/2020			7/8/2020		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
6:2 FLUOROTELOMER SULFONATE (6:2FTS)		18.2	U		18.2	U		17.9	U		18.3	U	
8:2 FLUOROTELOMER SULFONATE (8:2FTS)		18.2	U		18.2	U		17.9	U		18.3	U	
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)		18.2	U		18.2	U		17.9	U		18.3	U	
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		18.2	U		18.2	U		17.9	U		18.3	U	
PENTADECAFLUOROOCTANOIC ACID (PFOA)		9.32			1.82	U		1.79	U		1.83	U	
PERFLUOROBUTANESULFONIC ACID (PFBS)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROBUTANOIC ACID (PFBA)		27.4			1.82	U		1.79	U		1.83	U	
PERFLUORODECANESULFONIC ACID (PFDS)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUORODECANOIC ACID (PFDA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUORODODECANOIC ACID (PFDOA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROHEPTANESULFONIC ACID (PFHPS)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROHEPTANOIC ACID (PFHPA)		6.19			1.82	U		1.79	U		1.83	U	
PERFLUOROHEXANESULFONIC ACID (PFHXS)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROHEXANOIC ACID (PFHXA)		9.8			1.82	U		1.79	U		1.83	U	
PERFLUORONONANOIC ACID (PFNA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROOCTANE SULFONAMIDE (FOSA)		9.09	U		9.11	U		8.95	U		9.14	U	
PERFLUOROOCTANESULFONIC ACID (PFOS)		2.14			1.82	U		1.79	U		1.83	U	
PERFLUOROPENTANOIC ACID (PFPEA)		13.5			1.82	U		1.79	U		1.83	U	
PERFLUOROTETRADECANOIC ACID (PFTEA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROTRIDECANOIC ACID (PFTRIA)		1.82	U		1.82	U		1.79	U		1.83	U	
PERFLUOROUNDECANOIC ACID (PFUNA)		1.82	U		1.82	U		1.79	U		1.83	U	

Attachment 2

Results as Reported by the Laboratory

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: A2-PZ-1 **Lab ID: 70137879001** Collected: 07/08/20 10:15 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C SIM Volatile Organics	Analytical Method: EPA 8260C SIM/5030C Pace Analytical Services - Melville							
1,4-Dioxane (p-Dioxane)	**1.5**	ug/L	0.20	1		07/20/20 20:48	123-91-1	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	86	%	60-140	1		07/20/20 20:48	2199-69-1	
4-Bromofluorobenzene (S)	110	%	79-124	1		07/20/20 20:48	460-00-4	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 16:06	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 16:06	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 16:06	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 16:06	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 16:06	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-71-8	CL
1,1-Dichloroethane	**5.3**	ug/L	1.0	1		07/16/20 16:06	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-35-4	
cis-1,2-Dichloroethene	**42.6**	ug/L	1.0	1		07/16/20 16:06	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	10061-02-6	

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: A2-PZ-1 **Lab ID: 70137879001** Collected: 07/08/20 10:15 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 16:06	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 16:06	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 16:06	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 16:06	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 16:06	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	79-34-5	
Tetrachloroethene	**1.9**	ug/L	1.0	1		07/16/20 16:06	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	79-00-5	
Trichloroethene	**5.2**	ug/L	1.0	1		07/16/20 16:06	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:06	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	108-67-8	
Vinyl chloride	**5.7**	ug/L	1.0	1		07/16/20 16:06	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 16:06	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 16:06	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 16:06	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 16:06	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 16:06	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/16/20 16:06	2037-26-5	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: FIELD BLANK **Lab ID: 70137879002** Collected: 07/08/20 09:55 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C SIM Volatile Organics	Analytical Method: EPA 8260C SIM/5030C Pace Analytical Services - Melville							
1,4-Dioxane (p-Dioxane)	**<0.20**	ug/L	0.20	1		07/20/20 20:21	123-91-1	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	87	%	60-140	1		07/20/20 20:21	2199-69-1	
4-Bromofluorobenzene (S)	110	%	79-124	1		07/20/20 20:21	460-00-4	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: EQUIPMENT BLANK **Lab ID: 70137879003** Collected: 07/08/20 10:05 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C SIM Volatile Organics	Analytical Method: EPA 8260C SIM/5030C Pace Analytical Services - Melville							
1,4-Dioxane (p-Dioxane)	**<0.20**	ug/L	0.20	1		07/20/20 19:54	123-91-1	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	85	%	60-140	1		07/20/20 19:54	2199-69-1	
4-Bromofluorobenzene (S)	109	%	79-124	1		07/20/20 19:54	460-00-4	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: TRIP BLANK **Lab ID: 70137879004** Collected: 07/08/20 00:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C SIM Volatile Organics	Analytical Method: EPA 8260C SIM/5030C Pace Analytical Services - Melville							
1,4-Dioxane (p-Dioxane)	**<0.20**	ug/L	0.20	1		07/20/20 19:28	123-91-1	
Surrogates								
1,2-Dichlorobenzene-d4 (S)	87	%	60-140	1		07/20/20 19:28	2199-69-1	
4-Bromofluorobenzene (S)	111	%	79-124	1		07/20/20 19:28	460-00-4	
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 12:42	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 12:42	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 12:42	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 12:42	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 12:42	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-71-8	CL
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	10061-02-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: TRIP BLANK **Lab ID: 70137879004** Collected: 07/08/20 00:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 12:42	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 12:42	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 12:42	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	99-87-6	
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 12:42	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 12:42	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 12:42	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	108-67-8	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/16/20 12:42	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 12:42	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 12:42	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 12:42	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 12:42	17060-07-0	
4-Bromofluorobenzene (S)	96	%	79-124	1		07/16/20 12:42	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		07/16/20 12:42	2037-26-5	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: A2-PZ-2 **Lab ID: 70137879005** Collected: 07/08/20 12:45 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 16:29	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 16:29	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 16:29	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 16:29	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 16:29	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-71-8	CL
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-35-4	
cis-1,2-Dichloroethene	**38.6**	ug/L	1.0	1		07/16/20 16:29	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 16:29	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 16:29	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 16:29	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: A2-PZ-2 **Lab ID: 70137879005** Collected: 07/08/20 12:45 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 16:29	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 16:29	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	79-34-5	
Tetrachloroethene	**23.3**	ug/L	1.0	1		07/16/20 16:29	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	79-00-5	
Trichloroethene	**23.7**	ug/L	1.0	1		07/16/20 16:29	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:29	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	108-67-8	
Vinyl chloride	**2.7**	ug/L	1.0	1		07/16/20 16:29	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 16:29	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 16:29	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 16:29	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 16:29	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-124	1		07/16/20 16:29	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		07/16/20 16:29	2037-26-5	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-18 **Lab ID: 70137879006** Collected: 07/08/20 15:30 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 16:51	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 16:51	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 16:51	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 16:51	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 16:51	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-71-8	CL
1,1-Dichloroethane	**41.3**	ug/L	1.0	1		07/16/20 16:51	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-35-4	
cis-1,2-Dichloroethene	**336**	ug/L	2.0	2		07/17/20 20:19	156-59-2	
trans-1,2-Dichloroethene	**1.6**	ug/L	1.0	1		07/16/20 16:51	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 16:51	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 16:51	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 16:51	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-18 **Lab ID: 70137879006** Collected: 07/08/20 15:30 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 16:51	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 16:51	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	79-34-5	
Tetrachloroethene	**106**	ug/L	1.0	1		07/16/20 16:51	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	79-00-5	
Trichloroethene	**93.0**	ug/L	1.0	1		07/16/20 16:51	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 16:51	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	108-67-8	
Vinyl chloride	**1.7**	ug/L	1.0	1		07/16/20 16:51	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 16:51	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 16:51	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 16:51	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 16:51	17060-07-0	
4-Bromofluorobenzene (S)	97	%	79-124	1		07/16/20 16:51	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		07/16/20 16:51	2037-26-5	

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-2 **Lab ID: 70137879007** Collected: 07/08/20 16:15 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 17:14	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 17:14	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 17:14	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 17:14	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 17:14	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-71-8	CL
1,1-Dichloroethane	**4.5**	ug/L	1.0	1		07/16/20 17:14	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-35-4	
cis-1,2-Dichloroethene	**10.8**	ug/L	1.0	1		07/16/20 17:14	156-59-2	
trans-1,2-Dichloroethene	**2.2**	ug/L	1.0	1		07/16/20 17:14	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 17:14	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 17:14	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 17:14	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	99-87-6	

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(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-2 **Lab ID: 70137879007** Collected: 07/08/20 16:15 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 17:14	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 17:14	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 17:14	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	108-67-8	
Vinyl chloride	**16.3**	ug/L	1.0	1		07/16/20 17:14	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 17:14	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 17:14	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 17:14	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 17:14	17060-07-0	
4-Bromofluorobenzene (S)	97	%	79-124	1		07/16/20 17:14	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/16/20 17:14	2037-26-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-1 **Lab ID: 70137879008** Collected: 07/08/20 17:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 17:37	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 17:37	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 17:37	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 17:37	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 17:37	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-71-8	CL
1,1-Dichloroethane	**2.4**	ug/L	1.0	1		07/16/20 17:37	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-35-4	
cis-1,2-Dichloroethene	**17.2**	ug/L	1.0	1		07/16/20 17:37	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 17:37	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 17:37	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 17:37	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-1 **Lab ID: 70137879008** Collected: 07/08/20 17:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 17:37	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 17:37	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	79-34-5	
Tetrachloroethene	**21.9**	ug/L	1.0	1		07/16/20 17:37	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	79-00-5	
Trichloroethene	**10.7**	ug/L	1.0	1		07/16/20 17:37	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 17:37	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	108-67-8	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/16/20 17:37	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 17:37	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 17:37	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 17:37	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 17:37	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 17:37	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		07/16/20 17:37	2037-26-5	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-3 **Lab ID: 70137879009** Collected: 07/08/20 17:30 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 18:00	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 18:00	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 18:00	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 18:00	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 18:00	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-71-8	CL
1,1-Dichloroethane	**3.2**	ug/L	1.0	1		07/16/20 18:00	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-35-4	
cis-1,2-Dichloroethene	**18.7**	ug/L	1.0	1		07/16/20 18:00	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 18:00	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 18:00	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 18:00	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	99-87-6	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-3 **Lab ID: 70137879009** Collected: 07/08/20 17:30 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 18:00	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 18:00	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	79-34-5	
Tetrachloroethene	**1.4**	ug/L	1.0	1		07/16/20 18:00	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	79-00-5	
Trichloroethene	**4.3**	ug/L	1.0	1		07/16/20 18:00	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:00	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	108-67-8	
Vinyl chloride	**3.7**	ug/L	1.0	1		07/16/20 18:00	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 18:00	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 18:00	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 18:00	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 18:00	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 18:00	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/16/20 18:00	2037-26-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-4 **Lab ID: 70137879010** Collected: 07/08/20 18:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 18:23	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 18:23	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 18:23	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 18:23	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 18:23	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-71-8	CL
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-35-4	
cis-1,2-Dichloroethene	**3.4**	ug/L	1.0	1		07/16/20 18:23	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 18:23	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 18:23	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 18:23	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-4 **Lab ID: 70137879010** Collected: 07/08/20 18:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 18:23	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 18:23	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:23	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	108-67-8	
Vinyl chloride	**2.4**	ug/L	1.0	1		07/16/20 18:23	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 18:23	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 18:23	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 18:23	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 18:23	17060-07-0	
4-Bromofluorobenzene (S)	97	%	79-124	1		07/16/20 18:23	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		07/16/20 18:23	2037-26-5	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-4-DUP **Lab ID: 70137879011** Collected: 07/08/20 18:05 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 18:46	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 18:46	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 18:46	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 18:46	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 18:46	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-71-8	CL
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-35-4	
cis-1,2-Dichloroethene	**3.6**	ug/L	1.0	1		07/16/20 18:46	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 18:46	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 18:46	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 18:46	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	99-87-6	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-4-DUP **Lab ID: 70137879011** Collected: 07/08/20 18:05 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 18:46	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 18:46	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 18:46	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	108-67-8	
Vinyl chloride	**2.5**	ug/L	1.0	1		07/16/20 18:46	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 18:46	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 18:46	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 18:46	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	104	%	68-153	1		07/16/20 18:46	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 18:46	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/16/20 18:46	2037-26-5	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-10 **Lab ID: 70137879012** Collected: 07/08/20 07:45 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 19:09	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 19:09	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 19:09	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 19:09	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 19:09	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-71-8	CL
1,1-Dichloroethane	**2.4**	ug/L	1.0	1		07/16/20 19:09	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-35-4	
cis-1,2-Dichloroethene	**45.2**	ug/L	1.0	1		07/16/20 19:09	156-59-2	
trans-1,2-Dichloroethene	**4.1**	ug/L	1.0	1		07/16/20 19:09	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 19:09	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 19:09	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 19:09	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-10 **Lab ID: 70137879012** Collected: 07/08/20 07:45 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 19:09	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 19:09	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:09	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	108-67-8	
Vinyl chloride	**22.6**	ug/L	1.0	1		07/16/20 19:09	75-01-4	IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 19:09	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 19:09	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 19:09	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 19:09	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 19:09	460-00-4	
Toluene-d8 (S)	97	%	69-124	1		07/16/20 19:09	2037-26-5	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-5 **Lab ID: 70137879013** Collected: 07/08/20 10:30 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**191**	ug/L	25.0	5		07/21/20 17:32	67-64-1	
Benzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	108-86-1	L1
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/21/20 16:15	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/21/20 16:15	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/21/20 16:15	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/21/20 16:15	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	110-57-6	L1
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-71-8	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-35-4	
cis-1,2-Dichloroethene	**13.7**	ug/L	1.0	1		07/21/20 16:15	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	10061-01-5	L1
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/21/20 16:15	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/21/20 16:15	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/21/20 16:15	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-5 **Lab ID: 70137879013** Collected: 07/08/20 10:30 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/21/20 16:15	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/21/20 16:15	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	91-20-3	CL,L2
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	630-20-6	L1
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	79-34-5	
Tetrachloroethene	**54.5**	ug/L	1.0	1		07/21/20 16:15	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	108-88-3	
1,2,3-Trichlorobenzene	**1.3**	ug/L	1.0	1		07/21/20 16:15	87-61-6	CL,L2
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	79-00-5	
Trichloroethene	**11.5**	ug/L	1.0	1		07/21/20 16:15	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:15	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	108-67-8	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/21/20 16:15	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/21/20 16:15	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/21/20 16:15	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/21/20 16:15	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/21/20 16:15	17060-07-0	
4-Bromofluorobenzene (S)	95	%	79-124	1		07/21/20 16:15	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		07/21/20 16:15	2037-26-5	

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-6 **Lab ID: 70137879014** Collected: 07/08/20 10:45 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**41.2**	ug/L	5.0	1		07/21/20 16:34	67-64-1	
Benzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	108-86-1	L1
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/21/20 16:34	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/21/20 16:34	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/21/20 16:34	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/21/20 16:34	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	110-57-6	L1
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-71-8	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-35-4	
cis-1,2-Dichloroethene	**7.0**	ug/L	1.0	1		07/21/20 16:34	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	10061-01-5	L1
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/21/20 16:34	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/21/20 16:34	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/21/20 16:34	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	99-87-6	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-6 **Lab ID: 70137879014** Collected: 07/08/20 10:45 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/21/20 16:34	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/21/20 16:34	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	91-20-3	CL,L2
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	630-20-6	L1
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	87-61-6	CL,L2
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	79-00-5	
Trichloroethene	**1.9**	ug/L	1.0	1		07/21/20 16:34	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:34	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	108-67-8	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/21/20 16:34	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/21/20 16:34	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/21/20 16:34	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/21/20 16:34	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%	68-153	1		07/21/20 16:34	17060-07-0	
4-Bromofluorobenzene (S)	93	%	79-124	1		07/21/20 16:34	460-00-4	
Toluene-d8 (S)	95	%	69-124	1		07/21/20 16:34	2037-26-5	

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(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-11R **Lab ID: 70137879015** Collected: 07/08/20 10:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**5.0**	ug/L	5.0	1		07/16/20 19:32	67-64-1	CH,IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 19:32	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 19:32	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 19:32	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 19:32	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-71-8	CL
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-35-4	
cis-1,2-Dichloroethene	**1.7**	ug/L	1.0	1		07/16/20 19:32	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 19:32	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 19:32	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 19:32	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-11R **Lab ID: 70137879015** Collected: 07/08/20 10:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 19:32	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 19:32	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	79-34-5	
Tetrachloroethene	**3.0**	ug/L	1.0	1		07/16/20 19:32	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	79-00-5	
Trichloroethene	**5.4**	ug/L	1.0	1		07/16/20 19:32	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:32	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	108-67-8	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/16/20 19:32	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 19:32	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 19:32	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 19:32	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 19:32	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-124	1		07/16/20 19:32	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		07/16/20 19:32	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-13R **Lab ID: 70137879016** Collected: 07/08/20 10:15 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/16/20 19:55	67-64-1	IC
Benzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	108-86-1	
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-25-2	CL
Bromomethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/16/20 19:55	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/16/20 19:55	56-23-5	CL
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/16/20 19:55	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/16/20 19:55	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	110-57-6	
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-71-8	CL
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-35-4	
cis-1,2-Dichloroethene	**1.8**	ug/L	1.0	1		07/16/20 19:55	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	10061-01-5	
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/16/20 19:55	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/16/20 19:55	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/16/20 19:55	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	99-87-6	

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: PZ-13R **Lab ID: 70137879016** Collected: 07/08/20 10:15 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/16/20 19:55	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/16/20 19:55	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	91-20-3	
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	630-20-6	
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	87-61-6	
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	79-00-5	
Trichloroethene	**3.3**	ug/L	1.0	1		07/16/20 19:55	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/16/20 19:55	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	108-67-8	
Vinyl chloride	**<1.0**	ug/L	1.0	1		07/16/20 19:55	75-01-4	
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/16/20 19:55	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/16/20 19:55	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/16/20 19:55	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/16/20 19:55	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-124	1		07/16/20 19:55	460-00-4	
Toluene-d8 (S)	96	%	69-124	1		07/16/20 19:55	2037-26-5	

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575 Broad Hollow Road
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(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-20 **Lab ID: 70137879017** Collected: 07/08/20 09:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/21/20 16:53	67-64-1	
Benzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	108-86-1	L1
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/21/20 16:53	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/21/20 16:53	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/21/20 16:53	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/21/20 16:53	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	110-57-6	L1
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-71-8	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-35-4	
cis-1,2-Dichloroethene	**2.7**	ug/L	1.0	1		07/21/20 16:53	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	10061-01-5	L1
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/21/20 16:53	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/21/20 16:53	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/21/20 16:53	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	99-87-6	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-20 **Lab ID: 70137879017** Collected: 07/08/20 09:00 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/21/20 16:53	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/21/20 16:53	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	91-20-3	CL,L2
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	630-20-6	L1
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	87-61-6	CL,L2
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 16:53	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	108-67-8	
Vinyl chloride	**19.2**	ug/L	1.0	1		07/21/20 16:53	75-01-4	CH,IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/21/20 16:53	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/21/20 16:53	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/21/20 16:53	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%	68-153	1		07/21/20 16:53	17060-07-0	
4-Bromofluorobenzene (S)	93	%	79-124	1		07/21/20 16:53	460-00-4	
Toluene-d8 (S)	98	%	69-124	1		07/21/20 16:53	2037-26-5	

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ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-21 **Lab ID: 70137879018** Collected: 07/08/20 08:30 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Acetone	**<5.0**	ug/L	5.0	1		07/21/20 17:13	67-64-1	
Benzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	71-43-2	
Bromobenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	108-86-1	L1
Bromochloromethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	74-97-5	
Bromodichloromethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-27-4	
Bromoform	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-25-2	
Bromomethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	74-83-9	
2-Butanone (MEK)	**<5.0**	ug/L	5.0	1		07/21/20 17:13	78-93-3	IL
n-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	104-51-8	
sec-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	135-98-8	
tert-Butylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	98-06-6	
Carbon disulfide	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-15-0	
Carbon tetrachloride	**<1.0**	ug/L	1.0	1		07/21/20 17:13	56-23-5	
Chlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	108-90-7	
Chlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-45-6	N3
Chloroethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-00-3	
Chloroform	**<1.0**	ug/L	1.0	1		07/21/20 17:13	67-66-3	
Chloromethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	74-87-3	
2-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	95-49-8	
4-Chlorotoluene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	106-43-4	
Dibromochloromethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	124-48-1	
1,2-Dibromoethane (EDB)	**<1.0**	ug/L	1.0	1		07/21/20 17:13	106-93-4	
Dibromomethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	74-95-3	
1,2-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	95-50-1	
1,3-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	541-73-1	
1,4-Dichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	106-46-7	
trans-1,4-Dichloro-2-butene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	110-57-6	L1
Dichlorodifluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-71-8	
1,1-Dichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-34-3	
1,2-Dichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	107-06-2	
1,1-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-35-4	
cis-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	156-59-2	
trans-1,2-Dichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	156-60-5	
1,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	78-87-5	
1,3-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	142-28-9	
2,2-Dichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	594-20-7	
1,1-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	563-58-6	
cis-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	10061-01-5	L1
trans-1,3-Dichloropropene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	10061-02-6	
1,4-Diethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	105-05-5	N3
Ethanol	**<250**	ug/L	250	1		07/21/20 17:13	64-17-5	
Ethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	100-41-4	
Hexachloro-1,3-butadiene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	87-68-3	
2-Hexanone	**<5.0**	ug/L	5.0	1		07/21/20 17:13	591-78-6	
Isopropylbenzene (Cumene)	**<1.0**	ug/L	1.0	1		07/21/20 17:13	98-82-8	
p-Isopropyltoluene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	99-87-6	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

ANALYTICAL RESULTS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Sample: MW-21 **Lab ID: 70137879018** Collected: 07/08/20 08:30 Received: 07/11/20 11:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260C Volatile Organics	Analytical Method: EPA 8260C/5030C Pace Analytical Services - Melville							
Methylene Chloride	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-09-2	CL
4-Methyl-2-pentanone (MIBK)	**<5.0**	ug/L	5.0	1		07/21/20 17:13	108-10-1	
Methyl-tert-butyl ether	**<1.0**	ug/L	1.0	1		07/21/20 17:13	1634-04-4	
Naphthalene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	91-20-3	CL,L2
n-Propylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	103-65-1	
Styrene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	100-42-5	
1,1,1,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	630-20-6	L1
1,1,2,2-Tetrachloroethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	79-34-5	
Tetrachloroethene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	127-18-4	
1,2,4,5-tetramethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	95-93-2	N3
Toluene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	108-88-3	
1,2,3-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	87-61-6	CL,L2
1,2,4-Trichlorobenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	120-82-1	
1,1,1-Trichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	71-55-6	
1,1,2-Trichloroethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	79-00-5	
Trichloroethene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	79-01-6	
Trichlorofluoromethane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	75-69-4	
1,2,3-Trichloropropane	**<1.0**	ug/L	1.0	1		07/21/20 17:13	96-18-4	
1,2,4-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	95-63-6	
1,3,5-Trimethylbenzene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	108-67-8	
Vinyl chloride	**2.5**	ug/L	1.0	1		07/21/20 17:13	75-01-4	CH,IH
Xylene (Total)	**<3.0**	ug/L	3.0	1		07/21/20 17:13	1330-20-7	
m&p-Xylene	**<2.0**	ug/L	2.0	1		07/21/20 17:13	179601-23-1	
o-Xylene	**<1.0**	ug/L	1.0	1		07/21/20 17:13	95-47-6	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%	68-153	1		07/21/20 17:13	17060-07-0	
4-Bromofluorobenzene (S)	94	%	79-124	1		07/21/20 17:13	460-00-4	
Toluene-d8 (S)	99	%	69-124	1		07/21/20 17:13	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: AZ-PZ-1 Lab Sample ID: 200-54421-1

Matrix: Water Lab File ID: PA200721A16.d

Analysis Method: 25101:2009 Date Collected: 07/08/2020 10:15

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 275.1(mL) Date Analyzed: 07/21/2020 19:42

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	6.19		1.82	
335-67-1	Perfluorooctanoic acid (PFOA)	9.32		1.82	
375-95-1	Perfluorononanoic acid (PFNA)	1.82	U	1.82	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.82	U	1.82	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.82	U	1.82	
375-22-4	Perfluorobutanoic acid	27.4		1.82	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.14		1.82	
375-92-8	Perfluoroheptanesulfonic acid	1.82	U	1.82	
754-91-6	Perfluorooctanesulfonamide	9.09	U	9.09	
2706-90-3	Perfluoropentanoic acid	13.5		1.82	
335-76-2	Perfluorodecanoic acid	1.82	U	1.82	
307-55-1	Perfluorododecanoic acid	1.82	U	1.82	
307-24-4	Perfluorohexanoic acid	9.80		1.82	
376-06-7	Perfluorotetradecanoic acid	1.82	U	1.82	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	18.2	U	18.2	
72629-94-8	Perfluorotridecanoic acid	1.82	U	1.82	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	18.2	U	18.2	
2058-94-8	Perfluoroundecanoic acid	1.82	U	1.82	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	18.2	U	18.2	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	18.2	U	18.2	
335-77-3	Perfluorodecanesulfonic acid	1.82	U	1.82	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: AZ-PZ-1 Lab Sample ID: 200-54421-1

Matrix: Water Lab File ID: PA200721A16.d

Analysis Method: 25101:2009 Date Collected: 07/08/2020 10:15

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 275.1(mL) Date Analyzed: 07/21/2020 19:42

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	76		50-150
STL01892	13C4 PFHpA	64		50-150
STL00990	13C4 PFOA	89		70-130
STL00991	13C4 PFOS	86		70-130
STL00995	13C5 PFNA	95		50-150
STL02279	M2-6:2 FTS	100		50-150
STL02280	M2-8:2 FTS	96		50-150
STL02116	13C2 PFTeDA	69		50-150
STL02118	d3-NMeFOSAA	71		50-150
STL02117	d5-NEtFOSAA	75		50-150
STL00992	13C4 PFBA	82		50-150
STL00998	13C2 PFDoA	71		50-150
STL00993	13C2 PFHxA	97		50-150
STL00996	13C2 PFDA	94		50-150
STL00997	13C2 PFUnA	81		50-150
STL01056	13C8 FOSA	74		50-150
STL01893	13C5 PFPeA	86		50-150
STL02337	13C3 PFBS	94		50-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: EQUIPMENT BLANK Lab Sample ID: 200-54421-3

Matrix: Water Lab File ID: PA200721A18.d

Analysis Method: 25101:2009 Date Collected: 07/08/2020 10:05

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 274.3(mL) Date Analyzed: 07/21/2020 19:59

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.82	U	1.82	
335-67-1	Perfluorooctanoic acid (PFOA)	1.82	U	1.82	
375-95-1	Perfluorononanoic acid (PFNA)	1.82	U	1.82	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.82	U	1.82	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.82	U	1.82	
375-22-4	Perfluorobutanoic acid	1.82	U	1.82	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.82	U	1.82	
375-92-8	Perfluoroheptanesulfonic acid	1.82	U	1.82	
754-91-6	Perfluorooctanesulfonamide	9.11	U	9.11	
2706-90-3	Perfluoropentanoic acid	1.82	U	1.82	
335-76-2	Perfluorodecanoic acid	1.82	U	1.82	
307-55-1	Perfluorododecanoic acid	1.82	U	1.82	
307-24-4	Perfluorohexanoic acid	1.82	U	1.82	
376-06-7	Perfluorotetradecanoic acid	1.82	U	1.82	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	18.2	U	18.2	
72629-94-8	Perfluorotridecanoic acid	1.82	U	1.82	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	18.2	U	18.2	
2058-94-8	Perfluoroundecanoic acid	1.82	U	1.82	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	18.2	U	18.2	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	18.2	U	18.2	
335-77-3	Perfluorodecanesulfonic acid	1.82	U	1.82	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: EQUIPMENT BLANK Lab Sample ID: 200-54421-3

Matrix: Water Lab File ID: PA200721A18.d

Analysis Method: 25101:2009 Date Collected: 07/08/2020 10:05

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 274.3(mL) Date Analyzed: 07/21/2020 19:59

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	74		50-150
STL01892	13C4 PFHpA	61		50-150
STL00990	13C4 PFOA	94		70-130
STL00991	13C4 PFOS	81		70-130
STL00995	13C5 PFNA	92		50-150
STL02279	M2-6:2 FTS	92		50-150
STL02280	M2-8:2 FTS	90		50-150
STL02116	13C2 PFTeDA	67		50-150
STL02118	d3-NMeFOSAA	69		50-150
STL02117	d5-NEtFOSAA	73		50-150
STL00992	13C4 PFBA	101		50-150
STL00998	13C2 PFDoA	68		50-150
STL00993	13C2 PFHxA	96		50-150
STL00996	13C2 PFDA	89		50-150
STL00997	13C2 PFUnA	72		50-150
STL01056	13C8 FOSA	66		50-150
STL01893	13C5 PFPeA	104		50-150
STL02337	13C3 PFBS	98		50-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: FIELD BLANK Lab Sample ID: 200-54421-2

Matrix: Water Lab File ID: PA200721A17.d

Analysis Method: 25101:2009 Date Collected: 07/08/2020 09:55

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 279.2(mL) Date Analyzed: 07/21/2020 19:50

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.79	U	1.79	
335-67-1	Perfluorooctanoic acid (PFOA)	1.79	U	1.79	
375-95-1	Perfluorononanoic acid (PFNA)	1.79	U	1.79	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.79	U	1.79	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.79	U	1.79	
375-22-4	Perfluorobutanoic acid	1.79	U	1.79	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.79	U	1.79	
375-92-8	Perfluoroheptanesulfonic acid	1.79	U	1.79	
754-91-6	Perfluorooctanesulfonamide	8.95	U	8.95	
2706-90-3	Perfluoropentanoic acid	1.79	U	1.79	
335-76-2	Perfluorodecanoic acid	1.79	U	1.79	
307-55-1	Perfluorododecanoic acid	1.79	U	1.79	
307-24-4	Perfluorohexanoic acid	1.79	U	1.79	
376-06-7	Perfluorotetradecanoic acid	1.79	U	1.79	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	17.9	U	17.9	
72629-94-8	Perfluorotridecanoic acid	1.79	U	1.79	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	17.9	U	17.9	
2058-94-8	Perfluoroundecanoic acid	1.79	U	1.79	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	17.9	U	17.9	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	17.9	U	17.9	
335-77-3	Perfluorodecanesulfonic acid	1.79	U	1.79	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: FIELD BLANK Lab Sample ID: 200-54421-2

Matrix: Water Lab File ID: PA200721A17.d

Analysis Method: 25101:2009 Date Collected: 07/08/2020 09:55

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 279.2(mL) Date Analyzed: 07/21/2020 19:50

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	83		50-150
STL01892	13C4 PFHpA	67		50-150
STL00990	13C4 PFOA	100		70-130
STL00991	13C4 PFOS	95		70-130
STL00995	13C5 PFNA	110		50-150
STL02279	M2-6:2 FTS	112		50-150
STL02280	M2-8:2 FTS	98		50-150
STL02116	13C2 PFTeDA	86		50-150
STL02118	d3-NMeFOSAA	85		50-150
STL02117	d5-NEtFOSAA	92		50-150
STL00992	13C4 PFBA	116		50-150
STL00998	13C2 PFDoA	81		50-150
STL00993	13C2 PFHxA	112		50-150
STL00996	13C2 PFDA	98		50-150
STL00997	13C2 PFUnA	91		50-150
STL01056	13C8 FOSA	78		50-150
STL01893	13C5 PFPeA	113		50-150
STL02337	13C3 PFBS	112		50-150

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: TRIP BLANK Lab Sample ID: 200-54421-4

Matrix: Water Lab File ID: PA200721A19.d

Analysis Method: 25101:2009 Date Collected: 07/08/2020 00:00

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 273.4(mL) Date Analyzed: 07/21/2020 20:07

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	1.83	U	1.83	
335-67-1	Perfluorooctanoic acid (PFOA)	1.83	U	1.83	
375-95-1	Perfluorononanoic acid (PFNA)	1.83	U	1.83	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1.83	U	1.83	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	1.83	U	1.83	
375-22-4	Perfluorobutanoic acid	1.83	U	1.83	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.83	U	1.83	
375-92-8	Perfluoroheptanesulfonic acid	1.83	U	1.83	
754-91-6	Perfluorooctanesulfonamide	9.14	U	9.14	
2706-90-3	Perfluoropentanoic acid	1.83	U	1.83	
335-76-2	Perfluorodecanoic acid	1.83	U	1.83	
307-55-1	Perfluorododecanoic acid	1.83	U	1.83	
307-24-4	Perfluorohexanoic acid	1.83	U	1.83	
376-06-7	Perfluorotetradecanoic acid	1.83	U	1.83	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	18.3	U	18.3	
72629-94-8	Perfluorotridecanoic acid	1.83	U	1.83	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	18.3	U	18.3	
2058-94-8	Perfluoroundecanoic acid	1.83	U	1.83	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	18.3	U	18.3	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	18.3	U	18.3	
335-77-3	Perfluorodecanesulfonic acid	1.83	U	1.83	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: TRIP BLANK Lab Sample ID: 200-54421-4

Matrix: Water Lab File ID: PA200721A19.d

Analysis Method: 25101:2009 Date Collected: 07/08/2020 00:00

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 273.4(mL) Date Analyzed: 07/21/2020 20:07

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	81		50-150
STL01892	13C4 PFHpA	66		50-150
STL00990	13C4 PFOA	91		70-130
STL00991	13C4 PFOS	89		70-130
STL00995	13C5 PFNA	94		50-150
STL02279	M2-6:2 FTS	96		50-150
STL02280	M2-8:2 FTS	90		50-150
STL02116	13C2 PFTeDA	77		50-150
STL02118	d3-NMeFOSAA	84		50-150
STL02117	d5-NEtFOSAA	77		50-150
STL00992	13C4 PFBA	103		50-150
STL00998	13C2 PFDoA	82		50-150
STL00993	13C2 PFHxA	106		50-150
STL00996	13C2 PFDA	92		50-150
STL00997	13C2 PFUnA	80		50-150
STL01056	13C8 FOSA	73		50-150
STL01893	13C5 PFPeA	101		50-150
STL02337	13C3 PFBS	101		50-150

Attachment 3

Support Documentation

LMC UTICA
SDG 70137879

SAMPLE IDENTIFICATION	MW-18
COMPOUND	CIS-1,2-DICHLOROETHENE
COMPOUND AREA	267669
INTERNAL STANDARD AMOUNT (ng)	250
VOLUME WATER PURGED (ml)	5
DILUTION FACTOR	2
INTERNAL STANDARD AREA	180219
CONTINUING CALIBRATION RRF	0.44205
ml to µl	1000
ng to µg	1000

336.0 µg/L

(267669 x 250ng x 2 x 1000ml X 1µg /180219 x 0.44205 x 5ml x 1L x 1000ng)

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Report Date: 22-Jul-2020 10:41

Pace Analytical Services, Inc.

SW846-8260C/EPA 624.1

Data file : \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Lab Smp Id: 70137879006 Client Smp ID: MW-18
Inj Date : 17-JUL-2020 20:19 MS Autotune Date: 07-JUL-2020 13:1
Operator : GKB Inst ID: 70msv8.i
Smp Info : 70137879006x2,
Misc Info : 9502,
Comment :
Method : \\v70wintarget\chem\70msv8.i\071720.b\070720_8260W.m
Meth Date : 20-Jul-2020 10:57 mferrari Quant Type: ISTD
Cal Date : 07-JUL-2020 19:31 Cal File: P24787.D
Als bottle: 9
Dil Factor: 2.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: RC10A
Processing Host: 70MSV5WS10B6

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	2.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW C
1 Chlorodifluoromethane	51	Compound Not Detected.						
2 Dichlorotetrafluoroethane	135	Compound Not Detected.						
3 Dichlorodifluoromethane	85	Compound Not Detected.						
4 Chloromethane	50	Compound Not Detected.						
5 Vinyl chloride	62	Compound Not Detected.						
6 1,3-Butadiene	54	Compound Not Detected.						
7 Acetaldehyde	44	Compound Not Detected.						(D)
8 Bromomethane	94	Compound Not Detected.						
9 Chloroethane	64	Compound Not Detected.						
10 Dichlorofluoromethane	67	Compound Not Detected.						
11 Trichlorofluoromethane	101	Compound Not Detected.						
12 Ethanol	45	Compound Not Detected.						(D)
13 Diethyl ether (Ethyl ether)	59	Compound Not Detected.						
16 1,1,2-Trichlorotrifluoroethane	101	1.928	1.928	(0.522)	4477	3.54643	7.09	
14 Acrolein	56	Compound Not Detected.						
15 1,1-Dichloroethene	96	1.952	1.952	(0.529)	575	0.48258	0.965	
17 Acetone	43	Compound Not Detected.						
18 Iodomethane	142	Compound Not Detected.						
19 2-Propanol	45	Compound Not Detected.						
20 Carbon disulfide	76	Compound Not Detected.						
21 Allyl chloride	76	Compound Not Detected.						
22 Acetonitrile	41	Compound Not Detected.						

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Report Date: 22-Jul-2020 10:41

							CONCENTRATIONS		
		QUANT SIG					ON-COLUMN	FINAL	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/L)	(ug/L)	REVIEW C
	23 Methyl acetate	43	Compound Not Detected.						
	24 Methylene Chloride	84	Compound Not Detected.						
	25 tert-Butyl Alcohol	59	Compound Not Detected.						
	28 Methyl-tert-butyl ether	73	Compound Not Detected.						
	27 trans-1,2-Dichloroethene	96	Compound Not Detected.						
	26 Acrylonitrile	53	Compound Not Detected.						
	30 n-Hexane	57	Compound Not Detected.						
	29 Diisopropyl ether	45	Compound Not Detected.						
	32 Vinyl acetate	43	Compound Not Detected.						
	31 1,1-Dichloroethane	63	2.811	2.812	(0.762)	51344	20.7406	41.5	
	33 Chloroprene	53	Compound Not Detected.						
	34 Ethyl-tert-butyl ether	59	Compound Not Detected.						
	36 2,2-Dichloropropane	77	Compound Not Detected.						
	35 cis-1,2-Dichloroethene	96	3.257	3.257	(0.883)	267669	167.994	336	
	39 Ethyl acetate	61	Compound Not Detected.						(D)
	37 2-Butanone (MEK)	43	Compound Not Detected.						
	41 Bromochloromethane	128	Compound Not Detected.						
	42 Tetrahydrofuran	42	Compound Not Detected.						
	43 Chloroform	83	Compound Not Detected.						
	38 Propionitrile	54	Compound Not Detected.						
	46 Cyclohexane	56	Compound Not Detected.						
	45 1,1,1-Trichloroethane	97	Compound Not Detected.						
*	44 Pentafluorobenzene (IS)	168	3.689	3.689	(1.000)	180219	50.0000		
	48 Carbon tetrachloride	117	Compound Not Detected.						(D)
	47 1,1-Dichloropropene	75	Compound Not Detected.						(D)
	55 2,2,4-Trimethylpentane	57	Compound Not Detected.						
	51 Benzene	78	Compound Not Detected.						
	40 Methacrylonitrile	67	Compound Not Detected.						
$	50 1,2-Dichloroethane-d4 (S)	65	3.952	3.952	(0.915)	149375	52.8166	52.8	
	56 tert-Amylmethyl ether	73	Compound Not Detected.						
	52 1,2-Dichloroethane	62	Compound Not Detected.						
	57 n-Heptane	43	Compound Not Detected.						
*	58 1,4-Difluorobenzene (IS)	114	4.317	4.311	(1.000)	374740	50.0000		
	59 Trichloroethene	95	4.512	4.512	(1.045)	86989	46.0172	92.0	
	60 Methylcyclohexane	83	Compound Not Detected.						
	49 Isobutanol	43	Compound Not Detected.						
	53 tert-Amyl Alcohol	59	Compound Not Detected.						
	54 tert-Amyl ethyl ether	59	Compound Not Detected.						
	61 1,2-Dichloropropane	63	Compound Not Detected.						
	63 Methyl methacrylate	69	Compound Not Detected.						
	64 1,4-Dioxane (p-Dioxane)	88	Compound Not Detected.						
	62 Dibromomethane	93	Compound Not Detected.						
	65 Bromodichloromethane	83	Compound Not Detected.						
	66 2-Nitropropane	43	Compound Not Detected.						
	67 2-Chloroethylvinyl ether	63	Compound Not Detected.						
	68 cis-1,3-Dichloropropene	75	Compound Not Detected.						
	69 4-Methyl-2-pentanone (MIBK)	43	Compound Not Detected.						(D)
$	70 Toluene-d8 (S)	98	5.732	5.732	(0.771)	483369	47.9950	48.0	
	71 Toluene	91	Compound Not Detected.						
	72 Methyl isothiocyanate	73	Compound Not Detected.						
	74 trans-1,3-Dichloropropene	75	Compound Not Detected.						
	75 Ethyl methacrylate	69	Compound Not Detected.						
	76 1,1,2-Trichloroethane	83	Compound Not Detected.						(D)
	77 Tetrachloroethene	166	6.366	6.366	(0.856)	95678	51.2230	102	
	78 1,3-Dichloropropane	76	Compound Not Detected.						

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Report Date: 22-Jul-2020 10:41

			QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/L)	(ug/L)	REVIEW C
	79	2-Hexanone	43	Compound Not Detected.						
	73	n-Octane	43	Compound Not Detected.						(D)
	81	n-Butyl acetate	43	Compound Not Detected.						
	80	Dibromochloromethane	129	Compound Not Detected.						
	82	1,2-Dibromoethane (EDB)	107	Compound Not Detected.						
*	83	Chlorobenzene-d5 (IS)	82	7.439	7.433	(1.000)	202754	50.0000		
	84	Chlorobenzene	112	Compound Not Detected.						
	86	Ethylbenzene	106	Compound Not Detected.						
	85	1,1,1,2-Tetrachloroethane	131	Compound Not Detected.						
	88	n-Nonane	43	Compound Not Detected.						
	87	m&p-Xylene	106	Compound Not Detected.						
	89	o-Xylene	106	Compound Not Detected.						
	90	Styrene	104	Compound Not Detected.						
	91	Bromoform	173	Compound Not Detected.						
	92	Isopropylbenzene (Cumene)	105	Compound Not Detected.						
$	93	4-Bromofluorobenzene (S)	95	9.030	9.030	(1.214)	190688	48.7670	48.8	
	94	Bromobenzene	156	Compound Not Detected.						
	95	1,1,2,2-Tetrachloroethane	83	Compound Not Detected.						
	98	n-Propylbenzene	91	Compound Not Detected.						
	96	1,2,3-Trichloropropane	110	Compound Not Detected.						
	97	trans-1,4-Dichloro-2-butene	53	Compound Not Detected.						
	103	n-Decane	43	Compound Not Detected.						
	99	2-Chlorotoluene	91	Compound Not Detected.						
	100	4-Ethyltoluene	105	Compound Not Detected.						
	101	1,3,5-Trimethylbenzene	105	Compound Not Detected.						
	102	4-Chlorotoluene	91	Compound Not Detected.						
	104	tert-Butylbenzene	119	Compound Not Detected.						
	105	Pentachloroethane	167	Compound Not Detected.						
	106	1,2,4-Trimethylbenzene	105	Compound Not Detected.						
	107	sec-Butylbenzene	105	Compound Not Detected.						
	109	d-Limonene	136	Compound Not Detected.						
	110	p-Isopropyltoluene	119	Compound Not Detected.						
	108	1,3-Dichlorobenzene	146	Compound Not Detected.						
*	111	1,4-Dichlorobenzene-d4 (IS)	152	10.072	10.072	(1.000)	156984	50.0000		
	112	1,4-Dichlorobenzene	146	Compound Not Detected.						
	113	1,2,3-Trimethylbenzene	105	Compound Not Detected.						
	114	Benzyl chloride	91	Compound Not Detected.						
	115	trans-Decalin	138	Compound Not Detected.						
	116	1,4-Diethylbenzene	119	Compound Not Detected.						
	117	n-Butylbenzene	91	Compound Not Detected.						
	119	n-Undecane	43	Compound Not Detected.						(D)
	118	1,2-Dichlorobenzene	146	Compound Not Detected.						
	120	cis-Decalin	138	Compound Not Detected.						
	121	1,2,4,5-tetramethylbenzene	119	Compound Not Detected.						
	122	1,2-Dibromo-3-chloropropane	75	Compound Not Detected.						
	123	n-Dodecane	43	Compound Not Detected.						(D)
	124	1,2,4-Trichlorobenzene	180	Compound Not Detected.						
	125	Hexachloro-1,3-butadiene	225	Compound Not Detected.						
	126	Naphthalene	128	Compound Not Detected.						
	127	1,2,3-Trichlorobenzene	180	Compound Not Detected.						

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Report Date: 22-Jul-2020 10:41

QC Flag Legend

D - User disabled compound identification.

Review Codes Legend

:

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Report Date: 22-Jul-2020 10:41

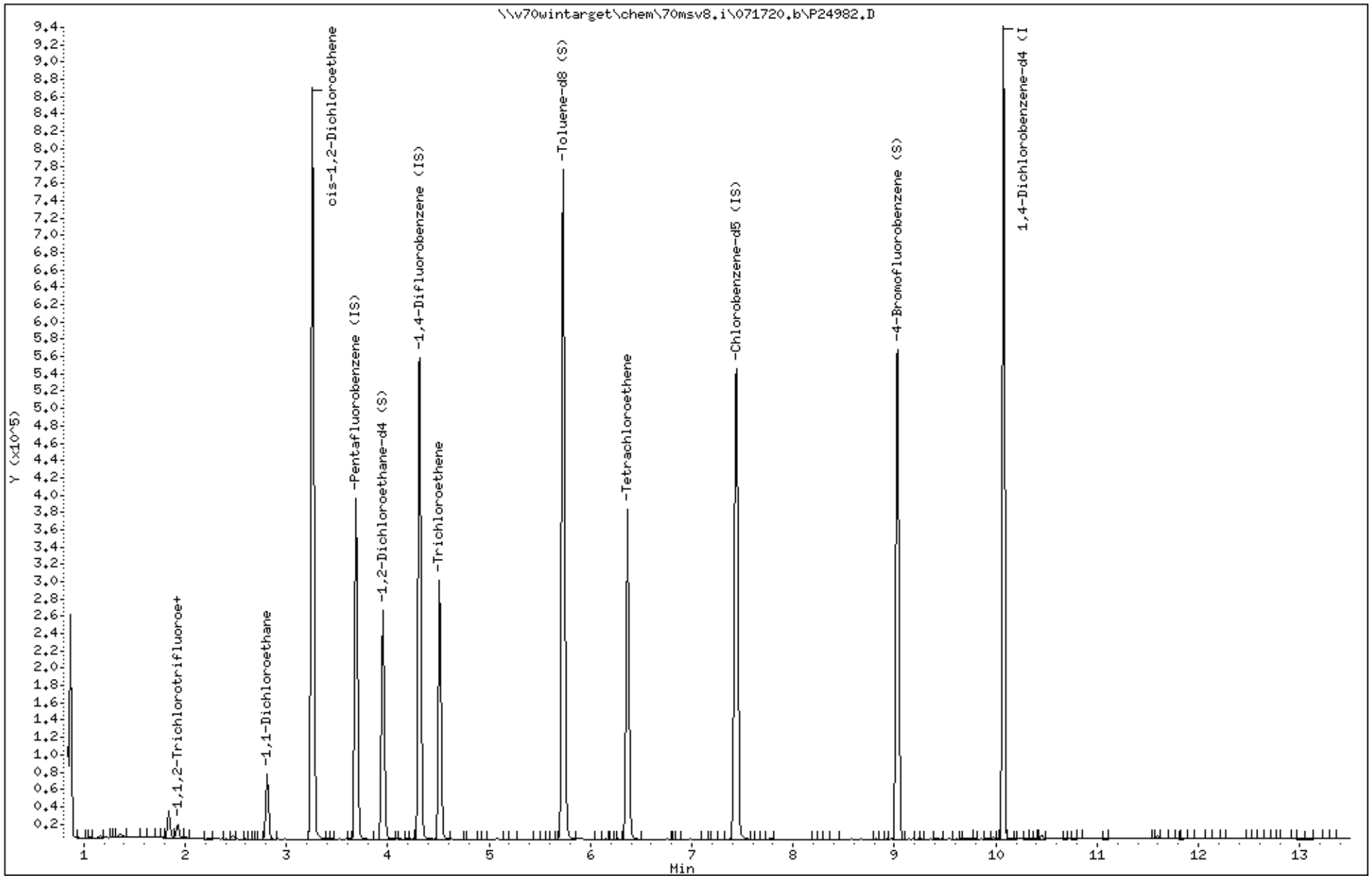
Pace Analytical Services, Inc.

SW846-8260C/EPA 624.1

Data file : \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Lab Smp Id: 70137879006 Client Smp ID: MW-18
Inj Date : 17-JUL-2020 20:19 MS Autotune Date: 07-JUL-2020 13:1
Operator : GKB Inst ID: 70msv8.i
Smp Info : 70137879006x2,
Misc Info : 9502,
Comment :
Method : \\v70wintarget\chem\70msv8.i\071720.b\070720_8260W.m
Meth Date : 20-Jul-2020 10:57 mferrari Quant Type: ISTD
Cal Date : 07-JUL-2020 19:31 Cal File: P24787.D
Als bottle: 9
Dil Factor: 2.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: RC10A
Processing Host: 70MSV5WS10B6

- NO TENTATIVELY IDENTIFIED COMPOUNDS -

Data File: \\v70wintarget\chem\70msv8.i\071720.b\P24982.D
Date : 17-JUL-2020 20:19
Client ID: MW-18
Instrument: 70msv8.i
Sample Info: 70137879006X2,
Purge Volume: 5.0
Operator: GKB
Column phase: RTX-624
Column diameter: 0.18



LMC UTICA
SDG 70137879

SAMPLE IDENTIFICATION		AZ-PZ-1
COMPOUND	PENTADECAFLUOROOCTANOIC ACID (PFOA)	
COMPOUND AREA		162544
INTERNAL STANDARD AMOUNT (ng/ml)		1.25
DILUTION FACTOR (10X but incorp. in result)		1
INTERNAL STANDARD AREA		907218
AVERAGE RRF		0.8736
SAMPLE VOLUME (ml)		275.1
VOLUME EXTRACT (ml)		10
ml to L		1000.00
CONCENTRATION =		9.32 ng/L

162544 x 1.25 ng/ml x 10ml x 1000ml x 1/(907218 x0.8736 x 275.1ml x 1L)

Eurofins TestAmerica, Burlington
Target Compound Quantitation Report

Data File: \\chromfs\Burlington\ChromData\LC812\20200721-42065.b\PA200721A16.d
Lims ID: 200-54421-A-1-A
Client ID: AZ-PZ-1
Sample Type: Client
Inject. Date: 21-Jul-2020 19:42:42 ALS Bottle#: 13 Worklist Smp#: 16
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 200-54421-A-1-A
Misc. Info.: 200-0042065-016 Plate: 1 Rack: 1
Operator ID: lc812tech Instrument ID: LC812

Method: \\chromfs\Burlington\ChromData\LC812\20200721-42065.b\PFC_LC812.m
Limit Group: LC_25101_ICAL
Last Update: 22-Jul-2020 13:06:58 Calib Date: 16-Jul-2020 14:39:30
Integrator: Picker
Quant Method: Isotopic Dilution Quant By: Initial Calibration
Last ICal File: \\chromfs\Burlington\ChromData\LC812\20200716-42004.b\PA200716ICAL12.d

Column 1 : C-18 (4.60 mm) Det: EXP1
Process Host: CTX1064

First Level Reviewer: manopan Date: 22-Jul-2020 09:48:17
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA										
217.00 > 172.00	1.984	1.984	0.0	0.574	1202834	1.02		81.6	11897	
2 Perfluorobutanoic acid										M
212.90 > 169.00	1.991	1.991	0.0	1.004	581015	0.7550			67.1	M
D 3 13C5 PFPeA										
267.90 > 223.00	2.327	2.327	0.0	0.673	930649	1.08		86.2	1703	
4 Perfluoropentanoic acid										M
262.90 > 219.00	2.327	2.327	0.0	1.000	231461	0.3720			5.4	M
D 47 13C3 PFBS										
301.90 > 80.00	2.349	2.338	0.011	0.679	1218063	1.09		93.8	96070	
5 Perfluorobutanesulfonic acid										
298.90 > 80.00	2.349	2.349	0.0	1.000	30366	0.0344	Target=2.01		4.2	
298.90 > 99.00	2.349	2.349	0.0	1.000	17077		1.78(1.00-3.01)		4.3	
6 Perfluorohexanoic acid										M
313.00 > 269.00	2.704	2.704	0.0	1.000	184519	0.2697	Target=11.67		23.1	M
313.00 > 119.00	2.704	2.704	0.0	1.000	15904		11.60(5.83-17.50)		30.3	M
D 7 13C2 PFHxA										
315.00 > 270.00	2.704	2.704	0.0	0.782	1049204	1.21		96.8	4252	
D 11 18O2 PFHxS										
403.00 > 84.00	3.080	3.080	0.0	0.891	700973	0.8952		75.7	2541	
8 Perfluorohexanesulfonic acid										M
399.00 > 80.00	3.089	3.080	0.009	1.003	12099	0.0220	Target=4.63		10.7	M
399.00 > 99.00	3.080	3.080	0.0	1.000	2197		5.51(2.32-6.95)		2.3	M
D 9 13C4 PFHpA										
367.00 > 322.00	3.089	3.089	0.0	0.893	650423	0.8032		64.3	3441	
10 Perfluoroheptanoic acid										M
363.00 > 319.00	3.089	3.089	0.0	1.000	72910	0.1703	Target=3.44		13.0	M
363.00 > 169.00	3.089	3.089	0.0	1.000	21464		3.40(1.72-5.16)		46.3	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluoroheptanesulfonic acid										M
449.00 > 80.00	3.445	3.438	0.007	0.913	1937	0.003598	Target=7.35		7.0	M
449.00 > 99.00	3.445	3.438	0.007	0.913	407		4.76(3.67-11.02)		1.4	M
D 12 M2-6:2 FTS										
429.00 > 81.00	3.451	3.445	0.006	0.998	130508	1.19		100	371	
13 1H,1H,2H,2H-perfluorooctanesulfo										M
427.00 > 407.00	3.445	3.445	0.0	0.998	594	0.008016			13.2	M
D 14 13C4 PFOA										
417.00 > 372.00	3.458	3.452	0.006	1.000	907218	1.11		89.2	2399	
* 62 13C2 PFOA										
415.00 > 370.00	3.458	3.452	0.006		1059581	1.25			4432	
15 Perfluorooctanoic acid										M
413.00 > 369.00	3.458	3.452	0.006	1.000	162544	0.2564	Target=2.34		26.2	M
413.00 > 169.00	3.458	3.452	0.006	1.000	81389		2.00(1.17-3.51)		150	M
D 18 13C4 PFOS										
503.00 > 80.00	3.772	3.772	0.0	1.091	679913	1.03		86.1	1417	
17 Perfluorooctanesulfonic acid										M
499.00 > 80.00	3.780	3.772	0.008	1.002	28838	0.0589	Target=7.05		25.3	M
499.00 > 99.00	3.780	3.772	0.008	1.002	2907		9.92(3.53-10.58)		4.9	M
20 Perfluorononanoic acid										M
463.00 > 419.00	3.796	3.788	0.008	1.000	13269	0.0230	Target=6.17		3.4	M
463.00 > 169.00	3.796	3.788	0.008	1.000	1565		8.48(3.09-9.26)		18.9	M
D 19 13C5 PFNA										
468.00 > 423.00	3.796	3.788	0.008	1.098	812273	1.18		94.7	5897	
D 23 13C2 PFDA										
515.00 > 470.00	4.093	4.093	0.0	1.183	746451	1.17		93.7	6003	
24 Perfluorodecanoic acid										M
513.00 > 469.00	4.093	4.093	0.0	1.000	1827	0.003866	Target=7.06		2.1	M
513.00 > 169.00	4.093	4.093	0.0	1.000	482		3.79(3.53-10.60)		4.2	M
25 1H,1H,2H,2H-perfluorodecanesulfo										M
527.00 > 507.00	4.075	4.102	-0.027	0.993	70	0.001897				M
D 26 M2-8:2 FTS										M
529.00 > 81.00	4.102	4.102	0.0	1.186	147677	1.15		96.4	533	M
22 Perfluorooctanesulfonamide										M
498.00 > 78.00	4.159	4.141	0.018	1.002	2089	0.003443			4.9	M
D 21 13C8 FOSA										
506.00 > 78.00	4.150	4.141	0.009	1.200	989711	0.9212		73.7	2909	
D 27 d3-NMeFOSAA										
573.00 > 419.00	4.236	4.236	0.0	1.225	35000	0.8927		71.4	409	
28 N-methylperfluorooctanesulfonami										M
570.00 > 419.00	4.244	4.236	0.008	1.002	366	0.0179			2.2	M
29 Perfluorodecanesulfonic acid										RM
599.00 > 80.00	4.322	4.323	-0.001	1.146	853	0.002741	Target=3.06		4.0	RM
599.00 > 99.00	4.332	4.323	0.009	1.148	115		7.42(1.53-4.59)		0.3	M
D 30 13C2 PFUnA										
565.00 > 520.00	4.359	4.359	0.0	1.260	515042	1.02		81.2	3989	

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
31 Perfluoroundecanoic acid										RM
563.00 > 519.00	4.350	4.359	-0.009	0.998	2580	0.009612	Target=4.67		1.8	RM
563.00 > 169.00	4.368	4.359	0.009	1.002	355		7.27(2.34-7.01)		4.0	M
D 32 d5-NEtFOSAA										
589.00 > 419.00	4.368	4.368	0.0	1.263	38962	0.9386		75.1	385	
33 N-ethylperfluorooctanesulfonamid										M
584.00 > 419.00	4.386	4.368	0.018	1.004	236	0.0099			3.5	M
37 Perfluorododecanoic acid										RM
613.00 > 569.00	4.606	4.586	0.020	1.004	1968	0.006790	Target=5.53		1.1	RM
613.00 > 169.00	4.585	4.586	-0.001	1.000	55		35.78(2.77-8.30)		1.0	M
D 36 13C2 PFDoA										
615.00 > 570.00	4.585	4.586	-0.001	1.326	465418	0.8878		71.0	2454	
42 Perfluorotetradecanoic acid										RM
713.00 > 169.00	4.993	4.993	0.0	0.999	316	0.006257	Target=1.03		10.8	RM
713.00 > 219.00	5.000	4.993	0.007	1.000	177		1.79(0.51-1.54)		4.9	M
D 43 13C2 PFTeDA										
715.00 > 670.00	5.000	4.993	0.007	1.446	338253	0.8567		68.5	1976	

QC Flag Legend

Processing Flags

R - Failed Signal Ratio Test

Review Flags

M - Manually Integrated

Report Date: 22-Jul-2020 17:22:13 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins TestAmerica, Burlington

Data File: \\chromfs\Burlington\ChromData\LC812\20200721-42065.b\PA200721A16.d

Injection Date: 21-Jul-2020 19:42:42 Instrument ID: LC812

Lims ID: 200-54421-A-1-A Lab Sample ID: 200-54421-1

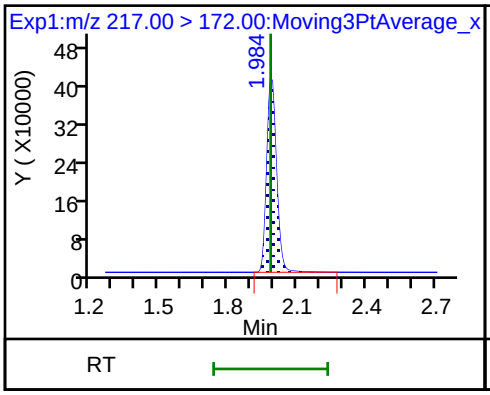
Client ID: AZ-PZ-1

Operator ID: lc812tech ALS Bottle#: 13 Worklist Smp#: 16

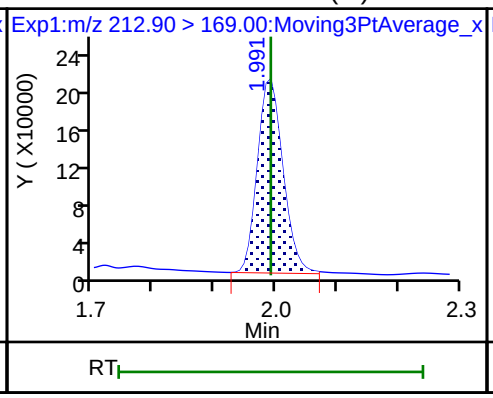
Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: PFC_LC812 Limit Group: LC_25101_ICAL

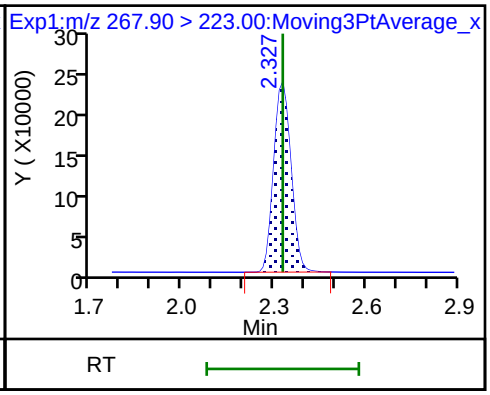
D 1 13C4 PFBA



2 Perfluorobutanoic acid (M)



D 3 13C5 PFPeA



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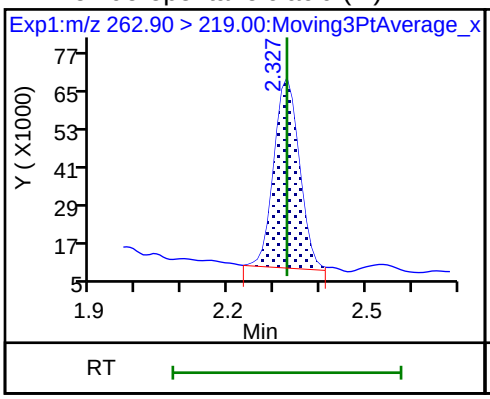
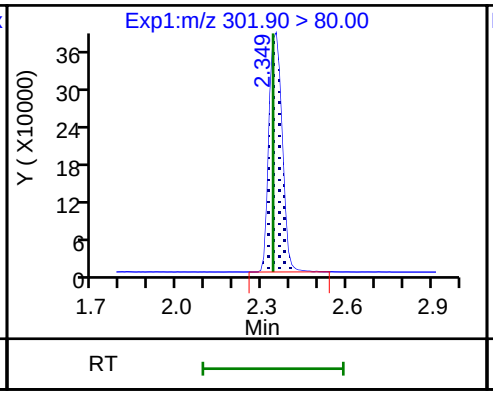
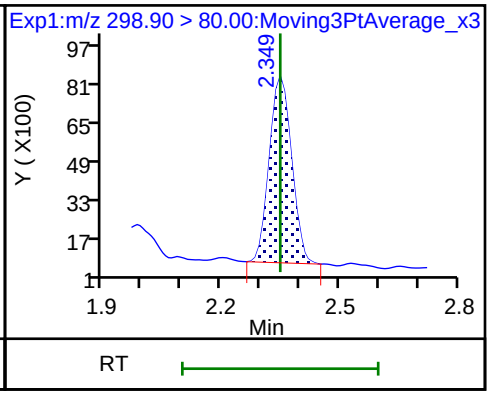


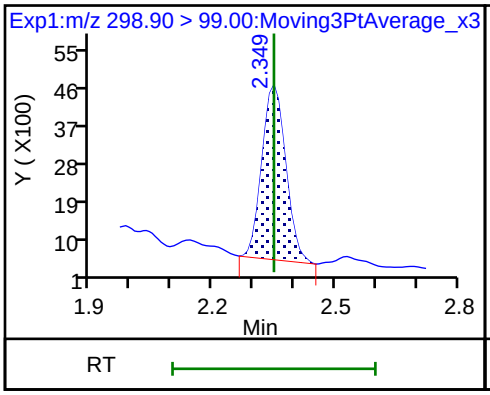
D 47 13C3 PFBS



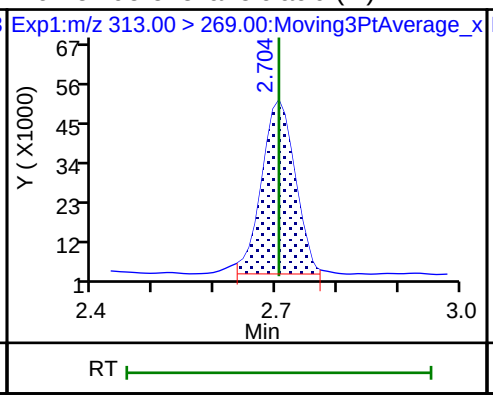
5 Perfluorobutanesulfonic acid



5 Perfluorobutanesulfonic acid



6 Perfluorohexanoic acid (M)



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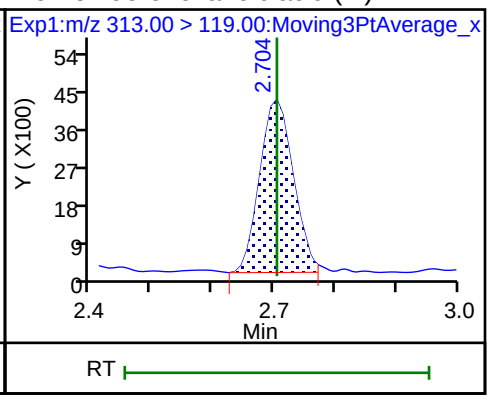
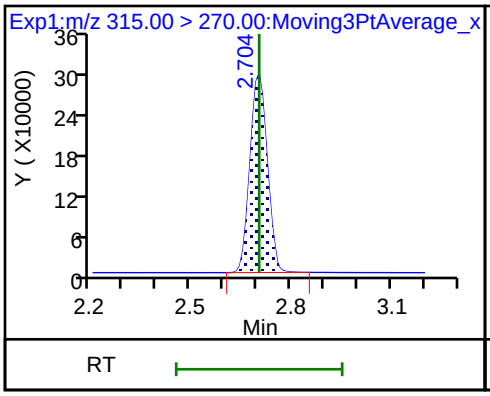
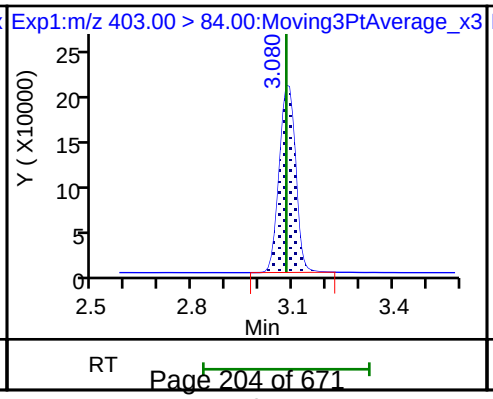


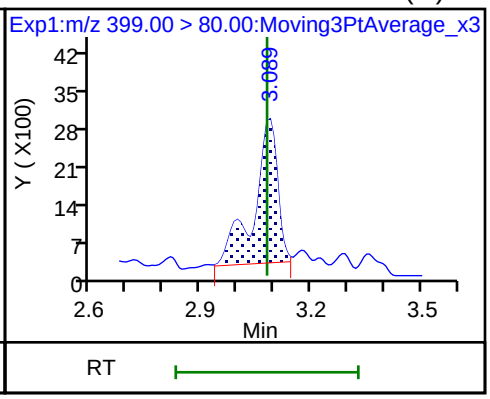
D 7 13C2 PFHxA



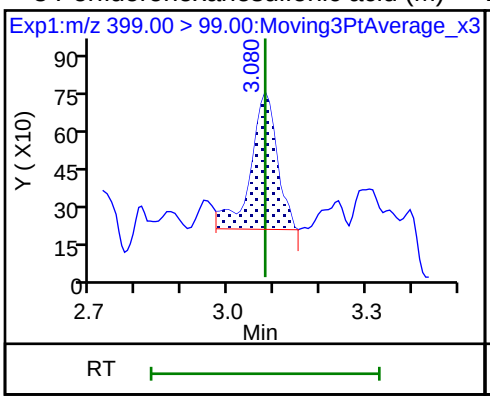
D 11 18O2 PFHxS



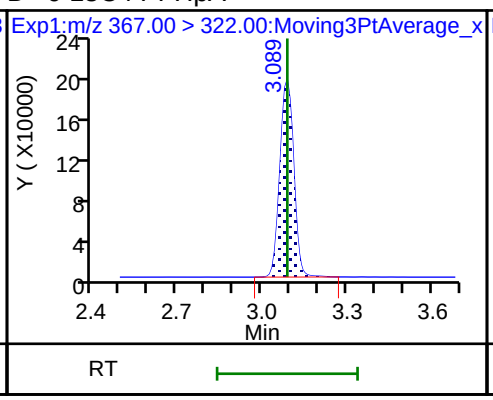
8 Perfluorohexanesulfonic acid (M)



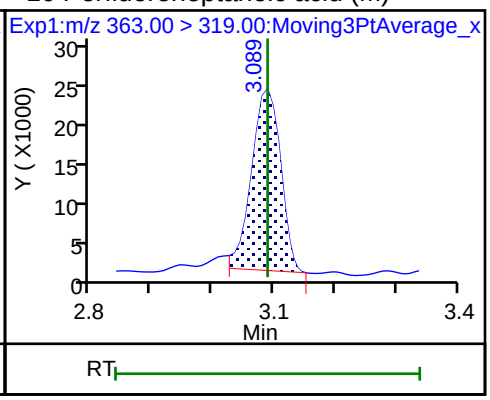
8 Perfluorohexanesulfonic acid (M)



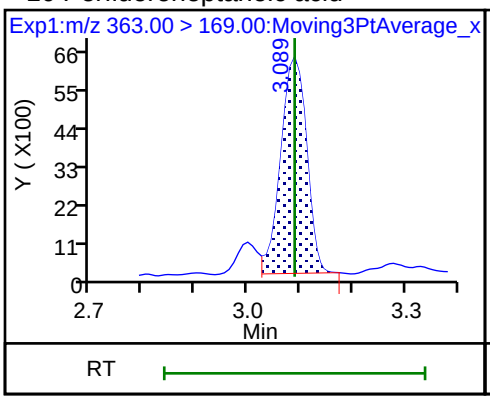
D 9 13C4 PFHpA



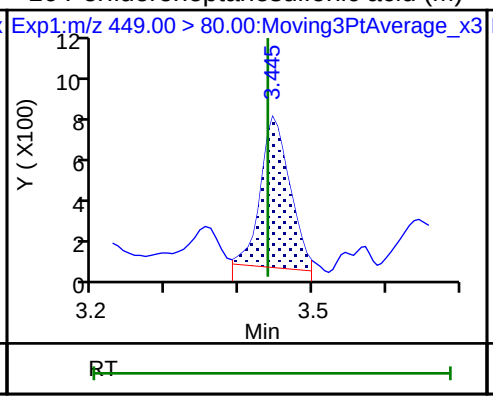
10 Perfluoroheptanoic acid (M)



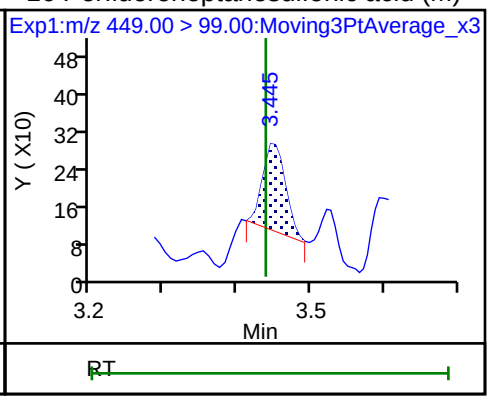
10 Perfluoroheptanoic acid



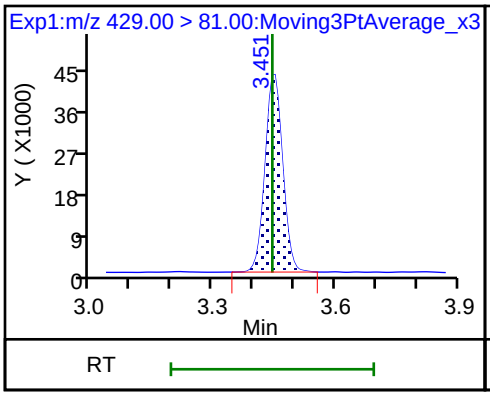
16 Perfluoroheptanesulfonic acid (M)



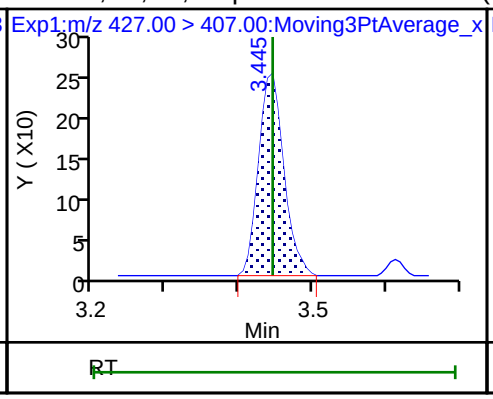
16 Perfluoroheptanesulfonic acid (M)



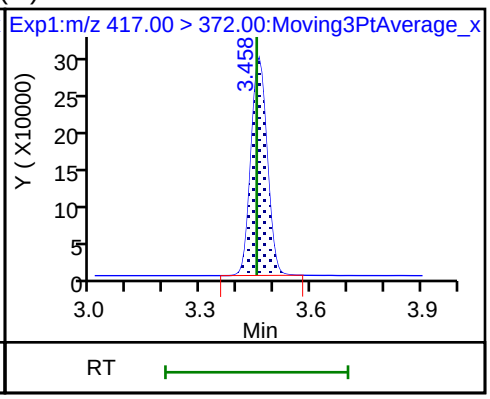
D 12 M2-6:2 FTS



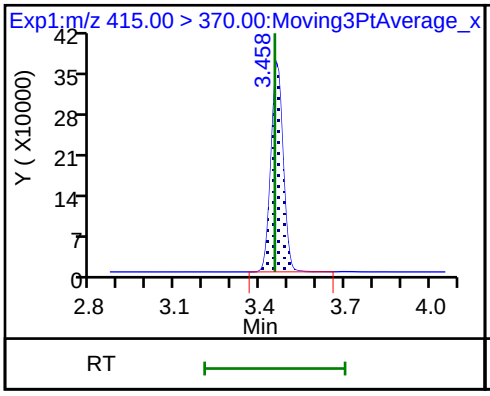
13 1H,1H,2H,2H-perfluorooctanesulfo (M)



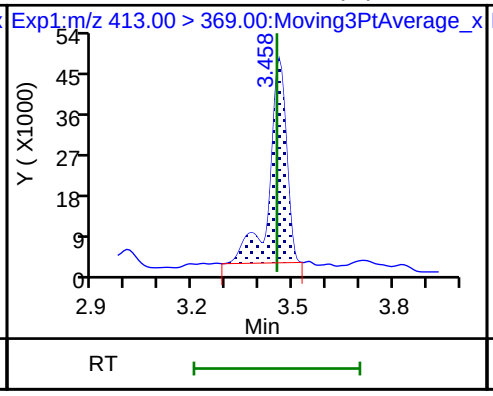
D 14 13C4 PFOA



* 62 13C2 PFOA



15 Perfluorooctanoic acid (M)



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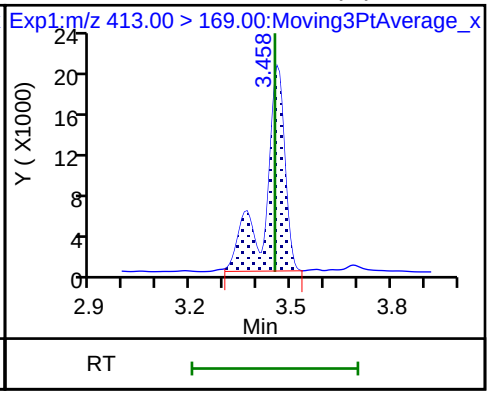
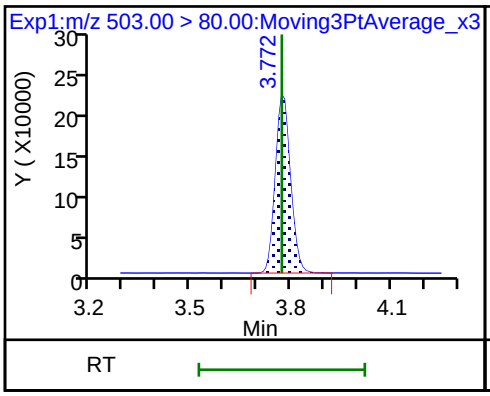
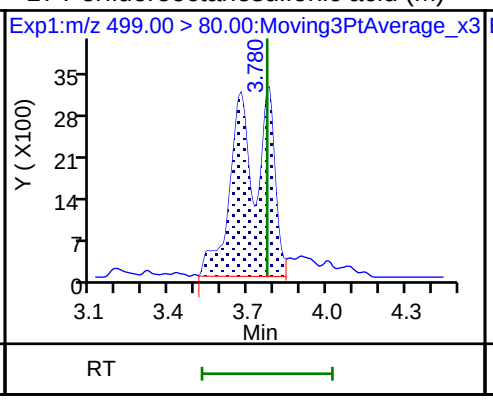


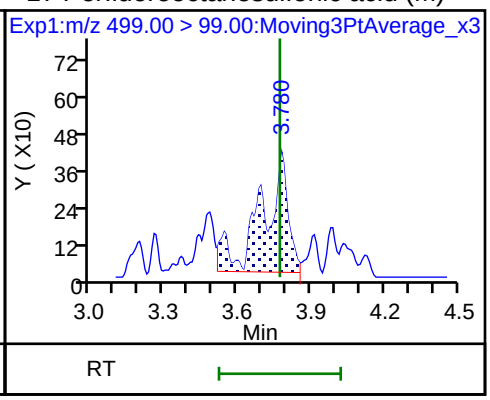
D 18 13C4 PFOS



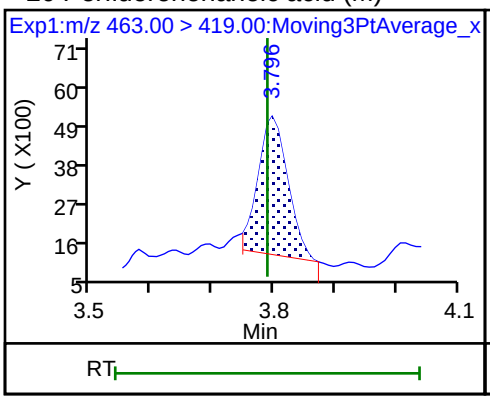
17 Perfluorooctanesulfonic acid (M)



17 Perfluorooctanesulfonic acid (M)



20 Perfluorononanoic acid (M)



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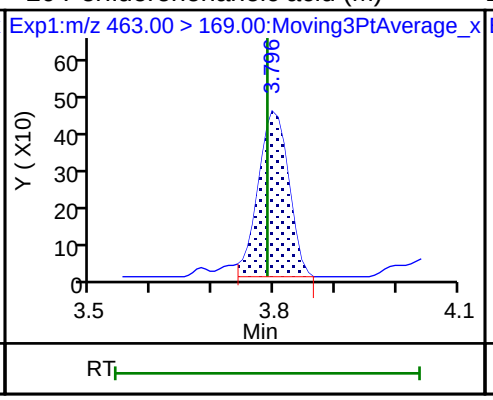
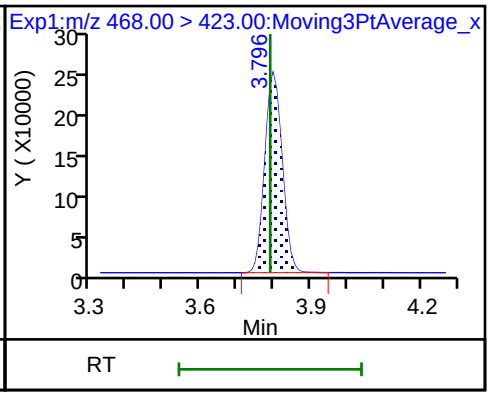
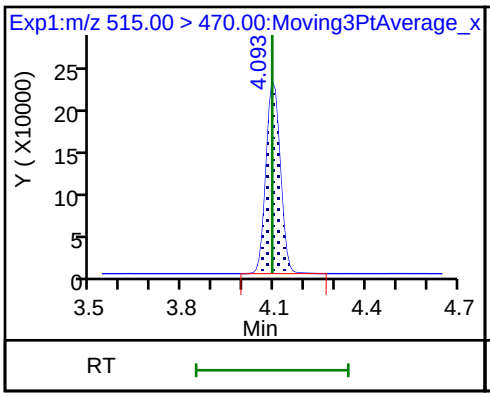


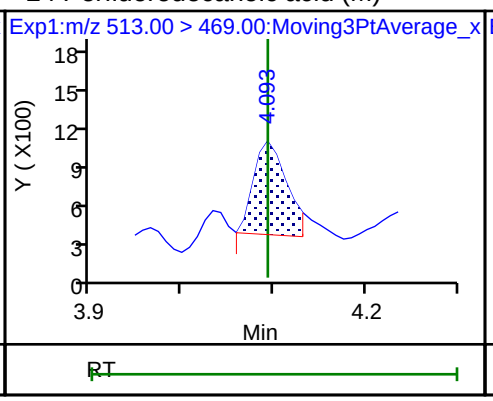
D 19 13C5 PFNA



D 23 13C2 PFDA



24 Perfluorodecanoic acid (M)



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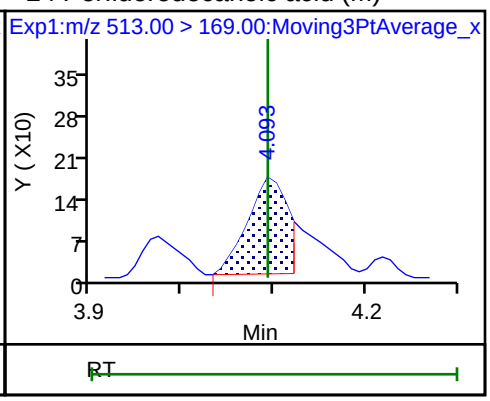
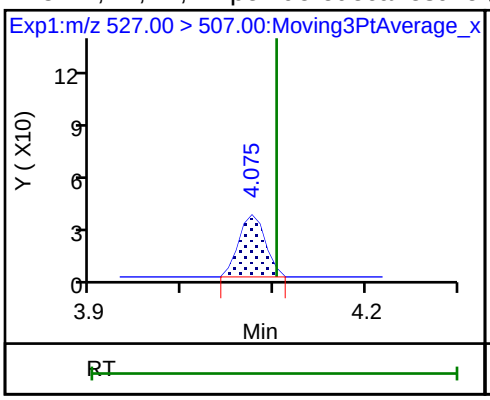
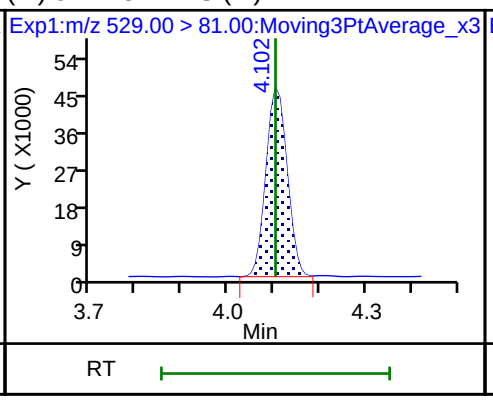


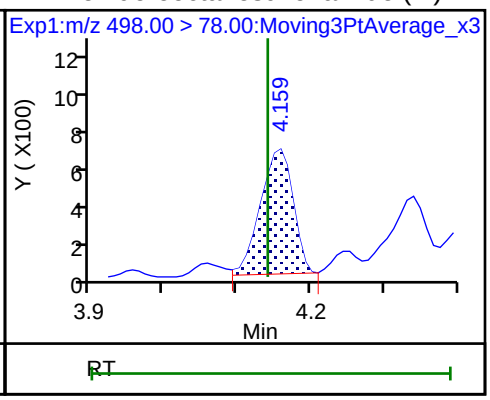
25 1H,1H,2H,2H-perfluorodecanesulfo (M)



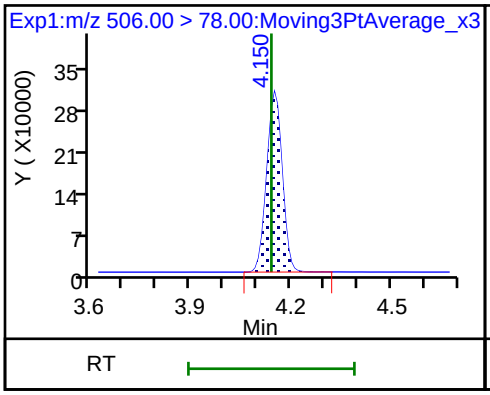
D 26 M2-8:2 FTS (M)



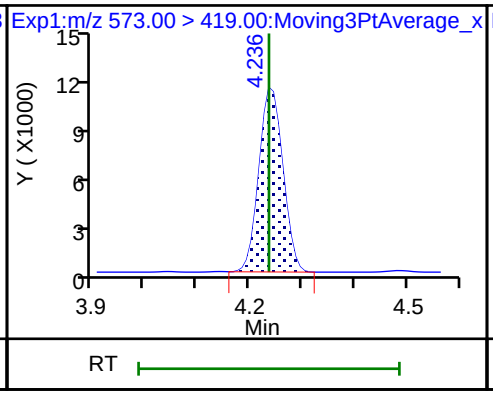
22 Perfluorooctanesulfonamide (M)



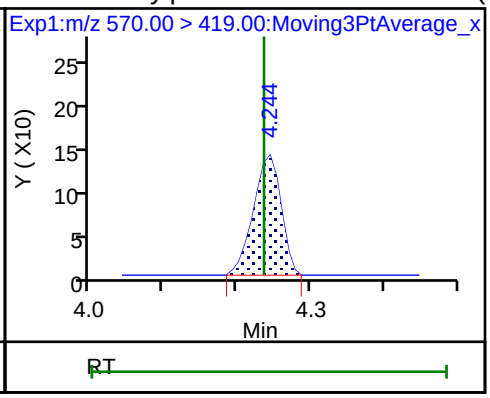
D 21 13C8 FOSA



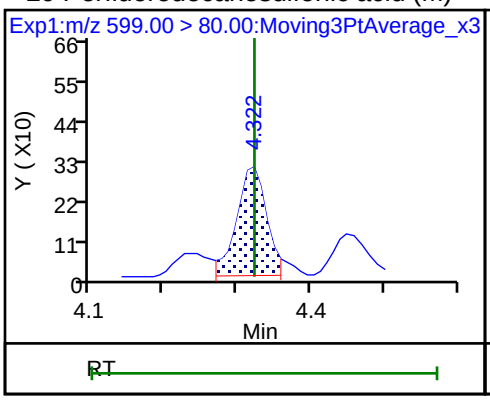
D 27 d3-NMeFOSAA



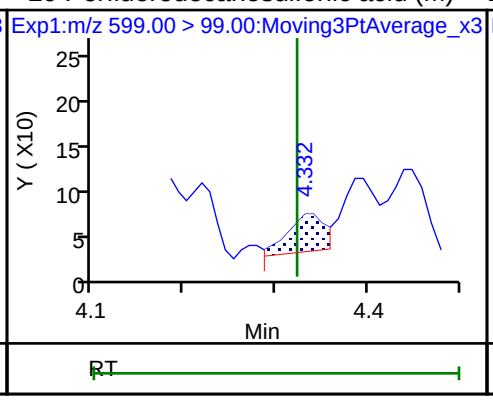
28 N-methylperfluorooctanesulfonami (M)



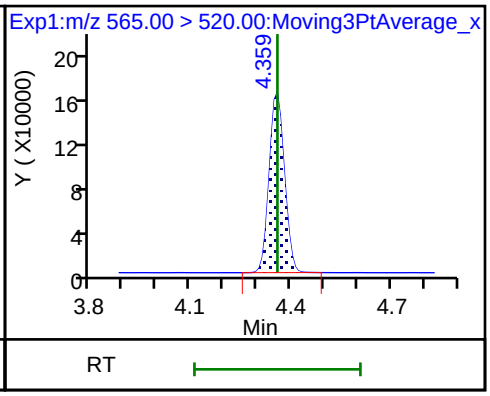
29 Perfluorodecanesulfonic acid (M)



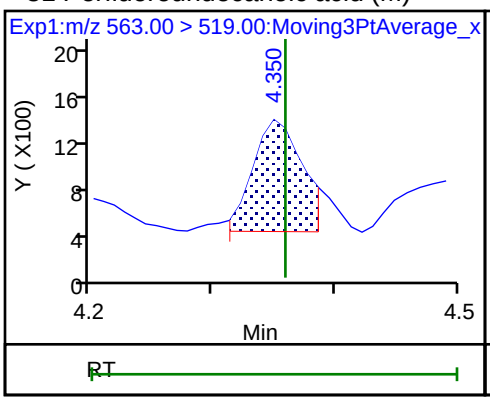
29 Perfluorodecanesulfonic acid (M)



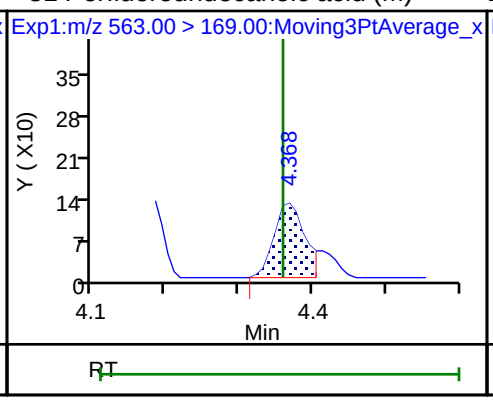
D 30 13C2 PFUnA



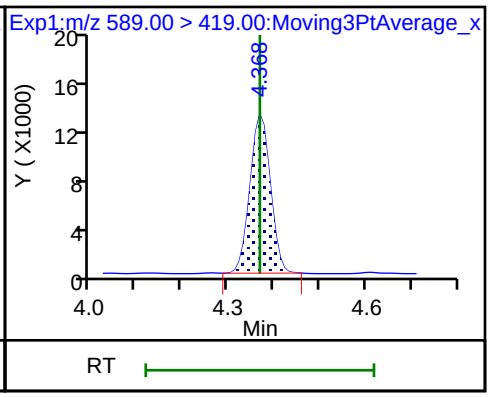
31 Perfluoroundecanoic acid (M)



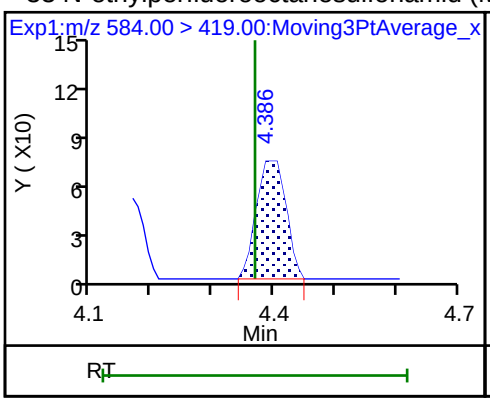
31 Perfluoroundecanoic acid (M)



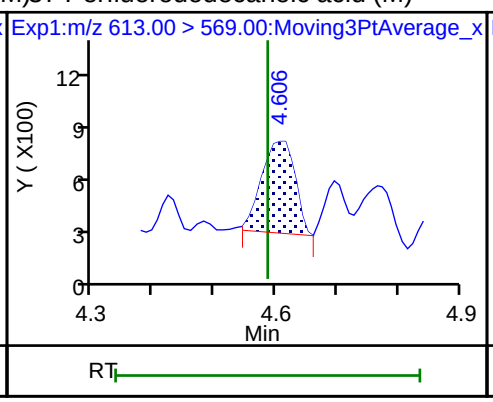
D 32 d5-NEtFOSAA



33 N-ethylperfluorooctanesulfonamid (M)



37 Perfluorododecanoic acid (M)



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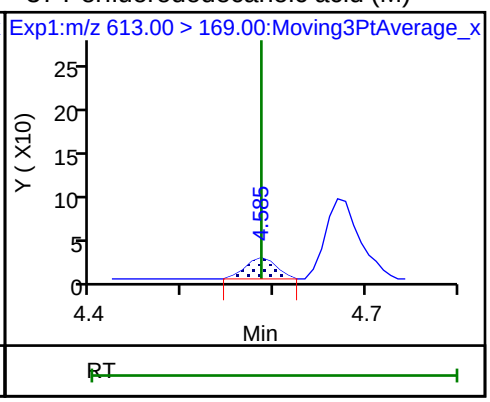
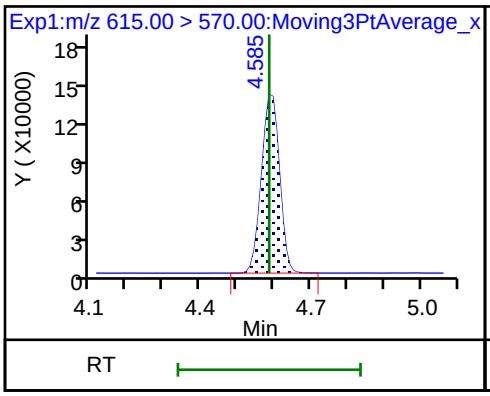
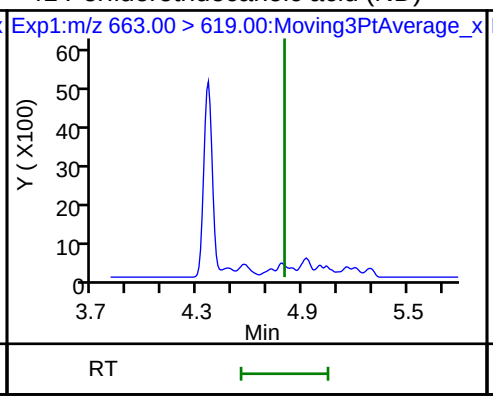


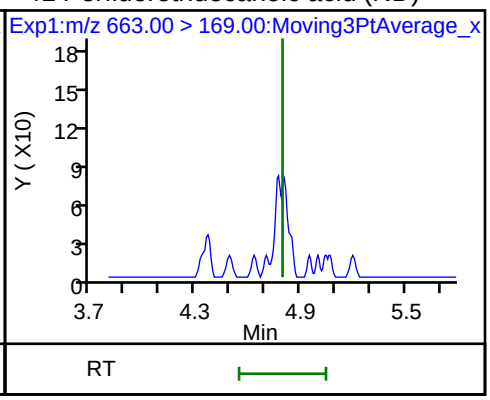
D 36 13C2 PFDoA



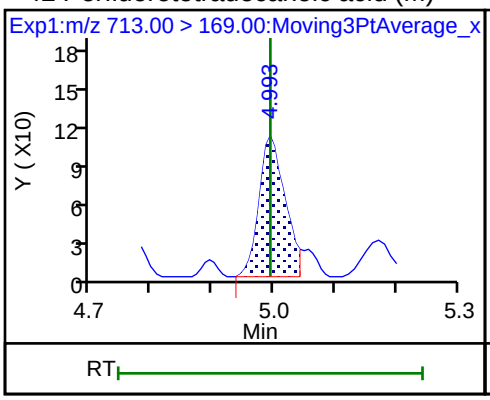
41 Perfluorotridecanoic acid (ND)



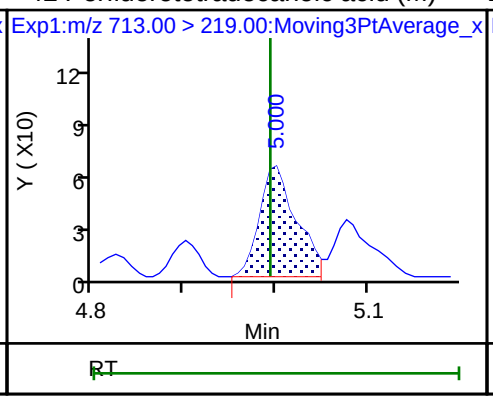
41 Perfluorotridecanoic acid (ND)



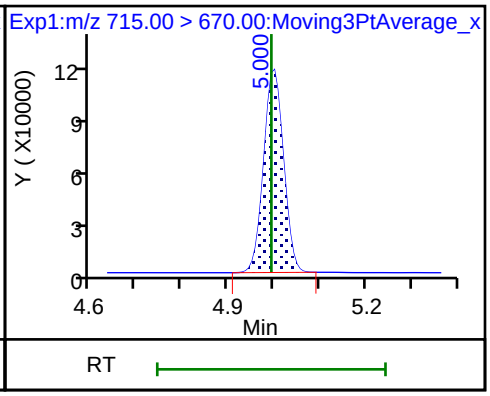
42 Perfluorotetradecanoic acid (M)



42 Perfluorotetradecanoic acid (M)



D 43 13C2 PFTeDA



WO# : 70137879

70137879

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 2

Section B Required Client Information:	Required Project Information:	Section C Invoice Information:
Company: Tetra Tech Inc.	Report To: Hanni Haynes	Attention:
Address: 3136 South Winton Rd	Copy To:	Company Name:
Rochester, NY 14623		Address:
Email: hanni.haynes@tetratech.com	Purchase Order #:	Pace Quote:
Phone: (585)268-6961 Fax:	Project Name: LMC Utica Annual	Pace Project Manager: devon.fox@pacelabs.com,
Requested Due Date: Std	Project #:	Pace Profile #: 8557

Regulatory Agency	State / Location
	NY

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other (Trizma)	Analyses Test Y/N	VOC by 8260	PFAS 537MS	PFAS by 537 Equipment Bla	1, 4 Dioxane by 8260 SIM	1, 4 Dioxane by 8260 SIM E	Residual Chlorine (Y/N)
1	A2-PZ-1	WT	G	070820	10:15				6				4				2		X	X		X		
2	Field Blank	WT	G	070820	9:55				4				2				2				X		X	
3	Equipment Blank	WT	G	070820	10:05				4				2				2				X		X	
4	Trip Blank		-	070820	—								4				2		X		X	X		
5	A2-PZ-2	WT	G	070820	12:45				2				2						X					
6	MW-18	WT	G	070820	15:30				2				2						X					
7	MW-2	WT	G	070820	16:15				2				2						X					
8	MW-1	WT	G	070820	17:00				2				2						X					
9	MW-3	WT	G	070820	1730				2				2						X					
10	MW-4	WT	G	070820	1800				2				2						X					
11	MW-4-Dup	WT	G	070820	1805				2				2						X					
12	MW-10	WT	G	070920	07:45				2				2						X					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Hanni Haynes/TT	7/9/20	2100	Pace	7/10/20	900	
	Pace	7/10/20	1700	Pace	7/10/20	1105	6.0 4 @ 4 4

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Hanni Haynes		
SIGNATURE of SAMPLER:		DATE Signed:	7/9/20

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT- Complete all relevant fields

LAB ... order Number or MTJL Log-in

WO#: 70137879

PM: KMM Due Date: 07/27/20

CLIENT: TETRA

...SE ONLY

Company: Tetra Tech	Billing Information:
Address: 3136 S. Winton Rd	
Report To: Hanni Haynes	Email To: Hanni.Haynes@tetratech.com
Copy To: Glenn Netuschil	Site Collection Info/Address:
Customer Project Name/Number: LMC Utica	State: NY County/City: Utica Time Zone Collected: / PT MT CT ET
Phone: 585 286 6961 Email:	Site/Facility ID #:
Collected by (print): Hanni Haynes	Purchase Order #:
Collected by (signature): Hanni Haynes	Quote #:
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive ____ [ ] Hold ____	Turnaround Date Required: Standard
	RUSH: Next Day 2 Day 3 Day 4 Day 5 Day (Expedite Charges Apply) Same Day
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #:
	DW Location Code #:
	Immediately Packed on Ice? [ ] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [X] No
	Analysis: ____

Container Preservative Type **: 3

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other ____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Analyses: VOC by 8260

LAB Profile/Line:

LAB Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in holding time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: ____			
Sample pH Acceptable	Y	N	NA
pH Strips: ____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: ____			

↓ LAB USE ONLY: ↓ Lab Sample # / Comments

Customer Sample ID	Matrix*	Comp/Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	VOC by 8260
PZ-5	GW	G	7/9/20	10:30				1	1
PZ-6	GW	G	↓	10:45				1	1
PZ-11R	GW	G	↓	10:00				2	2
PZ-13R	GW	G	↓	10:15				2	2
MW-20	GW	G	↓	09:00				2	2
MW-21	GW	G	↓	08:30				2	2

Customer Remarks/ Special Conditions/ Possible Hazards: Low well volume PZ-5 + PZ-6 could only fill one VOA each

Type of Ice Used: Wet [ ] Blue [ ] Dry [ ] None [ ]

SHORT HOLDS PRESENT (< 72 hours): Y N N/A

Packing Material Used: Zeploc BB

LAB Tracking #: 7709 2551 2641

Radchem sample(s) screened: (<500 cpm): [ ] Y [ ] N [ ] NA

Samples received via: FEDEX [ ] UPS [ ] Client [ ] Courier [ ] Pace Courier [ ]

MTJL LAB USE ONLY

Table #: ____

ACCT #: ____

Template: ____

Prelogin: ____

PM: ____

PB: ____

LAB Sample Temperature Info:

Temp Blank received: Y N NA

Therm ID #: 7H041

Cooler 1 Temp Upon Receipt 1.0 oC

Cooler 1 Therm Corr. Factor 1.4 oC

Cooler 1 Corrected Temp 1.4 oC

Comments: ____

Trip Blank Received: Y N N/A HCL MeOH TSP Other

NonConformance(s) YES / NO

Page 2 of 2

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Hanni Haynes / H Haynes	7/9/20 2100	[signature] Pace	7/10/20 900
[signature] Pace	7/10/20 1700	[signature] Pace I	7/11/20 11:05

F-ALL-C-010-rev.00, 05Jul2018

Sample Condition Upon Receipt

Pace Analytical

WO#: 70137879

PM: KMM **Due Date: 07/27/20**

CLIENT: TETRA

Client Name: Pro

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #: 7709 2551 2641

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No Seals intact: ☐ Yes ☐ No

Temperature Blank Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Ziploc ☐ None ☐ Other

Type of Ice: Wet Blue None

Thermometer Used: TH091 Correction Factor: +0.4

☐ Samples on ice, cooling process has begun

Cooler Temperature (°C): 1.0 Cooler Temperature Corrected (°C): 1.4

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample)

Date and Initials of person examining contents: HDR 7/11/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present:	☑Yes	☐No		1.
Chain of Custody Filled Out:	☑Yes	☐No		2.
Chain of Custody Relinquished:	☑Yes	☐No		3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No		5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No		6.
Rush Turn Around Time Requested:	☐Yes	☑No		7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☑Yes	☐No		8.
Correct Containers Used:	☑Yes	☐No		9.
-Pace Containers Used:	☑Yes	☐No		
Containers Intact:	☑Yes	☐No		10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☑Yes	☐No		12.
-Includes date/time/ID/Analysis Matrix SL WT OIL				
All containers needing preservation have been checked	☐Yes	☐No	☑N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
pH paper Lot #				
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl, NaOH>9 Sulfide, NAOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis	☐Yes	☐No	☑N/A	Sample # / Initial when completed: / Lot # of added preservative: / Date/Time preservative added
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
KI starch test strips Lot #				
Residual chlorine strips Lot #				Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☑No	☐N/A	16.
Trip Blank Custody Seals Present	☑Yes	☑No	☐N/A	
Pace Trip Blank Lot # (if applicable): HR-711				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: Date/Time:

Comments/ Resolution:

*** PM (Project Manager) review is documented electronically in LIMS.**

F-LI-C-002-rev.02

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

August 17, 2020

Peter Rich
Tetra Tech
980 Awald Road
Suite 303
Annapolis, MD 21403

RE: Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Dear Peter Rich:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kimberley Mack

Kimberley M. Mack
kimberley.mack@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Hanni Haynes, Tetra Tech
Glenn Netuschil, Tetra Tech Inc.

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Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Date: August 17, 2020

Revision 1: Report re-issued on 8/17/2020 to update EPA 8260C qualifiers.

DUP (Lab ID: 818455)

- 2-Chloroethylvinyl ether not reportable due to improper sample preservation.

MS (Lab ID: 818456)

- 2-Chloroethylvinyl ether not reportable due to improper sample preservation.

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C SIM/5030C**
Description: 8260C SIM Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

General Information:
4 samples were analyzed for EPA 8260C SIM/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

General Information:
16 samples were analyzed for EPA 8260C/5030C by Pace Analytical Services Melville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

QC Batch: 169265

IC: The initial calibration for this compound was outside of method control limits. The result is estimated.

- A2-PZ-1 (Lab ID: 70137879001)
  - Acetone
- A2-PZ-2 (Lab ID: 70137879005)
  - Acetone
- BLANK (Lab ID: 818096)
  - Acetone
- DUP (Lab ID: 818455)
  - Acetone
- LCS (Lab ID: 818097)
  - Acetone
- MS (Lab ID: 818456)
  - Acetone
- MW-1 (Lab ID: 70137879008)
  - Acetone
- MW-10 (Lab ID: 70137879012)
  - Acetone
- MW-18 (Lab ID: 70137879006)
  - Acetone
- MW-2 (Lab ID: 70137879007)
  - Acetone
- MW-3 (Lab ID: 70137879009)
  - Acetone
- MW-4 (Lab ID: 70137879010)
  - Acetone
- MW-4-DUP (Lab ID: 70137879011)
  - Acetone
- PZ-11R (Lab ID: 70137879015)
  - Acetone
- PZ-13R (Lab ID: 70137879016)
  - Acetone
- TRIP BLANK (Lab ID: 70137879004)
  - Acetone

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575 Broad Hollow Road
Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

QC Batch: 169265

IH: This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.

- A2-PZ-1 (Lab ID: 70137879001)
  - Vinyl chloride
- A2-PZ-2 (Lab ID: 70137879005)
  - Vinyl chloride
- LCS (Lab ID: 818097)
  - Bromomethane
  - Ethanol
  - Vinyl chloride
- MS (Lab ID: 818456)
  - Bromomethane
  - Ethanol
  - Vinyl chloride
- MW-10 (Lab ID: 70137879012)
  - Vinyl chloride
- MW-18 (Lab ID: 70137879006)
  - Vinyl chloride
- MW-2 (Lab ID: 70137879007)
  - Vinyl chloride
- MW-3 (Lab ID: 70137879009)
  - Vinyl chloride
- MW-4 (Lab ID: 70137879010)
  - Vinyl chloride
- MW-4-DUP (Lab ID: 70137879011)
  - Vinyl chloride

IL: This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

- A2-PZ-1 (Lab ID: 70137879001)
  - 2-Butanone (MEK)
- A2-PZ-2 (Lab ID: 70137879005)
  - 2-Butanone (MEK)
- BLANK (Lab ID: 818096)
  - 2-Butanone (MEK)
- DUP (Lab ID: 818455)
  - 2-Butanone (MEK)
- LCS (Lab ID: 818097)
  - 2-Butanone (MEK)
- MS (Lab ID: 818456)
  - 2-Butanone (MEK)
- MW-1 (Lab ID: 70137879008)
  - 2-Butanone (MEK)
- MW-10 (Lab ID: 70137879012)
  - 2-Butanone (MEK)
- MW-18 (Lab ID: 70137879006)

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Melville, NY 11747
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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

QC Batch: 169265

IL: This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

- 2-Butanone (MEK)
- MW-2 (Lab ID: 70137879007)
  - 2-Butanone (MEK)
- MW-3 (Lab ID: 70137879009)
  - 2-Butanone (MEK)
- MW-4 (Lab ID: 70137879010)
  - 2-Butanone (MEK)
- MW-4-DUP (Lab ID: 70137879011)
  - 2-Butanone (MEK)
- PZ-11R (Lab ID: 70137879015)
  - 2-Butanone (MEK)
- PZ-13R (Lab ID: 70137879016)
  - 2-Butanone (MEK)
- TRIP BLANK (Lab ID: 70137879004)
  - 2-Butanone (MEK)

QC Batch: 169922

IH: This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.

- LCS (Lab ID: 821357)
  - Vinyl chloride
- MS (Lab ID: 821504)
  - Vinyl chloride
- MSD (Lab ID: 821505)
  - Vinyl chloride
- MW-20 (Lab ID: 70137879017)
  - Vinyl chloride
- MW-21 (Lab ID: 70137879018)
  - Vinyl chloride

IL: This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

- BLANK (Lab ID: 821356)
  - 2-Butanone (MEK)
- LCS (Lab ID: 821357)
  - 2-Butanone (MEK)
- MS (Lab ID: 821504)
  - 2-Butanone (MEK)
- MSD (Lab ID: 821505)
  - 2-Butanone (MEK)
- MW-20 (Lab ID: 70137879017)
  - 2-Butanone (MEK)
- MW-21 (Lab ID: 70137879018)
  - 2-Butanone (MEK)
- PZ-5 (Lab ID: 70137879013)

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Melville, NY 11747
(631)694-3040

PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

QC Batch: 169922

IL: This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.

- 2-Butanone (MEK)

- PZ-6 (Lab ID: 70137879014)
  - 2-Butanone (MEK)

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: 169265

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- DUP (Lab ID: 818455)
  - Acetone
- LCS (Lab ID: 818097)
  - Acetone
  - Bromomethane
- MS (Lab ID: 818456)
  - Acetone
  - Bromomethane
- PZ-11R (Lab ID: 70137879015)
  - Acetone

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- A2-PZ-1 (Lab ID: 70137879001)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- A2-PZ-2 (Lab ID: 70137879005)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- BLANK (Lab ID: 818096)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- DUP (Lab ID: 818455)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- LCS (Lab ID: 818097)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- MS (Lab ID: 818456)
  - Bromoform
  - Carbon tetrachloride

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(631)694-3040

PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

QC Batch: 169265

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- Dichlorodifluoromethane
- MW-1 (Lab ID: 70137879008)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- MW-10 (Lab ID: 70137879012)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- MW-18 (Lab ID: 70137879006)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- MW-2 (Lab ID: 70137879007)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- MW-3 (Lab ID: 70137879009)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- MW-4 (Lab ID: 70137879010)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- MW-4-DUP (Lab ID: 70137879011)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- PZ-11R (Lab ID: 70137879015)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- PZ-13R (Lab ID: 70137879016)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane
- TRIP BLANK (Lab ID: 70137879004)
  - Bromoform
  - Carbon tetrachloride
  - Dichlorodifluoromethane

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

QC Batch: 169922

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 821357)
  - Hexachloro-1,3-butadiene
  - Vinyl chloride
- MS (Lab ID: 821504)
  - Hexachloro-1,3-butadiene
  - Vinyl chloride
- MSD (Lab ID: 821505)
  - Hexachloro-1,3-butadiene
  - Vinyl chloride
- MW-20 (Lab ID: 70137879017)
  - Vinyl chloride
- MW-21 (Lab ID: 70137879018)
  - Vinyl chloride

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 821356)
  - 1,2,3-Trichlorobenzene
  - Methylene Chloride
  - Naphthalene
- LCS (Lab ID: 821357)
  - 1,2,3-Trichlorobenzene
  - Methylene Chloride
  - Naphthalene
- MS (Lab ID: 821504)
  - 1,2,3-Trichlorobenzene
  - Methylene Chloride
  - Naphthalene
- MSD (Lab ID: 821505)
  - 1,2,3-Trichlorobenzene
  - Methylene Chloride
  - Naphthalene
- MW-20 (Lab ID: 70137879017)
  - 1,2,3-Trichlorobenzene
  - Methylene Chloride
  - Naphthalene
- MW-21 (Lab ID: 70137879018)
  - 1,2,3-Trichlorobenzene
  - Methylene Chloride
  - Naphthalene
- PZ-5 (Lab ID: 70137879013)
  - 1,2,3-Trichlorobenzene
  - Methylene Chloride
  - Naphthalene
- PZ-6 (Lab ID: 70137879014)
  - 1,2,3-Trichlorobenzene

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

QC Batch: 169922

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- Methylene Chloride
- Naphthalene

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 169922

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 821357)
  - 1,1,1,2-Tetrachloroethane
  - Bromobenzene
  - cis-1,3-Dichloropropene
  - trans-1,4-Dichloro-2-butene

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 821357)
  - 1,2,3-Trichlorobenzene
  - Naphthalene

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 169265

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 70137840004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 818456)
  - 1,1,1,2-Tetrachloroethane
  - trans-1,3-Dichloropropene

QC Batch: 169922

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 70138071003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 821504)
  - 1,2,3-Trichlorobenzene

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PROJECT NARRATIVE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Method: **EPA 8260C/5030C**
Description: 8260C Volatile Organics
Client: Tetra Tech Inc.
Date: August 17, 2020

QC Batch: 169922

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 70138071003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- Naphthalene
- trans-1,4-Dichloro-2-butene

- MSD (Lab ID: 821505)
  - Bromobenzene
  - trans-1,4-Dichloro-2-butene

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 821504)
  - 1,1-Dichloroethane

R1: RPD value was outside control limits.

- MSD (Lab ID: 821505)
  - 1,2,3-Trichlorobenzene
  - Naphthalene

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 169265

D6: The precision between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 818455)
  - Acetone

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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QUALIFIERS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 70137879

[1] Revision 1: Report re-issued on 8/17/2020 to update EPA 8260C qualifiers.

SAMPLE QUALIFIERS

Sample: 818455

[1] 2-Chloroethylvinyl ether not reportable due to improper sample preservation.

Sample: 818456

[1] 2-Chloroethylvinyl ether not reportable due to improper sample preservation.

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
IC	The initial calibration for this compound was outside of method control limits. The result is estimated.
IH	This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.
IL	This analyte exceeded secondary source verification criteria low for the initial calibration. The reported results should be considered an estimated value.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

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QUALIFIERS

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

ANALYTE QUALIFIERS

L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N3	Accreditation is not offered by the relevant laboratory accrediting body for this parameter.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LMC Utica Annual 7/8
Pace Project No.: 70137879

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70137879001	**A2-PZ-1**	EPA 8260C SIM/5030C	169761		
70137879002	**FIELD BLANK**	EPA 8260C SIM/5030C	169761		
70137879003	**EQUIPMENT BLANK**	EPA 8260C SIM/5030C	169761		
70137879004	**TRIP BLANK**	EPA 8260C SIM/5030C	169761		
70137879001	**A2-PZ-1**	EPA 8260C/5030C	169265		
70137879004	**TRIP BLANK**	EPA 8260C/5030C	169265		
70137879005	**A2-PZ-2**	EPA 8260C/5030C	169265		
70137879006	**MW-18**	EPA 8260C/5030C	169265		
70137879007	**MW-2**	EPA 8260C/5030C	169265		
70137879008	**MW-1**	EPA 8260C/5030C	169265		
70137879009	**MW-3**	EPA 8260C/5030C	169265		
70137879010	**MW-4**	EPA 8260C/5030C	169265		
70137879011	**MW-4-DUP**	EPA 8260C/5030C	169265		
70137879012	**MW-10**	EPA 8260C/5030C	169265		
70137879013	**PZ-5**	EPA 8260C/5030C	169922		
70137879014	**PZ-6**	EPA 8260C/5030C	169922		
70137879015	**PZ-11R**	EPA 8260C/5030C	169265		
70137879016	**PZ-13R**	EPA 8260C/5030C	169265		
70137879017	**MW-20**	EPA 8260C/5030C	169922		
70137879018	**MW-21**	EPA 8260C/5030C	169922		

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Job ID: 200-54421-1

Laboratory: Eurofins TestAmerica, Burlington

Narrative

CASE NARRATIVE

Client: Pace Analytical Services, LLC

Project: PFAS, NY DW

Report Number: 200-54421-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 07/18/2020; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

PERFLUORINATED HYDROCARBONS

Samples AZ-PZ-1, FIELD BLANK, EQUIPMENT BLANK and TRIP BLANK were analyzed for Perfluorinated Hydrocarbons in accordance with Method ISO 25101. The samples were prepared and analyzed on 07/21/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-54421-1
SDG: 70137879

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-54421-1
SDG: 70137879

Method	Method Description	Protocol	Laboratory
25101:2009	Fluorinated Alkyl Substances	ISO	TAL BUR
25101:2009 SPE	Solid-Phase Extraction (SPE)	ISO	TAL BUR

Protocol References:

ISO = International Organization for Standardization

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-54421-1
SDG: 70137879

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
200-54421-1	AZ-PZ-1	Water	07/08/20 10:15	07/18/20 10:00	
200-54421-2	FIELD BLANK	Water	07/08/20 09:55	07/18/20 10:00	
200-54421-3	EQUIPMENT BLANK	Water	07/08/20 10:05	07/18/20 10:00	
200-54421-4	TRIP BLANK	Water	07/08/20 00:00	07/18/20 10:00	

Chain of Custody

PASI New York Laboratory

Pace Analytical®
www.pacelabs.com

Workorder: 70137879 **Workorder Name:** LMC Utica Annual 7/8 **Results Requested By:** 7/27/2020

Report / Invoice To	Subcontract To
Kimberley M. Mack Pace Analytical Melville 575 Broad Hollow Road Melville, NY 11747 Phone (631)694-3040 Email: kimberley.mack@pacelabs.com	Eurofins TestAmerica, Burlington P.O. 70137879KMM 30 Community Drive Suite 11 South Burlington, VT 05403

State of Sample Origin:

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: NA2S2O3	b PFAS, Standard List (21 analytes)	LAB USE ONLY
1	AZ-PZ-1	7/8/2020 10:15	70137879001	Water		X	
2	FIELD BLANK	7/8/2020 09:55	70137879002	Water		X	
3	EQUIPMENT BLANK	7/8/2020 10:05	70137879003	Water		X	
4	TRIP BLANK	7/8/2020 00:00	70137879004	Water		X	
5							

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	7/17/20 18:40	[signature]	7/18/2020
2				
3				

Comments: PFAS, Standard List (21 analytes)

Cooler Temperature on Receipt 2.1 °C **Custody Seal** Y or (N) **Received on Ice** (Y) or N **Samples Intact** (Y) or N

200-54421 Chain of Custody

Login Sample Receipt Checklist

Client: Pace Analytical Services, LLC

Job Number: 200-54421-1
SDG Number: 70137879

Login Number: 54421
List Number: 1
Creator: Mohn, Taylor J

List Source: Eurofins TestAmerica, Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MSV - FORM II VOA-1
WATER VOLATILE SURROGATE RECOVERY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV8

LAB SAMPLE ID	SAMPLE NAME	12D4	BFB	TOL8
818096	818096BLANK	103	97	96
818097	818097LCS	103	99	98
70137879001	AZ-PZ-1	105	98	97
70137879004	TRIP BLANK	105	96	98
70137879005	AZ-PZ-2	104	99	96
70137879006	MW-18	104	97	95
70137879007	MW-2	105	97	97
70137879008	MW-1	105	98	96
70137879009	MW-3	104	98	97
70137879010	MW-4	104	97	96
70137879011	MW-4-DUP	104	98	97
70137879012	MW-10	105	98	97
70137879015	PZ-11R	105	99	96
70137879016	PZ-13R	105	98	96

	QC LIMITS
(12D4) = 1,2-Dichloroethane-d4 (S)	(68-153)
(BFB) = 4-Bromofluorobenzene (S)	(79-124)
(TOL8) = Toluene-d8 (S)	(69-124)

* Values outside of QC Limits

MSV - FORM II VOA-1
WATER VOLATILE SURROGATE RECOVERY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV9

LAB SAMPLE ID	SAMPLE NAME	1DB4	BFB
820538	820538BLANK	84	110
820539	820539LCS	85	111
820749	820749DUP	90	110
820750	820750MS	85	82
70137879001	AZ-PZ-1	86	110
70137879002	FIELD BLANK	87	110
70137879003	EQUIPMENT BLANK	85	109
70137879004	TRIP BLANK	87	111

	QC LIMITS
(1DB4) = 1,2-Dichlorobenzene-d4 (S)	(60-140)
(BFB) = 4-Bromofluorobenzene (S)	(79-124)

* Values outside of QC Limits

MSV - FORM II VOA-1
WATER VOLATILE SURROGATE RECOVERY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV5

LAB SAMPLE ID	SAMPLE NAME	12D4	BFB	TOL8
821356	821356BLANK	107	93	98
821357	821357LCS	102	101	99
70137879013	PZ-5	105	95	98
70137879014	PZ-6	106	93	95
70137879017	MW-20	107	93	98
70137879018	MW-21	105	94	99

	QC LIMITS
(12D4) = 1,2-Dichloroethane-d4 (S)	(68-153)
(BFB) = 4-Bromofluorobenzene (S)	(79-124)
(TOL8) = Toluene-d8 (S)	(69-124)

* Values outside of QC Limits

MSV - FORM VIII VOA-1
MSV INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Sample ID : 13608251CCV Date Analyzed: 07/21/2020

Instrument ID: 70MSV5 GC Column: Col 1 Time Analyzed: 14:29

Lab File ID: 072120.B\H27506.D

		AREA CBZ	RT	AREA DCB	RT	AREA DFB	RT	AREA PFB	RT
12 HOUR STD		228648	7.429	150568	9.717	435431	4.714	251488	4.06
UPPER LIMIT		457296	7.929	301136	10.217	870862	5.214	502976	4.56
LOWER LIMIT		114324	6.929	75284	9.217	217715.5	4.214	125744	3.56
LAB SAMPLE ID	SAMPLE NO.								
821356	821356BLANK	197624	7.43	121219	9.718	373939	4.716	225796	4.061
821357	821357LCS	202463	7.431	133893	9.719	388911	4.717	227880	4.062
70137879013	PZ-5	183991	7.432	110007	9.72	345290	4.717	213243	4.06
70137879013 DL 5	PZ-5	185231	7.435	114761	9.72	346577	4.718	212369	4.063
70137879014	PZ-6	183631	7.433	112639	9.72	334364	4.718	206773	4.063
70137879017	MW-20	184299	7.432	111720	9.72	344428	4.717	210235	4.063
70137879018	MW-21	183320	7.433	113893	9.721	357161	4.715	213359	4.061

CBZ = Chlorobenzene-D5 (IS)
DCB = 1,4-Dichlorobenzene-d4 (IS)
DFB = 1,4-Difluorobenzene (IS)
PFB = Pentafluorobenzene (IS)

AREA UPPER LIMIT = 200% 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

MSV - FORM VIII VOA-1
MSV INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Sample ID : 13588256CCV Date Analyzed: 07/16/2020

Instrument ID: 70MSV8 GC Column: Col 1 Time Analyzed: 10:37

Lab File ID: 071620.B\P24949.D

		AREA CBZ	RT	AREA DCB	RT	AREA DFB	RT	AREA PFB	RT
12 HOUR STD		202930	7.433	162241	10.073	388753	4.318	189703	3.69
UPPER LIMIT		405860	7.933	324482	10.573	777506	4.818	379406	4.19
LOWER LIMIT		101465	6.933	81120.5	9.573	194376.5	3.818	94851.5	3.19
LAB SAMPLE ID	SAMPLE NO.								
818096	818096BLANK	201744	7.433	155468	10.073	377967	4.318	186321	3.69
818097	818097LCS	203732	7.439	162898	10.073	388156	4.318	190907	3.69
70137879001	AZ-PZ-1	200605	7.439	156156	10.073	376527	4.318	184003	3.69
70137879004	TRIP BLANK	203907	7.433	153524	10.073	385666	4.312	190607	3.684
70137879005	AZ-PZ-2	202586	7.439	155643	10.073	381772	4.318	184212	3.69
70137879006	MW-18	205644	7.433	157931	10.073	381504	4.318	185296	3.69
70137879007	MW-2	202426	7.433	158552	10.073	383248	4.318	188525	3.69
70137879008	MW-1	202389	7.433	154816	10.073	377744	4.318	182962	3.69
70137879009	MW-3	202167	7.433	156570	10.073	379032	4.318	183776	3.69
70137879010	MW-4	201680	7.433	155816	10.073	375873	4.318	180493	3.69
70137879011	MW-4-DUP	201542	7.433	156292	10.073	376309	4.318	182137	3.69
70137879012	MW-10	200554	7.433	154061	10.073	375867	4.318	182271	3.69
70137879015	PZ-11R	202081	7.439	157250	10.073	376570	4.318	183095	3.69
70137879016	PZ-13R	202305	7.433	153657	10.073	378389	4.318	182227	3.69

CBZ = Chlorobenzene-D5 (IS)
DCB = 1,4-Dichlorobenzene-d4 (IS)
DFB = 1,4-Difluorobenzene (IS)
PFB = Pentafluorobenzene (IS)

AREA UPPER LIMIT = 200% 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

MSV - FORM VIII VOA-1
MSV INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Sample ID : 13593680CCV Date Analyzed: 07/17/2020

Instrument ID: 70MSV8 GC Column: Col 1 Time Analyzed: 17:11

Lab File ID: 071720.B\P24975.D

		AREA CBZ	RT	AREA DCB	RT	AREA DFB	RT	AREA PFB	RT
12 HOUR STD		210630	7.433	164824	10.073	388412	4.312	187792	3.69
UPPER LIMIT		421260	7.933	329648	10.573	776824	4.812	375584	4.19
LOWER LIMIT		105315	6.933	82412	9.573	194206	3.812	93896	3.19
LAB SAMPLE ID	SAMPLE NO.								
70137879006	MW-18	202754	7.439	156984	10.073	374740	4.318	180219	3.69

CBZ = Chlorobenzene-D5 (IS)
DCB = 1,4-Dichlorobenzene-d4 (IS)
DFB = 1,4-Difluorobenzene (IS)
PFB = Pentafluorobenzene (IS)

AREA UPPER LIMIT = 200% 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

MSV - FORM VIII VOA-1
MSV INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Sample ID : 13597958CCV Date Analyzed: 07/20/2020

Instrument ID: 70MSV9 GC Column: FULL Time Analyzed: 17:43

Lab File ID: 072020.B\B7775.D

		AREA FBZ	RT
12 HOUR STD		3121040	4.139
UPPER LIMIT		6242080	4.639
LOWER LIMIT		1560520	3.639
LAB SAMPLE ID	SAMPLE NO.		
820538	820538BLANK	3116707	4.139
820539	820539LCS	2998306	4.139
820749	820749DUP	3137514	4.139
820750	820750MS	3154117	4.139
70137879001	AZ-PZ-1	3183712	4.139
70137879002	FIELD BLANK	3152458	4.139
70137879003	EQUIPMENT BLANK	3169043	4.139
70137879004	TRIP BLANK	3098613	4.139

FBZ = Fluorobenzene (IS)

AREA UPPER LIMIT = 200% 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

SAMPLE NO.

818096BLANK

MSV - FORM IV VOA-1
VOLATILE METHOD BLANK SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV8 Matrix: Water Lab Sample ID: 818096

Lab File ID: 071620.B\P24950.D Date Analyzed: 07/16/2020 Time: 11:35

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	ANALYZED
818097LCS	818097	071620.B\P24951.D	07/16/2020 11:59
TRIP BLANK	70137879004	071620.B\P24952.D	07/16/2020 12:42
AZ-PZ-1	70137879001	071620.B\P24961.D	07/16/2020 16:06
AZ-PZ-2	70137879005	071620.B\P24962.D	07/16/2020 16:29
MW-18	70137879006	071620.B\P24963.D	07/16/2020 16:51
MW-2	70137879007	071620.B\P24964.D	07/16/2020 17:14
MW-1	70137879008	071620.B\P24965.D	07/16/2020 17:37
MW-3	70137879009	071620.B\P24966.D	07/16/2020 18:00
MW-4	70137879010	071620.B\P24967.D	07/16/2020 18:23
MW-4-DUP	70137879011	071620.B\P24968.D	07/16/2020 18:46
MW-10	70137879012	071620.B\P24969.D	07/16/2020 19:09
PZ-11R	70137879015	071620.B\P24970.D	07/16/2020 19:32
PZ-13R	70137879016	071620.B\P24971.D	07/16/2020 19:55
818455DUP	818455	071620.B\P24972.D	07/16/2020 20:18
MW-18	70137879006	071720.B\P24982.D	07/17/2020 20:19

SAMPLE NO.

BLANK

MSV - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Pace Analytical - New York Contract: LMC Utica Annual 7/8

Date Received: Matrix: Water SDG No.: 70137879

Date Extracted: 07/16/2020 11:35 Lab Sample ID: 818096

Date Analyzed: 07/16/2020 11:35 Lab File ID: 071620.B\P24950.D

Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1 Instrument: 70MSV8 Percent Moisture:

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
67-64-1	Acetone	<5.0	U
71-43-2	Benzene	<1.0	U
108-86-1	Bromobenzene	<1.0	U
74-97-5	Bromochloromethane	<1.0	U
75-27-4	Bromodichloromethane	<1.0	U
75-25-2	Bromoform	<1.0	U
74-83-9	Bromomethane	<1.0	U
78-93-3	2-Butanone (MEK)	<5.0	U
104-51-8	n-Butylbenzene	<1.0	U
135-98-8	sec-Butylbenzene	<1.0	U
98-06-6	tert-Butylbenzene	<1.0	U
75-15-0	Carbon disulfide	<1.0	U
56-23-5	Carbon tetrachloride	<1.0	U
108-90-7	Chlorobenzene	<1.0	U
75-45-6	Chlorodifluoromethane	<1.0	U
75-00-3	Chloroethane	<1.0	U
67-66-3	Chloroform	<1.0	U
74-87-3	Chloromethane	<1.0	U
95-49-8	2-Chlorotoluene	<1.0	U
106-43-4	4-Chlorotoluene	<1.0	U
124-48-1	Dibromochloromethane	<1.0	U
106-93-4	1,2-Dibromoethane (EDB)	<1.0	U
74-95-3	Dibromomethane	<1.0	U
95-50-1	1,2-Dichlorobenzene	<1.0	U
541-73-1	1,3-Dichlorobenzene	<1.0	U
106-46-7	1,4-Dichlorobenzene	<1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	U
75-71-8	Dichlorodifluoromethane	<1.0	U
75-34-3	1,1-Dichloroethane	<1.0	U
107-06-2	1,2-Dichloroethane	<1.0	U
75-35-4	1,1-Dichloroethene	<1.0	U
156-59-2	cis-1,2-Dichloroethene	<1.0	U
156-60-5	trans-1,2-Dichloroethene	<1.0	U
78-87-5	1,2-Dichloropropane	<1.0	U
142-28-9	1,3-Dichloropropane	<1.0	U
594-20-7	2,2-Dichloropropane	<1.0	U
563-58-6	1,1-Dichloropropene	<1.0	U

SAMPLE NO.

BLANK

MSV - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Pace Analytical - New York Contract: LMC Utica Annual 7/8

Date Received: Matrix: Water SDG No.: 70137879

Date Extracted: 07/16/2020 11:35 Lab Sample ID: 818096

Date Analyzed: 07/16/2020 11:35 Lab File ID: 071620.B\P24950.D

Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1 Instrument: 70MSV8 Percent Moisture:

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
10061-01-5	cis-1,3-Dichloropropene	<1.0	U
10061-02-6	trans-1,3-Dichloropropene	<1.0	U
105-05-5	1,4-Diethylbenzene	<1.0	U
64-17-5	Ethanol	<250	U
100-41-4	Ethylbenzene	<1.0	U
87-68-3	Hexachloro-1,3-butadiene	<1.0	U
591-78-6	2-Hexanone	<5.0	U
98-82-8	Isopropylbenzene (Cumene)	<1.0	U
99-87-6	p-Isopropyltoluene	<1.0	U
75-09-2	Methylene Chloride	<1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	U
1634-04-4	Methyl-tert-butyl ether	<1.0	U
91-20-3	Naphthalene	<1.0	U
103-65-1	n-Propylbenzene	<1.0	U
100-42-5	Styrene	<1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	U
127-18-4	Tetrachloroethene	<1.0	U
95-93-2	1,2,4,5-tetramethylbenzene	<1.0	U
108-88-3	Toluene	<1.0	U
87-61-6	1,2,3-Trichlorobenzene	<1.0	U
120-82-1	1,2,4-Trichlorobenzene	<1.0	U
71-55-6	1,1,1-Trichloroethane	<1.0	U
79-00-5	1,1,2-Trichloroethane	<1.0	U
79-01-6	Trichloroethene	<1.0	U
75-69-4	Trichlorofluoromethane	<1.0	U
96-18-4	1,2,3-Trichloropropane	<1.0	U
95-63-6	1,2,4-Trimethylbenzene	<1.0	U
108-67-8	1,3,5-Trimethylbenzene	<1.0	U
75-01-4	Vinyl chloride	<1.0	U
1330-20-7	Xylene (Total)	<3.0	U
179601-23-1	m&p-Xylene	<2.0	U
95-47-6	o-Xylene	<1.0	U

MSV - FORM III VOA-1

WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York
Lab Sample ID: 818097LCS
Date Extracted: 07/16/2020
Date Analyzed (1): 07/16/2020
Instrument: 70MSV8
LCS Lot No: 92979
Lab File ID: 071620.B\P24951.D
SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
Acetone	50.0	77.5	155	23-188
Benzene	50.0	48.9	98	73-119
Bromobenzene	50.0	46.0	92	72-102
Bromochloromethane	50.0	55.9	112	81-116
Bromodichloromethane	50.0	48.2	96	78-117
Bromoform	50.0	38.8	78	65-122
Bromomethane	50.0	64.3	129	52-147
2-Butanone (MEK)	50.0	58.9	118	44-162
n-Butylbenzene	50.0	50.5	101	73-107
sec-Butylbenzene	50.0	48.7	97	72-103
tert-Butylbenzene	50.0	47.0	94	68-100
Carbon disulfide	50.0	50.8	102	41-144
Carbon tetrachloride	50.0	42.8	86	59-120
Chlorobenzene	50.0	45.2	90	75-113
Chlorodifluoromethane	50.0	49.7	99	43-140
Chloroethane	50.0	56.1	112	49-151
Chloroform	50.0	55.8	112	72-122
Chloromethane	50.0	53.3	107	46-144
2-Chlorotoluene	50.0	48.9	98	74-101
4-Chlorotoluene	50.0	49.9	100	74-101
Dibromochloromethane	50.0	43.3	87	70-120
1,2-Dibromoethane (EDB)	50.0	48.3	97	83-115
Dibromomethane	50.0	50.5	101	75-125
1,2-Dichlorobenzene	50.0	48.3	97	74-113
1,3-Dichlorobenzene	50.0	47.7	95	71-112
1,4-Dichlorobenzene	50.0	47.1	94	71-113
trans-1,4-Dichloro-2-butene	50.0	44.4	89	71-121
Dichlorodifluoromethane	50.0	37.2	74	22-154
1,1-Dichloroethane	50.0	56.3	113	83-151
1,2-Dichloroethane	50.0	57.8	116	74-129
1,1-Dichloroethene	50.0	50.1	100	45-146
cis-1,2-Dichloroethene	50.0	55.9	112	72-121
trans-1,2-Dichloroethene	50.0	54.7	109	56-142
1,2-Dichloropropane	50.0	50.8	102	75-117
1,3-Dichloropropane	50.0	50.1	100	74-112
2,2-Dichloropropane	50.0	41.0	82	63-133
1,1-Dichloropropene	50.0	46.9	94	59-127
cis-1,3-Dichloropropene	50.0	45.3	91	78-116
trans-1,3-Dichloropropene	50.0	41.7	83	79-116
1,4-Diethylbenzene	50.0	48.3	97	56-130
Ethanol	1250	1340	107	10-151
Ethylbenzene	50.0	44.7	89	70-113
Hexachloro-1,3-butadiene	50.0	42.2	84	59-121
2-Hexanone	50.0	49.2	98	32-183
Isopropylbenzene (Cumene)	50.0	48.4	97	67-115
p-Isopropyltoluene	50.0	47.1	94	73-101
Methylene Chloride	50.0	56.6	113	61-142

MSV - FORM III VOA-2

WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York
Lab Sample ID: 818097LCS
Date Extracted: 07/16/2020
Date Analyzed (1): 07/16/2020
Instrument: 70MSV8
LCS Lot No: 92979
Lab File ID: 071620.B\P24951.D
SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
4-Methyl-2-pentanone (MIBK)	50.0	53.3	107	69-132
Methyl-tert-butyl ether	50.0	56.4	113	72-131
Naphthalene	50.0	51.7	103	70-118
n-Propylbenzene	50.0	49.9	100	68-116
Styrene	50.0	46.4	93	72-118
1,1,1,2-Tetrachloroethane	50.0	41.5	83	74-113
1,1,2,2-Tetrachloroethane	50.0	54.4	109	74-121
Tetrachloroethene	50.0	39.8	80	60-128
1,2,4,5-tetramethylbenzene	50.0	48.6	97	66-103
Toluene	50.0	48.7	97	72-119
1,2,3-Trichlorobenzene	50.0	46.3	93	67-103
1,2,4-Trichlorobenzene	50.0	45.1	90	66-116
1,1,1-Trichloroethane	50.0	42.1	84	65-118
1,1,2-Trichloroethane	50.0	50.6	101	80-117
Trichloroethene	50.0	46.7	93	69-117
Trichlorofluoromethane	50.0	54.9	110	27-173
1,2,3-Trichloropropane	50.0	51.0	102	71-123
1,2,4-Trimethylbenzene	50.0	48.9	98	68-116
1,3,5-Trimethylbenzene	50.0	48.8	98	67-116
Vinyl chloride	50.0	56.4	113	43-143
Xylene (Total)	150	136	91	71-109
m&p-Xylene	100	90.5	90	72-115
o-Xylene	50.0	45.5	91	73-117

Spike Recovery: 0 out of 70 outside limits.

SAMPLE NOT IN SDG

MSV - FORM III VOA-1

WATER VOLATILE SAMPLE/DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Duplicate Sample No: 70137840003DUP
Date Extracted: 07/16/2020
Date Analyzed: 07/16/2020
Instrument: 70MSV8
Lab File ID: 071620.B\P24972.D
Lab Sample ID: 70137840003
SDG No.: 70137879

COMPOUND	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD	RPD LIMITS
1,1,1,2-Tetrachloroethane	<1.0	<1.0		0-20
1,1,1-Trichloroethane	<1.0	<1.0		0-20
1,1,2,2-Tetrachloroethane	<1.0	<1.0		0-20
1,1,2-Trichloroethane	<1.0	<1.0		0-20
1,1-Dichloroethane	<1.0	<1.0		0-20
1,1-Dichloroethene	<1.0	<1.0		0-20
1,1-Dichloropropene	<1.0	<1.0		0-20
1,2,3-Trichlorobenzene	<1.0	<1.0		0-20
1,2,3-Trichloropropane	<1.0	<1.0		0-20
1,2,4,5-tetramethylbenzene	<1.0	<1.0		0-20
1,2,4-Trichlorobenzene	<1.0	<1.0		0-20
1,2,4-Trimethylbenzene	<1.0	<1.0		0-20
1,2-Dibromoethane (EDB)	<1.0	<1.0		0-20
1,2-Dichlorobenzene	<1.0	<1.0		0-20
1,2-Dichloroethane	<1.0	<1.0		0-20
1,2-Dichloropropane	<1.0	<1.0		0-20
1,3,5-Trimethylbenzene	<1.0	<1.0		0-20
1,3-Dichlorobenzene	<1.0	<1.0		0-20
1,3-Dichloropropane	<1.0	<1.0		0-20
1,4-Dichlorobenzene	<1.0	<1.0		0-20
1,4-Diethylbenzene	<1.0	<1.0		0-20
2,2-Dichloropropane	<1.0	<1.0		0-20
2-Butanone (MEK)	<5.0	<5.0		0-20
2-Chlorotoluene	<1.0	<1.0		0-20
2-Hexanone	<5.0	<5.0		0-20
4-Chlorotoluene	<1.0	<1.0		0-20
4-Methyl-2-pentanone (MIBK)	<5.0	<5.0		0-20
Acetone	10.1	13.3	27	0-20
Benzene	<1.0	<1.0		0-20
Bromobenzene	<1.0	<1.0		0-20
Bromochloromethane	<1.0	<1.0		0-20
Bromodichloromethane	<1.0	<1.0		0-20
Bromoform	<1.0	<1.0		0-20
Bromomethane	<1.0	<1.0		0-20
Carbon disulfide	<1.0	<1.0		0-20
Carbon tetrachloride	<1.0	<1.0		0-20
Chlorobenzene	<1.0	<1.0		0-20
Chlorodifluoromethane	<1.0	<1.0		0-20
Chloroethane	<1.0	<1.0		0-20
Chloroform	<1.0	<1.0		0-20
Chloromethane	<1.0	<1.0		0-20
Dibromochloromethane	<1.0	<1.0		0-20
Dibromomethane	<1.0	<1.0		0-20
Dichlorodifluoromethane	<1.0	<1.0		0-20
Ethanol	<250	<250		0-20
Ethylbenzene	<1.0	<1.0		0-20
Hexachloro-1,3-butadiene	<1.0	<1.0		0-20

MSV - FORM III VOA-2

WATER VOLATILE SAMPLE/DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Duplicate Sample No: 70137840003DUP
Date Extracted: 07/16/2020
Date Analyzed: 07/16/2020
Instrument: 70MSV8
Lab File ID: 071620.B\P24972.D
Lab Sample ID: 70137840003
SDG No.: 70137879

COMPOUND	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD	RPD LIMITS
Isopropylbenzene (Cumene)	<1.0	<1.0		0-20
Methyl-tert-butyl ether	<1.0	<1.0		0-20
Methylene Chloride	<1.0	<1.0		0-20
Naphthalene	<1.0	<1.0		0-20
Styrene	<1.0	<1.0		0-20
Tetrachloroethene	<1.0	<1.0		0-20
Toluene	<1.0	<1.0		0-20
Trichloroethene	<1.0	<1.0		0-20
Trichlorofluoromethane	<1.0	<1.0		0-20
Vinyl chloride	<1.0	<1.0		0-20
Xylene (Total)	<3.0	<3.0		0-20
cis-1,2-Dichloroethene	<1.0	<1.0		0-20
cis-1,3-Dichloropropene	<1.0	<1.0		0-20
m&p-Xylene	<2.0	<2.0		0-20
n-Butylbenzene	<1.0	<1.0		0-20
n-Propylbenzene	<1.0	<1.0		0-20
o-Xylene	<1.0	<1.0		0-20
p-Isopropyltoluene	<1.0	<1.0		0-20
sec-Butylbenzene	<1.0	<1.0		0-20
tert-Butylbenzene	<1.0	<1.0		0-20
trans-1,2-Dichloroethene	<1.0	<1.0		0-20
trans-1,3-Dichloropropene	<1.0	<1.0		0-20
trans-1,4-Dichloro-2-butene	<1.0	<1.0		0-20

RPD: 1 out of 1 outside limits.

SAMPLE NOT IN SDG

MSV - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Matrix Spike - Sample No: 818456MS
Date Extracted: 07/16/2020
Date Analyzed (1): 07/16/2020
Instrument: 70MSV8
Lab File ID: 071620.B\P24973.D
Parent Sample ID: 70137840004
SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	50.0	<1.0	36.4	73	74-113
1,1,1-Trichloroethane	50.0	<1.0	40.5	81	65-118
1,1,2,2-Tetrachloroethane	50.0	<1.0	48.7	97	74-121
1,1,2-Trichloroethane	50.0	<1.0	46.0	92	80-117
1,1-Dichloroethane	50.0	<1.0	55.3	111	83-151
1,1-Dichloroethene	50.0	<1.0	50.5	101	45-146
1,1-Dichloropropene	50.0	<1.0	48.0	96	59-127
1,2,3-Trichlorobenzene	50.0	<1.0	43.0	86	67-103
1,2,3-Trichloropropane	50.0	<1.0	45.6	91	71-123
1,2,4,5-tetramethylbenzene	50.0	<1.0	46.0	92	66-103
1,2,4-Trichlorobenzene	50.0	<1.0	41.6	83	66-116
1,2,4-Trimethylbenzene	50.0	<1.0	46.9	94	68-116
1,2-Dibromoethane (EDB)	50.0	<1.0	43.2	86	83-115
1,2-Dichlorobenzene	50.0	<1.0	44.7	89	74-113
1,2-Dichloroethane	50.0	<1.0	53.2	106	74-129
1,2-Dichloropropane	50.0	<1.0	47.0	94	75-117
1,3,5-Trimethylbenzene	50.0	<1.0	47.1	94	67-116
1,3-Dichlorobenzene	50.0	<1.0	44.8	90	71-112
1,3-Dichloropropane	50.0	<1.0	44.7	89	74-112
1,4-Dichlorobenzene	50.0	<1.0	44.1	88	71-113
1,4-Diethylbenzene	50.0	<1.0	46.9	94	56-130
2,2-Dichloropropane	50.0	<1.0	35.4	71	63-133
2-Butanone (MEK)	50.0	<5.0	50.7	101	44-162
2-Chlorotoluene	50.0	<1.0	47.1	94	74-101
2-Hexanone	50.0	<5.0	40.1	80	32-183
4-Chlorotoluene	50.0	<1.0	47.6	95	74-101
4-Methyl-2-pentanone (MIBK)	50.0	<5.0	45.4	91	69-132
Acetone	50.0	11.8	71.3	119	23-188
Benzene	50.0	<1.0	47.3	95	73-119
Bromobenzene	50.0	<1.0	42.0	84	72-102
Bromochloromethane	50.0	<1.0	50.8	102	81-116
Bromodichloromethane	50.0	<1.0	43.6	87	78-117
Bromoform	50.0	<1.0	33.0	66	65-122
Bromomethane	50.0	<1.0	48.1	96	52-147
Carbon disulfide	50.0	<1.0	48.6	97	41-144
Carbon tetrachloride	50.0	<1.0	42.4	85	59-120
Chlorobenzene	50.0	<1.0	42.1	84	75-113
Chlorodifluoromethane	50.0	<1.0	44.3	89	43-140
Chloroethane	50.0	<1.0	53.8	108	49-151
Chloroform	50.0	<1.0	53.9	108	72-122
Chloromethane	50.0	<1.0	45.7	91	46-144
Dibromochloromethane	50.0	<1.0	37.8	76	70-120
Dibromomethane	50.0	<1.0	45.7	91	75-125
Dichlorodifluoromethane	50.0	<1.0	31.1	62	22-154
Ethanol	1250	<250	1160	93	10-151
Ethylbenzene	50.0	<1.0	42.9	86	70-113
Hexachloro-1,3-butadiene	50.0	<1.0	42.1	84	59-121

MSV - FORM III VOA-2

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Matrix Spike - Sample No: 818456MS
Date Extracted: 07/16/2020
Date Analyzed (1): 07/16/2020
Instrument: 70MSV8
Lab File ID: 071620.B\P24973.D
Parent Sample ID: 70137840004
SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
Isopropylbenzene (Cumene)	50.0	<1.0	47.4	95	67-115
Methyl-tert-butyl ether	50.0	<1.0	50.3	101	72-131
Methylene Chloride	50.0	<1.0	53.8	108	61-142
Naphthalene	50.0	<1.0	46.4	93	70-118
Styrene	50.0	<1.0	42.4	85	72-118
Tetrachloroethene	50.0	<1.0	38.4	77	60-128
Toluene	50.0	<1.0	47.1	94	72-119
Trichloroethene	50.0	<1.0	45.5	91	69-117
Trichlorofluoromethane	50.0	<1.0	51.7	103	27-173
Vinyl chloride	50.0	<1.0	51.8	104	43-143
Xylene (Total)	150	<3.0	129	86	71-109
cis-1,2-Dichloroethene	50.0	<1.0	53.0	106	72-121
cis-1,3-Dichloropropene	50.0	<1.0	39.6	79	78-116
m&p-Xylene	100	<2.0	86.6	87	72-115
n-Butylbenzene	50.0	<1.0	50.6	101	73-107
n-Propylbenzene	50.0	<1.0	49.1	98	68-116
o-Xylene	50.0	<1.0	42.4	85	73-117
p-Isopropyltoluene	50.0	<1.0	46.2	92	73-101
sec-Butylbenzene	50.0	<1.0	48.7	97	72-103
tert-Butylbenzene	50.0	<1.0	46.3	93	68-100
trans-1,2-Dichloroethene	50.0	<1.0	53.3	107	56-142
trans-1,3-Dichloropropene	50.0	<1.0	34.8	70	79-116
trans-1,4-Dichloro-2-butene	50.0	<1.0	35.8	72	71-121

Spike Recovery: 2 out of 70 outside limits.

SAMPLE NO.

820538BLANK

MSV - FORM IV VOA-1
VOLATILE METHOD BLANK SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV9 Matrix: Water Lab Sample ID: 820538

Lab File ID: 072020.B\B7776.D Date Analyzed: 07/20/2020 Time: 18:07

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	ANALYZED
820539LCS	820539	072020.B\B7777.D	07/20/2020 18:34
TRIP BLANK	70137879004	072020.B\B7779.D	07/20/2020 19:28
EQUIPMENT BLANK	70137879003	072020.B\B7780.D	07/20/2020 19:54
FIELD BLANK	70137879002	072020.B\B7781.D	07/20/2020 20:21
AZ-PZ-1	70137879001	072020.B\B7782.D	07/20/2020 20:48
820749DUP	820749	072020.B\B7783.D	07/20/2020 21:13
820750MS	820750	072020.B\B7784.D	07/20/2020 21:39

SAMPLE NO.

BLANK

MSV - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Pace Analytical - New York Contract: LMC Utica Annual 7/8

Date Received: Matrix: Water SDG No.: 70137879

Date Extracted: 07/20/2020 18:07 Lab Sample ID: 820538

Date Analyzed: 07/20/2020 18:07 Lab File ID: 072020.B\B7776.D

Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1 Instrument: 70MSV9 Percent Moisture:

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
123-91-1	1,4-Dioxane (p-Dioxane)	<0.20	U

MSV - FORM III VOA-1

WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York
Lab Sample ID: 820539LCS
Date Extracted: 07/20/2020
Date Analyzed (1): 07/20/2020
Instrument: 70MSV9
LCS Lot No: 88739
Lab File ID: 072020.B\B7777.D
SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
1,4-Dioxane (p-Dioxane)	2.5	2.3	93	60-140

Spike Recovery: 0 out of 1 outside limits.

MSV - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Matrix Spike - Sample No: 820750MS
Date Extracted: 07/20/2020
Date Analyzed (1): 07/20/2020
Instrument: 70MSV9
Lab File ID: 072020.B\B7784.D
Parent Sample ID: EQUIPMENT BLANK
SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
1,4-Dioxane (p-Dioxane)	2.5	<0.20	2.6	103	60-140

Spike Recovery: 0 out of 1 outside limits.

08/17/2020 10:11

MSV - FORM III VOA-1

WATER VOLATILE SAMPLE/DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Duplicate Sample No: 70137879001DUP
Date Extracted: 07/20/2020
Date Analyzed: 07/20/2020
Instrument: 70MSV9
Lab File ID: 072020.B\B7783.D
Lab Sample ID: AZ-PZ-1
SDG No.: 70137879

COMPOUND	SAMPLE CONCENTRATION (ug/L)	DUPLICATE CONCENTRATION (ug/L)	RPD	RPD LIMITS
1,4-Dioxane (p-Dioxane)	1.5	1.4	7	0-20

RPD: 0 out of 1 outside limits.

SAMPLE NO.

821356BLANK

MSV - FORM IV VOA-1
VOLATILE METHOD BLANK SUMMARY

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8

Instrument ID: 70MSV5 Matrix: Water Lab Sample ID: 821356

Lab File ID: 072120.B\H27507.D Date Analyzed: 07/21/2020 Time: 15:15

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	ANALYZED
821357LCS	821357	072120.B\H27508.D	07/21/2020 15:34
PZ-5	70137879013	072120.B\H27509.D	07/21/2020 16:15
PZ-6	70137879014	072120.B\H27510.D	07/21/2020 16:34
MW-20	70137879017	072120.B\H27511.D	07/21/2020 16:53
MW-21	70137879018	072120.B\H27512.D	07/21/2020 17:13
PZ-5	70137879013	072120.B\H27513.D	07/21/2020 17:32

SAMPLE NO.

BLANK

MSV - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Pace Analytical - New York | Contract: LMC Utica Annual 7/8

Date Received: | Matrix: Water | SDG No.: 70137879

Date Extracted: 07/21/2020 15:15 | Lab Sample ID: 821356

Date Analyzed: 07/21/2020 15:15 | Lab File ID: 072120.B\H27507.D

Initial wt/vol: 5 mL | Final wt/vol: 5 mL | Dilution: 1 | Instrument: 70MSV5 | Percent Moisture:

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
67-64-1	Acetone	<5.0	U
71-43-2	Benzene	<1.0	U
108-86-1	Bromobenzene	<1.0	U
74-97-5	Bromochloromethane	<1.0	U
75-27-4	Bromodichloromethane	<1.0	U
75-25-2	Bromoform	<1.0	U
74-83-9	Bromomethane	<1.0	U
78-93-3	2-Butanone (MEK)	<5.0	U
104-51-8	n-Butylbenzene	<1.0	U
135-98-8	sec-Butylbenzene	<1.0	U
98-06-6	tert-Butylbenzene	<1.0	U
75-15-0	Carbon disulfide	<1.0	U
56-23-5	Carbon tetrachloride	<1.0	U
108-90-7	Chlorobenzene	<1.0	U
75-45-6	Chlorodifluoromethane	<1.0	U
75-00-3	Chloroethane	<1.0	U
67-66-3	Chloroform	<1.0	U
74-87-3	Chloromethane	<1.0	U
95-49-8	2-Chlorotoluene	<1.0	U
106-43-4	4-Chlorotoluene	<1.0	U
124-48-1	Dibromochloromethane	<1.0	U
106-93-4	1,2-Dibromoethane (EDB)	<1.0	U
74-95-3	Dibromomethane	<1.0	U
95-50-1	1,2-Dichlorobenzene	<1.0	U
541-73-1	1,3-Dichlorobenzene	<1.0	U
106-46-7	1,4-Dichlorobenzene	<1.0	U
110-57-6	trans-1,4-Dichloro-2-butene	<1.0	U
75-71-8	Dichlorodifluoromethane	<1.0	U
75-34-3	1,1-Dichloroethane	<1.0	U
107-06-2	1,2-Dichloroethane	<1.0	U
75-35-4	1,1-Dichloroethene	<1.0	U
156-59-2	cis-1,2-Dichloroethene	<1.0	U
156-60-5	trans-1,2-Dichloroethene	<1.0	U
78-87-5	1,2-Dichloropropane	<1.0	U
142-28-9	1,3-Dichloropropane	<1.0	U
594-20-7	2,2-Dichloropropane	<1.0	U
563-58-6	1,1-Dichloropropene	<1.0	U

SAMPLE NO.

BLANK

MSV - FORM I VOA-2

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Pace Analytical - New York Contract: LMC Utica Annual 7/8

Date Received: Matrix: Water SDG No.: 70137879

Date Extracted: 07/21/2020 15:15 Lab Sample ID: 821356

Date Analyzed: 07/21/2020 15:15 Lab File ID: 072120.B\H27507.D

Initial wt/vol: 5 mL Final wt/vol: 5 mL Dilution: 1 Instrument: 70MSV5 Percent Moisture:

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
10061-01-5	cis-1,3-Dichloropropene	<1.0	U
10061-02-6	trans-1,3-Dichloropropene	<1.0	U
105-05-5	1,4-Diethylbenzene	<1.0	U
64-17-5	Ethanol	<250	U
100-41-4	Ethylbenzene	<1.0	U
87-68-3	Hexachloro-1,3-butadiene	<1.0	U
591-78-6	2-Hexanone	<5.0	U
98-82-8	Isopropylbenzene (Cumene)	<1.0	U
99-87-6	p-Isopropyltoluene	<1.0	U
75-09-2	Methylene Chloride	<1.0	U
108-10-1	4-Methyl-2-pentanone (MIBK)	<5.0	U
1634-04-4	Methyl-tert-butyl ether	<1.0	U
91-20-3	Naphthalene	<1.0	U
103-65-1	n-Propylbenzene	<1.0	U
100-42-5	Styrene	<1.0	U
630-20-6	1,1,1,2-Tetrachloroethane	<1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	<1.0	U
127-18-4	Tetrachloroethene	<1.0	U
95-93-2	1,2,4,5-tetramethylbenzene	<1.0	U
108-88-3	Toluene	<1.0	U
87-61-6	1,2,3-Trichlorobenzene	<1.0	U
120-82-1	1,2,4-Trichlorobenzene	<1.0	U
71-55-6	1,1,1-Trichloroethane	<1.0	U
79-00-5	1,1,2-Trichloroethane	<1.0	U
79-01-6	Trichloroethene	<1.0	U
75-69-4	Trichlorofluoromethane	<1.0	U
96-18-4	1,2,3-Trichloropropane	<1.0	U
95-63-6	1,2,4-Trimethylbenzene	<1.0	U
108-67-8	1,3,5-Trimethylbenzene	<1.0	U
75-01-4	Vinyl chloride	<1.0	U
1330-20-7	Xylene (Total)	<3.0	U
179601-23-1	m&p-Xylene	<2.0	U
95-47-6	o-Xylene	<1.0	U

MSV - FORM III VOA-1

WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York
Lab Sample ID: 821357LCS
Date Extracted: 07/21/2020
Date Analyzed (1): 07/21/2020
Instrument: 70MSV5
LCS Lot No: 94350
Lab File ID: 072120.B\H27508.D
SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
Acetone	50.0	41.3	83	23-188
Benzene	50.0	47.1	94	73-119
Bromobenzene	50.0	53.6	107	72-102
Bromochloromethane	50.0	44.9	90	81-116
Bromodichloromethane	50.0	56.4	113	78-117
Bromoform	50.0	54.5	109	65-122
Bromomethane	50.0	52.3	105	52-147
2-Butanone (MEK)	50.0	47.2	94	44-162
n-Butylbenzene	50.0	45.4	91	73-107
sec-Butylbenzene	50.0	44.8	90	72-103
tert-Butylbenzene	50.0	46.2	92	68-100
Carbon disulfide	50.0	36.4	73	41-144
Carbon tetrachloride	50.0	58.6	117	59-120
Chlorobenzene	50.0	51.1	102	75-113
Chlorodifluoromethane	50.0	49.4	99	43-140
Chloroethane	50.0	41.8	84	49-151
Chloroform	50.0	45.8	92	72-122
Chloromethane	50.0	51.7	103	46-144
2-Chlorotoluene	50.0	46.4	93	74-101
4-Chlorotoluene	50.0	47.0	94	74-101
Dibromochloromethane	50.0	53.4	107	70-120
1,2-Dibromoethane (EDB)	50.0	57.3	115	83-115
Dibromomethane	50.0	53.5	107	75-125
1,2-Dichlorobenzene	50.0	47.7	95	74-113
1,3-Dichlorobenzene	50.0	49.0	98	71-112
1,4-Dichlorobenzene	50.0	49.0	98	71-113
trans-1,4-Dichloro-2-butene	50.0	62.0	124	71-121
Dichlorodifluoromethane	50.0	56.2	112	22-154
1,1-Dichloroethane	50.0	41.8	84	83-151
1,2-Dichloroethane	50.0	45.8	92	74-129
1,1-Dichloroethene	50.0	37.1	74	45-146
cis-1,2-Dichloroethene	50.0	42.2	84	72-121
trans-1,2-Dichloroethene	50.0	44.6	89	56-142
1,2-Dichloropropane	50.0	51.2	102	75-117
1,3-Dichloropropane	50.0	51.5	103	74-112
2,2-Dichloropropane	50.0	50.7	101	63-133
1,1-Dichloropropene	50.0	50.2	100	59-127
cis-1,3-Dichloropropene	50.0	60.4	121	78-116
trans-1,3-Dichloropropene	50.0	52.4	105	79-116
1,4-Diethylbenzene	50.0	46.1	92	56-130
Ethanol	1250	1100	88	10-151
Ethylbenzene	50.0	50.6	101	70-113
Hexachloro-1,3-butadiene	50.0	52.0	104	59-121
2-Hexanone	50.0	54.9	110	32-183
Isopropylbenzene (Cumene)	50.0	47.1	94	67-115
p-Isopropyltoluene	50.0	47.2	94	73-101
Methylene Chloride	50.0	40.5	81	61-142

MSV - FORM III VOA-2

WATER LABORATORY CONTROL SAMPLE RECOVERY

Lab Name: Pace Analytical - New York
Lab Sample ID: 821357LCS
Date Extracted: 07/21/2020
Date Analyzed (1): 07/21/2020
Instrument: 70MSV5
LCS Lot No: 94350
Lab File ID: 072120.B\H27508.D
SDG No.: 70137879

COMPOUND	AMOUNT ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS %REC	QC LIMITS REC.
4-Methyl-2-pentanone (MIBK)	50.0	57.4	115	69-132
Methyl-tert-butyl ether	50.0	43.4	87	72-131
Naphthalene	50.0	34.0	68	70-118
n-Propylbenzene	50.0	46.0	92	68-116
Styrene	50.0	55.1	110	72-118
1,1,1,2-Tetrachloroethane	50.0	61.2	122	74-113
1,1,2,2-Tetrachloroethane	50.0	46.5	93	74-121
Tetrachloroethene	50.0	55.4	111	60-128
1,2,4,5-tetramethylbenzene	50.0	46.8	94	66-103
Toluene	50.0	50.8	102	72-119
1,2,3-Trichlorobenzene	50.0	33.2	66	67-103
1,2,4-Trichlorobenzene	50.0	42.4	85	66-116
1,1,1-Trichloroethane	50.0	57.5	115	65-118
1,1,2-Trichloroethane	50.0	52.6	105	80-117
Trichloroethene	50.0	48.8	98	69-117
Trichlorofluoromethane	50.0	43.0	86	27-173
1,2,3-Trichloropropane	50.0	47.6	95	71-123
1,2,4-Trimethylbenzene	50.0	47.1	94	68-116
1,3,5-Trimethylbenzene	50.0	47.0	94	67-116
Vinyl chloride	50.0	57.1	114	43-143
Xylene (Total)	150	156	104	71-109
m&p-Xylene	100	104	104	72-115
o-Xylene	50.0	51.8	104	73-117

Spike Recovery: 6 out of 70 outside limits.

08/17/2020 7:06

SAMPLE NOT IN SDG

MSV - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Matrix Spike - Sample No: 821504MS
Date Extracted: 07/21/2020
Date Analyzed (1): 07/21/2020
Instrument: 70MSV5
Lab File ID: 072120.B\H27529.D
Parent Sample ID: 70138071003
SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
1,1,1,2-Tetrachloroethane	50.0	<1.0	48.3	97	74-113
1,1,1-Trichloroethane	50.0	<1.0	51.9	104	65-118
1,1,2,2-Tetrachloroethane	50.0	<1.0	41.1	82	74-121
1,1,2-Trichloroethane	50.0	<1.0	46.6	93	80-117
1,1-Dichloroethane	50.0	<1.0	40.1	80	83-151
1,1-Dichloroethene	50.0	<1.0	37.9	76	45-146
1,1-Dichloropropene	50.0	<1.0	48.3	97	59-127
1,2,3-Trichlorobenzene	50.0	<1.0	26.7	53	67-103
1,2,3-Trichloropropane	50.0	<1.0	42.0	84	71-123
1,2,4,5-tetramethylbenzene	50.0	1.2	43.2	84	66-103
1,2,4-Trichlorobenzene	50.0	<1.0	36.3	73	66-116
1,2,4-Trimethylbenzene	50.0	<1.0	43.0	86	68-116
1,2-Dibromoethane (EDB)	50.0	<1.0	48.9	98	83-115
1,2-Dichlorobenzene	50.0	<1.0	41.7	83	74-113
1,2-Dichloroethane	50.0	<1.0	42.7	85	74-129
1,2-Dichloropropane	50.0	<1.0	46.3	93	75-117
1,3,5-Trimethylbenzene	50.0	<1.0	43.4	87	67-116
1,3-Dichlorobenzene	50.0	<1.0	44.0	88	71-112
1,3-Dichloropropane	50.0	<1.0	43.9	88	74-112
1,4-Dichlorobenzene	50.0	<1.0	44.0	88	71-113
1,4-Diethylbenzene	50.0	2.5	42.4	80	56-130
2,2-Dichloropropane	50.0	<1.0	43.8	88	63-133
2-Butanone (MEK)	50.0	<5.0	42.1	82	44-162
2-Chlorotoluene	50.0	<1.0	43.0	86	74-101
2-Hexanone	50.0	<5.0	71.1	142	32-183
4-Chlorotoluene	50.0	<1.0	43.9	88	74-101
4-Methyl-2-pentanone (MIBK)	50.0	<5.0	48.5	97	69-132
Acetone	50.0	<5.0	43.0	86	23-188
Benzene	50.0	9.8	53.9	88	73-119
Bromobenzene	50.0	<1.0	48.1	96	72-102
Bromochloromethane	50.0	<1.0	41.3	83	81-116
Bromodichloromethane	50.0	<1.0	48.0	96	78-117
Bromoform	50.0	<1.0	37.0	74	65-122
Bromomethane	50.0	<1.0	32.2	64	52-147
Carbon disulfide	50.0	<1.0	39.4	79	41-144
Carbon tetrachloride	50.0	<1.0	50.7	101	59-120
Chlorobenzene	50.0	<1.0	44.0	88	75-113
Chlorodifluoromethane	50.0	<1.0	50.6	101	43-140
Chloroethane	50.0	<1.0	41.1	82	49-151
Chloroform	50.0	<1.0	40.6	81	72-122
Chloromethane	50.0	<1.0	50.9	102	46-144
Dibromochloromethane	50.0	<1.0	40.6	81	70-120
Dibromomethane	50.0	<1.0	44.1	88	75-125
Dichlorodifluoromethane	50.0	<1.0	54.8	110	22-154
Ethanol	1250	<250	1110	89	10-151
Ethylbenzene	50.0	<1.0	44.6	89	70-113
Hexachloro-1,3-butadiene	50.0	<1.0	37.9	76	59-121

MSV - FORM III VOA-2

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Pace Analytical - New York
Matrix Spike - Sample No: 821504MS
Date Extracted: 07/21/2020
Date Analyzed (1): 07/21/2020
Instrument: 70MSV5
Lab File ID: 072120.B\H27529.D
Parent Sample ID: 70138071003
SDG No.: 70137879

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS %REC	QC LIMITS REC.
Isopropylbenzene (Cumene)	50.0	<1.0	44.5	89	67-115
Methyl-tert-butyl ether	50.0	84.2	123	77	72-131
Methylene Chloride	50.0	<1.0	37.9	76	61-142
Naphthalene	50.0	<1.0	30.1	60	70-118
Styrene	50.0	<1.0	47.3	95	72-118
Tetrachloroethene	50.0	<1.0	47.9	96	60-128
Toluene	50.0	<1.0	46.0	92	72-119
Trichloroethene	50.0	<1.0	46.6	93	69-117
Trichlorofluoromethane	50.0	<1.0	36.0	72	27-173
Vinyl chloride	50.0	<1.0	57.2	114	43-143
Xylene (Total)	150	<3.0	135	90	71-109
cis-1,2-Dichloroethene	50.0	<1.0	40.2	80	72-121
cis-1,3-Dichloropropene	50.0	<1.0	49.0	98	78-116
m&p-Xylene	100	<2.0	89.4	89	72-115
n-Butylbenzene	50.0	<1.0	39.4	79	73-107
n-Propylbenzene	50.0	<1.0	43.5	87	68-116
o-Xylene	50.0	<1.0	45.6	91	73-117
p-Isopropyltoluene	50.0	<1.0	41.9	84	73-101
sec-Butylbenzene	50.0	<1.0	40.9	82	72-103
tert-Butylbenzene	50.0	<1.0	42.7	85	68-100
trans-1,2-Dichloroethene	50.0	<1.0	40.3	81	56-142
trans-1,3-Dichloropropene	50.0	<1.0	40.2	80	79-116
trans-1,4-Dichloro-2-butene	50.0	<1.0	12.6	25	71-121

Spike Recovery: 4 out of 70 outside limits.

08/17/2020 10:11

MSV - FORM III VOA-3

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Instrument (2): 70MSV5 Matrix Spike Duplicate - Sample No: 821505MSD

Lab File ID (2): 072120.B\H27530.D Date Analyzed (2): 07/21/2020

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD %REC	%RPD	QC LIMITS	
					RPD	REC.
1,1,1,2-Tetrachloroethane	50.0	54.1	108	11	0-20	74-113
1,1,1-Trichloroethane	50.0	58.4	117	12	0-20	65-118
1,1,2,2-Tetrachloroethane	50.0	43.0	86	5	0-20	74-121
1,1,2-Trichloroethane	50.0	50.5	101	8	0-20	80-117
1,1-Dichloroethane	50.0	41.8	84	4	0-20	83-151
1,1-Dichloroethene	50.0	38.5	77	2	0-20	45-146
1,1-Dichloropropene	50.0	53.0	106	9	0-20	59-127
1,2,3-Trichlorobenzene	50.0	36.0	72	29	0-20	67-103
1,2,3-Trichloropropane	50.0	43.8	88	4	0-20	71-123
1,2,4,5-tetramethylbenzene	50.0	45.6	89	5	0-20	66-103
1,2,4-Trichlorobenzene	50.0	40.0	80	10	0-20	66-116
1,2,4-Trimethylbenzene	50.0	46.0	92	7	0-20	68-116
1,2-Dibromoethane (EDB)	50.0	52.6	105	7	0-20	83-115
1,2-Dichlorobenzene	50.0	45.3	91	8	0-20	74-113
1,2-Dichloroethane	50.0	42.9	86	0	0-20	74-129
1,2-Dichloropropane	50.0	50.1	100	8	0-20	75-117
1,3,5-Trimethylbenzene	50.0	46.3	93	6	0-20	67-116
1,3-Dichlorobenzene	50.0	47.0	94	6	0-20	71-112
1,3-Dichloropropane	50.0	47.0	94	7	0-20	74-112
1,4-Dichlorobenzene	50.0	46.7	93	6	0-20	71-113
1,4-Diethylbenzene	50.0	45.4	86	7	0-20	56-130
2,2-Dichloropropane	50.0	48.7	97	11	0-20	63-133
2-Butanone (MEK)	50.0	42.9	84	2	0-20	44-162
2-Chlorotoluene	50.0	45.7	91	6	0-20	74-101
2-Hexanone	50.0	73.7	147	4	0-20	32-183
4-Chlorotoluene	50.0	46.7	93	6	0-20	74-101
4-Methyl-2-pentanone (MIBK)	50.0	51.5	103	6	0-20	69-132
Acetone	50.0	44.1	88	2	0-20	23-188
Benzene	50.0	57.7	96	7	0-20	73-119
Bromobenzene	50.0	51.5	103	7	0-20	72-102
Bromochloromethane	50.0	41.9	84	1	0-20	81-116
Bromodichloromethane	50.0	53.0	106	10	0-20	78-117
Bromoform	50.0	40.7	81	10	0-20	65-122
Bromomethane	50.0	35.3	71	9	0-20	52-147
Carbon disulfide	50.0	41.1	82	4	0-20	41-144
Carbon tetrachloride	50.0	58.1	116	14	0-20	59-120
Chlorobenzene	50.0	47.8	96	8	0-20	75-113
Chlorodifluoromethane	50.0	52.9	106	4	0-20	43-140
Chloroethane	50.0	43.0	86	5	0-20	49-151
Chloroform	50.0	42.1	84	4	0-20	72-122
Chloromethane	50.0	51.9	104	2	0-20	46-144
Dibromochloromethane	50.0	43.2	86	6	0-20	70-120
Dibromomethane	50.0	46.1	92	4	0-20	75-125
Dichlorodifluoromethane	50.0	56.4	113	3	0-20	22-154
Ethanol	1250	1190	95	7	0-20	10-151
Ethylbenzene	50.0	49.0	98	9	0-20	70-113
Hexachloro-1,3-butadiene	50.0	42.1	84	10	0-20	59-121
Isopropylbenzene (Cumene)	50.0	47.1	94	6	0-20	67-115
Methyl-tert-butyl ether	50.0	132	96	7	0-20	72-131

MSV - FORM III VOA-4

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Instrument (2): 70MSV5 Matrix Spike Duplicate - Sample No: 821505MSD

Lab File ID (2): 072120.B\H27530.D Date Analyzed (2): 07/21/2020

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD %REC	%RPD	QC LIMITS	
					RPD	REC.
Methylene Chloride	50.0	41.6	83	9	0-20	61-142
Naphthalene	50.0	37.8	76	23	0-20	70-118
Styrene	50.0	50.5	101	6	0-20	72-118
Tetrachloroethene	50.0	52.8	106	10	0-20	60-128
Toluene	50.0	49.5	99	7	0-20	72-119
Trichloroethene	50.0	50.6	101	8	0-20	69-117
Trichlorofluoromethane	50.0	39.0	78	8	0-20	27-173
Vinyl chloride	50.0	60.2	120	5	0-20	43-143
Xylene (Total)	150	147	98	9	0-20	71-109
cis-1,2-Dichloroethene	50.0	41.2	82	3	0-20	72-121
cis-1,3-Dichloropropene	50.0	53.3	107	8	0-20	78-116
m&p-Xylene	100	98.7	99	10	0-20	72-115
n-Butylbenzene	50.0	41.7	83	6	0-20	73-107
n-Propylbenzene	50.0	46.0	92	6	0-20	68-116
o-Xylene	50.0	48.6	97	6	0-20	73-117
p-Isopropyltoluene	50.0	44.4	89	6	0-20	73-101
sec-Butylbenzene	50.0	43.7	87	7	0-20	72-103
tert-Butylbenzene	50.0	45.4	91	6	0-20	68-100
trans-1,2-Dichloroethene	50.0	45.4	91	12	0-20	56-142
trans-1,3-Dichloropropene	50.0	43.9	88	9	0-20	79-116
trans-1,4-Dichloro-2-butene	50.0	12.0	24	5	0-20	71-121

RPD: 2 out of 70 outside limits.

Spike Recovery: 2 out of 70 outside limits.

08/17/2020 10:11

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 062620.B\H27100.D BFB Injection Date 06/26/2020
Instrument ID: 70MSV5 BFB Injection Time 16:53

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.00 - 40.00% of mass 95	15.86	
75	30.00 - 60.00% of mass 95	47.20	
95	Base Peak, 100.00% relative	100.00	
96	5.00 - 9.00% of mass 95	6.85	
173	Less than 2.00% of mass 174	0.00	
174	50.00 - 100.00% of mass 95	56.09	
175	5.00 - 9.00% of mass 174	4.34	(7.74)[1]
176	95.00 - 101.00% of mass 174	54.46	(97.10)[1]
177	5.00 - 9.00% of mass 176	3.65	(6.71)[2]

1 - Value is % mass 174 2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13495337CAL2	13495337CAL2	062620.B\H27102.D	06/26/2020	17:38
13495341CAL3	13495341CAL3	062620.B\H27103.D	06/26/2020	17:58
13495338CAL4	13495338CAL4	062620.B\H27104.D	06/26/2020	18:54
13495336CAL5	13495336CAL5	062620.B\H27105.D	06/26/2020	19:13
13495340CAL6	13495340CAL6	062620.B\H27106.D	06/26/2020	19:33
13495343CAL7	13495343CAL7	062620.B\H27107.D	06/26/2020	19:52
13495342CAL8	13495342CAL8	062620.B\H27108.D	06/26/2020	20:13
13495339CAL1	13495339CAL1	062620.B\H27109.D	06/26/2020	21:15
13495664ICV	13495664ICV	062620.B\H27111.D	06/26/2020	21:53

MSV - FORM VI VOA-1
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
Acetone	Averaged			0.25758	0.23845	0.21613	0.19998
Benzene	Averaged	2.63727	2.23083	2.12960	2.09339	2.11993	2.07076
Bromobenzene	Averaged		1.20887	1.25809	1.25319	1.25184	1.31015
Bromochloromethane	Averaged		0.35651	0.35606	0.36552	0.34477	0.33497
Bromodichloromethane	Averaged		0.41992	0.44727	0.51213	0.52116	0.55318
Bromoform	Linear		0.15891	0.14500	0.18556	0.19734	0.24497
Bromomethane	Averaged		0.43603	0.34297	0.43635	0.44038	0.43822
2-Butanone (MEK)	Averaged		0.84089	0.78686	0.97579	0.93584	0.95449
n-Butylbenzene	Averaged		4.07611	4.70347	4.65465	4.80341	4.91855
sec-Butylbenzene	Averaged		5.38330	5.60934	5.40392	5.59716	5.73108
tert-Butylbenzene	Averaged		3.79048	4.00780	3.72850	3.86401	3.96219
Carbon disulfide	Averaged		2.75830	2.27454	2.40812	2.63698	2.49820
Carbon tetrachloride	Averaged		0.39013	0.35356	0.37070	0.39672	0.42780
Chlorobenzene	Averaged		2.46098	2.37077	2.32613	2.33392	2.36344
Chlorodifluoromethane	Averaged		1.05190	0.92311	0.93812	1.00925	1.08196
Chloroethane	Averaged		0.93442	0.82440	0.81091	0.80682	0.80025
Chloroform	Averaged		1.66302	1.54362	1.56214	1.55130	1.54753
Chloromethane	Averaged		0.98480	0.99456	0.98090	0.98647	1.00986
2-Chlorotoluene	Averaged		5.45450	5.40740	5.19907	5.29430	5.32212
4-Chlorotoluene	Averaged		4.47583	4.77098	4.63152	4.79329	4.87416
Dibromochloromethane	Linear		0.38684	0.38900	0.49688	0.50522	0.58653
1,2-Dibromoethane (EDB)	Averaged	0.30890	0.29921	0.30542	0.34962	0.34442	0.34985
Dibromomethane	Averaged		0.23592	0.24396	0.25019	0.25320	0.24265
1,2-Dichlorobenzene	Averaged		2.11189	2.03081	1.95714	1.98560	1.99842
1,3-Dichlorobenzene	Averaged		2.25228	2.29958	2.16048	2.16544	2.24987
1,4-Dichlorobenzene	Averaged		2.23164	2.22675	2.15501	2.21751	2.24604
trans-1,4-Dichloro-2-butene	Linear		0.07930	0.07834	0.10491	0.13576	0.18736
Dichlorodifluoromethane	Averaged		0.93171	0.97905	0.91022	0.98920	1.01207
1,1-Dichloroethane	Averaged		1.67341	1.66332	1.65423	2.20219	1.70137
1,2-Dichloroethane	Averaged	1.47479	1.16599	1.07805	1.11906	1.07998	1.08737
1,1-Dichloroethene	Averaged	0.71814	0.92696	0.76564	0.79353	0.82030	0.77297
cis-1,2-Dichloroethene	Averaged		1.02908	1.02275	1.02466	1.02267	1.02852
trans-1,2-Dichloroethene	Linear		1.29770	0.87139	0.83691	1.20381	0.85322
1,2-Dichloropropane	Averaged		0.53668	0.52653	0.53740	0.55057	0.52948
1,3-Dichloropropane	Averaged		1.46032	1.42408	1.46922	1.42878	1.44504

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-2
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
2,2-Dichloropropane	Averaged		0.91296	0.85248	0.88729	0.93992	1.03388
1,1-Dichloropropene	Averaged		0.72044	0.70393	0.66609	0.70683	0.69566
cis-1,3-Dichloropropene	Averaged	0.45422	0.48416	0.54144	0.59775	0.65506	0.72647
trans-1,3-Dichloropropene	Linear	0.30696	0.30639	0.37732	0.46432	0.50742	0.58313
1,4-Diethylbenzene	Averaged		1.98971	2.33294	2.28439	2.38152	2.47812
Ethanol	Averaged			0.00535	0.00487	0.00491	0.00477
Ethylbenzene	Averaged		1.47384	1.34609	1.33142	1.38163	1.40963
Hexachloro-1,3-butadiene	Averaged		0.27552	0.29090	0.26828	0.31599	0.32690
2-Hexanone	Averaged			0.29842	0.41961	0.39183	0.43826
Isopropylbenzene (Cumene)	Averaged		6.77261	6.80356	6.50453	6.74032	6.71285
p-Isopropyltoluene	Averaged		3.86816	4.38206	4.37384	4.41895	4.54765
Methylene Chloride	Averaged		1.24393	0.89284	0.85578	1.13601	0.83022
4-Methyl-2-pentanone (MIBK)	Averaged		0.25865	0.26574	0.34098	0.33229	0.35594
Methyl-tert-butyl ether	Averaged		3.03392	2.46160	2.58382	3.32918	2.51837
Naphthalene	Averaged		1.49977	1.46780	1.71575	1.78907	2.11843
n-Propylbenzene	Averaged		7.62384	7.72538	7.47470	7.73957	7.78063
Styrene	Averaged		2.32057	2.27949	2.65008	2.67224	2.77938
1,1,1,2-Tetrachloroethane	Averaged		0.51895	0.49759	0.56137	0.57079	0.65517
1,1,2,2-Tetrachloroethane	Averaged		1.33551	1.23723	1.31994	1.22140	1.31580
Tetrachloroethene	Averaged		0.84816	0.77882	0.77371	0.87974	0.80834
1,2,4,5-tetramethylbenzene	Averaged		2.21263	2.74056	2.86110	3.14824	3.59039
Toluene	Averaged		2.28539	2.27087	2.22029	2.23909	2.19718
1,2,3-Trichlorobenzene	Averaged		0.59999	0.51075	0.53081	0.56266	0.63141
1,2,4-Trichlorobenzene	Averaged		0.73188	0.69144	0.69993	0.72725	0.82340
1,1,1-Trichloroethane	Averaged		0.50271	0.54193	0.56128	0.59207	0.60694
1,1,2-Trichloroethane	Averaged		0.32409	0.35322	0.35671	0.36100	0.35321
Trichloroethene	Averaged		0.55259	0.51507	0.50446	0.50232	0.49661
Trichlorofluoromethane	Averaged		1.49019	1.42299	1.38281	1.41156	1.28324
1,2,3-Trichloropropane	Averaged	0.52692	0.41510	0.35851	0.38503	0.36690	0.37475
1,2,4-Trimethylbenzene	Averaged		4.36012	4.78328	4.76875	4.78933	4.85395
1,3,5-Trimethylbenzene	Averaged		4.42607	4.93099	4.80969	4.89292	4.92203
Vinyl chloride	Averaged		0.86054	0.80110	0.92688	0.93367	0.97782
m&p-Xylene	Averaged	1.59085	1.70699	1.66271	1.67796	1.68799	1.68623
o-Xylene	Averaged		1.53740	1.55258	1.57009	1.60184	1.61209
4-Bromofluorobenzene (S)	Averaged	0.77764	0.78486	0.77906	0.80084	0.80260	0.80808

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-3

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
1,2-Dichloroethane-d4 (S)	Averaged	0.39744	0.33288	0.33419	0.33094	0.32823	0.31940
Toluene-d8 (S)	Averaged	2.25170	2.29439	2.27895	2.28577	2.26920	2.33893

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-4

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL7	CAL8
Acetone	Averaged	0.20946	0.20588
Benzene	Averaged	2.03918	1.85346
Bromobenzene	Averaged	1.33387	1.24748
Bromochloromethane	Averaged	0.32665	0.30720
Bromodichloromethane	Averaged	0.57917	0.57026
Bromoform	Linear	0.27330	0.28292
Bromomethane	Averaged	0.48081	0.49450
2-Butanone (MEK)	Averaged	0.96199	0.94746
n-Butylbenzene	Averaged	4.78771	4.71226
sec-Butylbenzene	Averaged	5.56119	5.18462
tert-Butylbenzene	Averaged	3.86321	3.60186
Carbon disulfide	Averaged	2.81556	2.63666
Carbon tetrachloride	Averaged	0.46964	0.47477
Chlorobenzene	Averaged	2.31681	2.22129
Chlorodifluoromethane	Averaged	1.02030	0.91845
Chloroethane	Averaged	0.82707	0.74841
Chloroform	Averaged	1.57830	1.38792
Chloromethane	Averaged	1.02748	0.90663
2-Chlorotoluene	Averaged	5.24663	4.79124
4-Chlorotoluene	Averaged	4.78915	4.49050
Dibromochloromethane	Linear	0.63511	0.65062
1,2-Dibromoethane (EDB)	Averaged	0.35014	0.32479
Dibromomethane	Averaged	0.24375	0.21176
1,2-Dichlorobenzene	Averaged	1.96187	1.94573
1,3-Dichlorobenzene	Averaged	2.21780	2.13463
1,4-Dichlorobenzene	Averaged	2.22997	2.15741
trans-1,4-Dichloro-2-butene	Linear	0.23798	0.25393
Dichlorodifluoromethane	Averaged	0.97868	0.82545
1,1-Dichloroethane	Averaged	1.68656	1.46156
1,2-Dichloroethane	Averaged	1.09270	0.99300
1,1-Dichloroethene	Averaged	0.77410	0.70140
cis-1,2-Dichloroethene	Averaged	1.01480	0.89171
trans-1,2-Dichloroethene	Linear	0.86560	0.75043
1,2-Dichloropropane	Averaged	0.54750	0.51870
1,3-Dichloropropane	Averaged	1.45779	1.42505

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-5
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL7	CAL8
2,2-Dichloropropane	Averaged	1.12831	1.11058
1,1-Dichloropropene	Averaged	0.71675	0.68376
cis-1,3-Dichloropropene	Averaged	0.76586	0.74598
trans-1,3-Dichloropropene	Linear	0.62135	0.61370
1,4-Diethylbenzene	Averaged	2.41240	2.38054
Ethanol	Averaged	0.00601	0.00605
Ethylbenzene	Averaged	1.38153	1.28376
Hexachloro-1,3-butadiene	Averaged	0.35055	0.38080
2-Hexanone	Averaged	0.46453	0.46724
Isopropylbenzene (Cumene)	Averaged	6.73814	5.69953
p-Isopropyltoluene	Averaged	4.33634	4.11425
Methylene Chloride	Averaged	0.82957	0.97466
4-Methyl-2-pentanone (MIBK)	Averaged	0.35954	0.34927
Methyl-tert-butyl ether	Averaged	2.56452	2.46710
Naphthalene	Averaged	2.22301	2.43630
n-Propylbenzene	Averaged	7.61993	6.73626
Styrene	Averaged	2.68329	2.44808
1,1,1,2-Tetrachloroethane	Averaged	0.68120	0.67827
1,1,2,2-Tetrachloroethane	Averaged	1.31923	1.24097
Tetrachloroethene	Averaged	0.84513	0.85115
1,2,4,5-tetramethylbenzene	Averaged	3.40907	3.54151
Toluene	Averaged	2.13159	1.88257
1,2,3-Trichlorobenzene	Averaged	0.67480	0.74104
1,2,4-Trichlorobenzene	Averaged	0.87324	0.95508
1,1,1-Trichloroethane	Averaged	0.64416	0.62828
1,1,2-Trichloroethane	Averaged	0.34683	0.32270
Trichloroethene	Averaged	0.50636	0.47561
Trichlorofluoromethane	Averaged	1.33036	1.15114
1,2,3-Trichloropropane	Averaged	0.38211	0.35574
1,2,4-Trimethylbenzene	Averaged	4.69295	4.33877
1,3,5-Trimethylbenzene	Averaged	4.82008	4.45400
Vinyl chloride	Averaged	0.94977	0.90520
m&p-Xylene	Averaged	1.60945	1.43810
o-Xylene	Averaged	1.56436	1.43507
4-Bromofluorobenzene (S)	Averaged	0.76381	0.73602

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-6

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL7	CAL8
1,2-Dichloroethane-d4 (S)	Averaged	0.31683	0.31674
Toluene-d8 (S)	Averaged	2.32301	2.47947

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-6

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	CAL7	CAL8
1,2-Dichloroethane-d4 (S)	Averaged	0.31683	0.31674
Toluene-d8 (S)	Averaged	2.32301	2.47947

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-7
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
Acetone	Averaged	10.04383			0.22125	
Benzene	Averaged	10.48863			2.14680	
Bromobenzene	Averaged	3.31769			1.26621	
Bromochloromethane	Averaged	5.93223			0.34167	
Bromodichloromethane	Averaged	11.84477			0.51473	
Bromoform	Linear		0.99891	-0.0213910	0.28621	
Bromomethane	Averaged	11.04226			0.43847	
2-Butanone (MEK)	Averaged	7.84059			0.91476	
n-Butylbenzene	Averaged	5.86457			4.66516	
sec-Butylbenzene	Averaged	3.32809			5.49580	
tert-Butylbenzene	Averaged	3.61759			3.83115	
Carbon disulfide	Averaged	7.48763			2.57548	
Carbon tetrachloride	Averaged	11.44978			0.41190	
Chlorobenzene	Averaged	3.06766			2.34191	
Chlorodifluoromethane	Averaged	6.61593			0.99187	
Chloroethane	Averaged	6.83192			0.82175	
Chloroform	Averaged	5.27586			1.54769	
Chloromethane	Averaged	3.86206			0.98438	
2-Chlorotoluene	Averaged	4.16732			5.24504	
4-Chlorotoluene	Averaged	3.37241			4.68935	
Dibromochloromethane	Linear		0.99943	-0.0364177	0.65642	
1,2-Dibromoethane (EDB)	Averaged	6.70804			0.32904	
Dibromomethane	Averaged	5.71034			0.24020	
1,2-Dichlorobenzene	Averaged	2.88160			1.99878	
1,3-Dichlorobenzene	Averaged	2.71107			2.21144	
1,4-Dichlorobenzene	Averaged	1.68242			2.20919	
trans-1,4-Dichloro-2-butene	Linear		0.99624	-0.0324151	0.25832	
Dichlorodifluoromethane	Averaged	6.73727			0.94662	
1,1-Dichloroethane	Averaged	13.22244			1.72038	
1,2-Dichloroethane	Averaged	12.75888			1.13637	
1,1-Dichloroethene	Averaged	8.83075			0.78413	
cis-1,2-Dichloroethene	Averaged	4.98869			1.00488	
trans-1,2-Dichloroethene	Linear		0.99267	0.07608175	0.75300	
1,2-Dichloropropane	Averaged	2.12276			0.53527	
1,3-Dichloropropane	Averaged	1.28923			1.44433	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-8
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
2,2-Dichloropropane	Averaged	11.23913			0.98078	
1,1-Dichloropropene	Averaged	2.73094			0.69907	
cis-1,3-Dichloropropene	Averaged	19.45539			0.62137	
trans-1,3-Dichloropropene	Linear		0.99961	-0.0204363	0.61997	
1,4-Diethylbenzene	Averaged	6.84010			2.32280	
Ethanol	Averaged	10.90333			0.00533	
Ethylbenzene	Averaged	4.41901			1.37256	
Hexachloro-1,3-butadiene	Averaged	12.97293			0.31556	
2-Hexanone	Averaged	15.24699			0.41332	
Isopropylbenzene (Cumene)	Averaged	6.01169			6.56736	
p-Isopropyltoluene	Averaged	5.29203			4.29161	
Methylene Chloride	Averaged	16.94313			0.96615	
4-Methyl-2-pentanone (MIBK)	Averaged	13.21167			0.32320	
Methyl-tert-butyl ether	Averaged	12.45563			2.70836	
Naphthalene	Averaged	19.67905			1.89288	
n-Propylbenzene	Averaged	4.83455			7.52862	
Styrene	Averaged	7.71025			2.54759	
1,1,1,2-Tetrachloroethane	Averaged	12.83667			0.59476	
1,1,2,2-Tetrachloroethane	Averaged	3.78194			1.28430	
Tetrachloroethene	Averaged	4.85216			0.82643	
1,2,4,5-tetramethylbenzene	Averaged	16.28430			3.07193	
Toluene	Averaged	6.37620			2.17528	
1,2,3-Trichlorobenzene	Averaged	13.48398			0.60735	
1,2,4-Trichlorobenzene	Averaged	12.75692			0.78603	
1,1,1-Trichloroethane	Averaged	8.59838			0.58248	
1,1,2-Trichloroethane	Averaged	4.52373			0.34540	
Trichloroethene	Averaged	4.59503			0.50757	
Trichlorofluoromethane	Averaged	8.21604			1.35318	
1,2,3-Trichloropropane	Averaged	14.21537			0.39563	
1,2,4-Trimethylbenzene	Averaged	4.60227			4.65531	
1,3,5-Trimethylbenzene	Averaged	4.57781			4.75083	
Vinyl chloride	Averaged	6.56643			0.90785	
m&p-Xylene	Averaged	5.40740			1.63253	
o-Xylene	Averaged	3.75821			1.55335	
4-Bromofluorobenzene (S)	Averaged	3.03498			0.78161	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-9

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV5 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 06/26/2020 06/26/2020 Calibration Time(s): 17:38 21:15

LAB FILE ID

CAL1 = 062620.B\H27109.D CAL2 = 062620.B\H27102.D CAL3 = 062620.B\H27103.D

CAL4 = 062620.B\H27104.D CAL5 = 062620.B\H27105.D CAL6 = 062620.B\H27106.D

CAL7 = 062620.B\H27107.D CAL8 = 062620.B\H27108.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
1,2-Dichloroethane-d4 (S)	Averaged	7.88490			0.33458	
Toluene-d8 (S)	Averaged	3.11342			2.31518	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

NO SAMPLES ASSOCIATED

SAMPLE NO.

13495664ICV

MSV - FORM VII VOA-1
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Calibration Date: 06/26/2020 Time: 21:53

Instrument ID: 70MSV5 GC Column: Col 1 Init. Calib. Date(s): 06/26/2020 06/26/2020

Lab File ID: 062620.B\H27111.D Init. Calib. Time(s): 17:38 21:15

SDG No.: 70137879

COMPOUND	CURVE	$\overline{\text{RRF}}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Averaged	0.22125	0.27670	0.1000	25.0659	30.0000
Benzene	Averaged	2.14680	2.22903	0.5000	3.8304	30.0000
Bromobenzene	Averaged	1.26621	1.29169	0.0100	2.0119	30.0000
Bromochloromethane	Averaged	0.34167	0.31875	0.0100	-6.7074	30.0000
Bromodichloromethane	Averaged	0.51473	0.52966	0.2000	2.9016	30.0000
Bromoform	Linear	50	43.88373	0.1000	-12.2325	30.0000
Bromomethane	Averaged	0.43847	0.54588	0.1000	24.4967	30.0000
2-Butanone (MEK)	Averaged	0.91476	0.46252	0.1000	-49.4386	30.0000
n-Butylbenzene	Averaged	4.66516	4.94343	0.0100	5.9647	30.0000
sec-Butylbenzene	Averaged	5.49580	5.77423	0.0100	5.0662	30.0000
tert-Butylbenzene	Averaged	3.83115	3.97552	0.0100	3.7683	30.0000
Carbon disulfide	Averaged	2.57548	2.71011	0.1000	5.2272	30.0000
Carbon tetrachloride	Averaged	0.41190	0.45812	0.1000	11.2214	30.0000
Chlorobenzene	Averaged	2.34191	2.32568	0.5000	-0.6927	30.0000
Chlorodifluoromethane	Averaged	0.99187	1.08967	0.0100	9.8597	30.0000
Chloroethane	Averaged	0.82175	0.91379	0.1000	11.2005	30.0000
Chloroform	Averaged	1.54769	1.57288	0.2000	1.6274	30.0000
Chloromethane	Averaged	0.98438	1.21354	0.1000	23.2794	30.0000
2-Chlorotoluene	Averaged	5.24504	5.39873	0.0100	2.9303	30.0000
4-Chlorotoluene	Averaged	4.68935	4.74869	0.0100	1.2655	30.0000
Dibromochloromethane	Linear	50	46.54776	0.1000	-6.9045	30.0000
1,2-Dibromoethane (EDB)	Averaged	0.32904	0.35129	0.1000	6.7616	30.0000
Dibromomethane	Averaged	0.24020	0.24702	0.0100	2.8375	30.0000
1,2-Dichlorobenzene	Averaged	1.99878	1.98100	0.4000	-0.8897	30.0000
1,3-Dichlorobenzene	Averaged	2.21144	2.26554	0.6000	2.4465	30.0000
1,4-Dichlorobenzene	Averaged	2.20919	2.24029	0.5000	1.4077	30.0000
trans-1,4-Dichloro-2-butene	Linear	50	39.10698	0.0100	-21.7860	30.0000
Dichlorodifluoromethane	Averaged	0.94662	0.93879	0.1000	-0.8273	30.0000
1,1-Dichloroethane	Averaged	1.72038	1.79438	0.2000	4.3017	30.0000
1,2-Dichloroethane	Averaged	1.13637	1.08199	0.1000	-4.7852	30.0000
1,1-Dichloroethene	Averaged	0.78413	0.89723	0.1000	14.4235	30.0000
cis-1,2-Dichloroethene	Averaged	1.00488	1.03951	0.1000	3.4460	30.0000
trans-1,2-Dichloroethene	Linear	50	58.10793	0.1000	16.2159	30.0000
1,2-Dichloropropane	Averaged	0.53527	0.55311	0.1000	3.3330	30.0000
1,3-Dichloropropane	Averaged	1.44433	1.44546	0.0100	0.0785	30.0000
2,2-Dichloropropane	Averaged	0.98078	1.18078	0.0100	20.3921	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

SAMPLE NO.

MSV - FORM VII VOA-2
MSV INITIAL CALIBRATION DATA

13495664ICV

Lab Name: Pace Analytical - New York Calibration Date: 06/26/2020 Time: 21:53

Instrument ID: 70MSV5 GC Column: Col 1 Init. Calib. Date(s): 06/26/2020 06/26/2020

Lab File ID: 062620.B\H27111.D Init. Calib. Time(s): 17:38 21:15

SDG No.: 70137879

COMPOUND	CURVE	$\overline{\text{RRF}}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.69907	0.73187	0.0100	4.6931	30.0000
cis-1,3-Dichloropropene	Averaged	0.62137	0.76227	0.2000	22.6771	30.0000
trans-1,3-Dichloropropene	Linear	50	50.75524	0.1000	1.5105	30.0000
1,4-Diethylbenzene	Averaged	2.32280	2.55268	0.0100	9.8965	30.0000
Ethanol	Averaged	0.00533	0.00577	0.0100	8.3659	30.0000
Ethylbenzene	Averaged	1.37256	1.36269	0.1000	-0.7189	30.0000
Hexachloro-1,3-butadiene	Averaged	0.31556	0.32264	0.0100	2.2418	30.0000
2-Hexanone	Averaged	0.41332	0.45772	0.1000	10.7446	30.0000
Isopropylbenzene (Cumene)	Averaged	6.56736	6.83849	0.1000	4.1284	30.0000
p-Isopropyltoluene	Averaged	4.29161	4.51291	0.0100	5.1566	30.0000
Methylene Chloride	Averaged	0.96615	0.83195	0.1000	-13.8898	30.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.32320	0.32781	0.1000	1.4269	30.0000
Methyl-tert-butyl ether	Averaged	2.70836	2.53960	0.1000	-6.2310	30.0000
Naphthalene	Averaged	1.89288	1.99332	0.0100	5.3062	30.0000
n-Propylbenzene	Averaged	7.52862	7.67306	0.0100	1.9187	30.0000
Styrene	Averaged	2.54759	2.69909	0.3000	5.9469	30.0000
1,1,1,2-Tetrachloroethane	Averaged	0.59476	0.64755	0.0100	8.8750	30.0000
1,1,2,2-Tetrachloroethane	Averaged	1.28430	1.24837	0.3000	-2.7973	30.0000
Tetrachloroethene	Averaged	0.82643	0.83008	0.2000	0.4407	30.0000
1,2,4,5-tetramethylbenzene	Averaged	3.07193	3.38743	0.0100	10.2706	30.0000
Toluene	Averaged	2.17528	2.16150	0.4000	-0.6337	30.0000
1,2,3-Trichlorobenzene	Averaged	0.60735	0.61951	0.0100	2.0024	30.0000
1,2,4-Trichlorobenzene	Averaged	0.78603	0.81023	0.2000	3.0787	30.0000
1,1,1-Trichloroethane	Averaged	0.58248	0.63835	0.1000	9.5915	30.0000
1,1,2-Trichloroethane	Averaged	0.34540	0.34780	0.1000	0.6953	30.0000
Trichloroethene	Averaged	0.50757	0.50000	0.2000	-1.4910	30.0000
Trichlorofluoromethane	Averaged	1.35318	1.52693	0.1000	12.8396	30.0000
1,2,3-Trichloropropane	Averaged	0.39563	0.35709	0.0100	-9.7424	30.0000
1,2,4-Trimethylbenzene	Averaged	4.65531	4.75452	0.0100	2.1311	30.0000
1,3,5-Trimethylbenzene	Averaged	4.75083	4.87465	0.0100	2.6063	30.0000
Vinyl chloride	Averaged	0.90785	1.23494	0.1000	36.0284	30.0000
m&p-Xylene	Averaged	1.63253	1.63836	0.1000	0.3566	30.0000
o-Xylene	Averaged	1.55335	1.58685	0.3000	2.1569	30.0000
4-Bromofluorobenzene (S)	Averaged	0.78161	0.80610	0.0100	3.1325	30.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.33458	0.32221	0.0100	-3.6973	30.0000
Toluene-d8 (S)	Averaged	2.31518	2.28918	0.0100	-1.1229	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 072120.B\H27505.D BFB Injection Date 07/21/2020
Instrument ID: 70MSV5 BFB Injection Time 13:56

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.00 - 40.00% of mass 95	17.54	
75	30.00 - 60.00% of mass 95	48.95	
95	Base Peak, 100.00% relative	100.00	
96	5.00 - 9.00% of mass 95	7.02	
173	Less than 2.00% of mass 174	0.00	
174	50.00 - 100.00% of mass 95	72.68	
175	5.00 - 9.00% of mass 174	5.76	(7.92)[1]
176	95.00 - 101.00% of mass 174	69.97	(96.28)[1]
177	5.00 - 9.00% of mass 176	4.68	(6.68)[2]

1 - Value is % mass 174 2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13608251CCV	13608251CCV	072120.B\H27506.D	07/21/2020	14:29
821356BLANK	821356BLANK	072120.B\H27507.D	07/21/2020	15:15
821357LCS	821357LCS	072120.B\H27508.D	07/21/2020	15:34
PZ-5	70137879013	072120.B\H27509.D	07/21/2020	16:15
PZ-6	70137879014	072120.B\H27510.D	07/21/2020	16:34
MW-20	70137879017	072120.B\H27511.D	07/21/2020	16:53
MW-21	70137879018	072120.B\H27512.D	07/21/2020	17:13
PZ-5	70137879013	072120.B\H27513.D	07/21/2020	17:32

SAMPLE NO.

MSV - FORM VII VOA-1
MSV CONTINUING CALIBRATION DATA

13608251CCV

Lab Name: Pace Analytical - New York Calibration Date: 07/21/2020 Time: 14:29

Instrument ID: 70MSV5 GC Column: Col 1 Init. Calib. Date(s): 06/26/2020 06/26/2020

Lab File ID: 072120.B\H27506.D Init. Calib. Time(s): 17:38 21:15

SDG No.: 70137879

COMPOUND	CURVE	$\overline{RRF}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Averaged	0.22125	0.17806	0.1000	-19.5179	20.0000
Benzene	Averaged	2.14680	1.92738	0.5000	-10.2209	20.0000
Bromobenzene	Averaged	1.26621	1.29001	0.0100	1.8792	20.0000
Bromochloromethane	Averaged	0.34167	0.28364	0.0100	-16.9839	20.0000
Bromodichloromethane	Averaged	0.51473	0.53585	0.2000	4.1046	20.0000
Bromoform	Linear	50	49.97941	0.1000	-0.0412	20.0000
Bromomethane	Averaged	0.43847	0.49576	0.1000	13.0668	20.0000
2-Butanone (MEK)	Averaged	0.91476	0.80281	0.1000	-12.2387	20.0000
n-Butylbenzene	Averaged	4.66516	4.51766	0.0100	-3.1618	20.0000
sec-Butylbenzene	Averaged	5.49580	5.10211	0.0100	-7.1634	20.0000
tert-Butylbenzene	Averaged	3.83115	3.52139	0.0100	-8.0852	20.0000
Carbon disulfide	Averaged	2.57548	2.09272	0.1000	-18.7446	20.0000
Carbon tetrachloride	Averaged	0.41190	0.47539	0.1000	15.4137	20.0000
Chlorobenzene	Averaged	2.34191	2.27783	0.5000	-2.7362	20.0000
Chlorodifluoromethane	Averaged	0.99187	1.08291	0.0100	9.1786	20.0000
Chloroethane	Averaged	0.82175	0.72381	0.1000	-11.9187	20.0000
Chloroform	Averaged	1.54769	1.35632	0.2000	-12.3651	20.0000
Chloromethane	Averaged	0.98438	1.07174	0.1000	8.8738	20.0000
2-Chlorotoluene	Averaged	5.24504	4.72439	0.0100	-9.9265	20.0000
4-Chlorotoluene	Averaged	4.68935	4.25547	0.0100	-9.2525	20.0000
Dibromochloromethane	Linear	50	48.68342	0.1000	-2.6332	20.0000
1,2-Dibromoethane (EDB)	Averaged	0.32904	0.34673	0.1000	5.3753	20.0000
Dibromomethane	Averaged	0.24020	0.23598	0.0100	-1.7571	20.0000
1,2-Dichlorobenzene	Averaged	1.99878	1.80624	0.4000	-9.6329	20.0000
1,3-Dichlorobenzene	Averaged	2.21144	2.09989	0.6000	-5.0442	20.0000
1,4-Dichlorobenzene	Averaged	2.20919	2.11582	0.5000	-4.2264	20.0000
trans-1,4-Dichloro-2-butene	Linear	50	55.56132	0.0100	11.1226	20.0000
Dichlorodifluoromethane	Averaged	0.94662	1.11583	0.1000	17.8743	20.0000
1,1-Dichloroethane	Averaged	1.72038	1.46068	0.2000	-15.0952	20.0000
1,2-Dichloroethane	Averaged	1.13637	0.97615	0.1000	-14.0991	20.0000
1,1-Dichloroethene	Averaged	0.78413	0.63867	0.1000	-18.5499	20.0000
cis-1,2-Dichloroethene	Averaged	1.00488	0.82584	0.1000	-17.8170	20.0000
trans-1,2-Dichloroethene	Linear	50	42.57232	0.1000	-14.8554	20.0000
1,2-Dichloropropane	Averaged	0.53527	0.51226	0.1000	-4.2985	20.0000
1,3-Dichloropropane	Averaged	1.44433	1.35814	0.0100	-5.9672	20.0000
2,2-Dichloropropane	Averaged	0.98078	1.03249	0.0100	5.2729	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

SAMPLE NO.

13608251CCV

MSV - FORM VII VOA-2
MSV CONTINUING CALIBRATION DATA

Lab Name: Pace Analytical - New York Calibration Date: 07/21/2020 Time: 14:29

Instrument ID: 70MSV5 GC Column: Col 1 Init. Calib. Date(s): 06/26/2020 06/26/2020

Lab File ID: 072120.B\H27506.D Init. Calib. Time(s): 17:38 21:15

SDG No.: 70137879

COMPOUND	CURVE	$\overline{\text{RRF}}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.69907	0.69265	0.0100	-0.9181	20.0000
cis-1,3-Dichloropropene	Averaged	0.62137	0.71111	0.2000	14.4424	20.0000
trans-1,3-Dichloropropene	Linear	50	48.74360	0.1000	-2.5128	20.0000
1,4-Diethylbenzene	Averaged	2.32280	2.25116	0.0100	-3.0844	20.0000
Ethanol	Averaged	0.00533	0.00480	0.0100	-9.8922	20.0000
Ethylbenzene	Averaged	1.37256	1.34963	0.1000	-1.6705	20.0000
Hexachloro-1,3-butadiene	Averaged	0.31556	0.46454	0.0100	47.2105	20.0000
2-Hexanone	Averaged	0.41332	0.40474	0.1000	-2.0748	20.0000
Isopropylbenzene (Cumene)	Averaged	6.56736	6.10850	0.1000	-6.9871	20.0000
p-Isopropyltoluene	Averaged	4.29161	4.13186	0.0100	-3.7223	20.0000
Methylene Chloride	Averaged	0.96615	0.73079	0.1000	-24.3606	20.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.32320	0.33070	0.1000	2.3206	20.0000
Methyl-tert-butyl ether	Averaged	2.70836	2.26940	0.1000	-16.2077	20.0000
Naphthalene	Averaged	1.89288	1.20791	0.0100	-36.1867	20.0000
n-Propylbenzene	Averaged	7.52862	6.88871	0.0100	-8.4997	20.0000
Styrene	Averaged	2.54759	2.66014	0.3000	4.4178	20.0000
1,1,1,2-Tetrachloroethane	Averaged	0.59476	0.68374	0.0100	14.9603	20.0000
1,1,2,2-Tetrachloroethane	Averaged	1.28430	1.07231	0.3000	-16.5063	20.0000
Tetrachloroethene	Averaged	0.82643	0.91245	0.2000	10.4086	20.0000
1,2,4,5-tetramethylbenzene	Averaged	3.07193	2.97533	0.0100	-3.1447	20.0000
Toluene	Averaged	2.17528	2.12757	0.4000	-2.1933	20.0000
1,2,3-Trichlorobenzene	Averaged	0.60735	0.41946	0.0100	-30.9364	20.0000
1,2,4-Trichlorobenzene	Averaged	0.78603	0.69626	0.2000	-11.4204	20.0000
1,1,1-Trichloroethane	Averaged	0.58248	0.64329	0.1000	10.4401	20.0000
1,1,2-Trichloroethane	Averaged	0.34540	0.34272	0.1000	-0.7758	20.0000
Trichloroethene	Averaged	0.50757	0.48848	0.2000	-3.7617	20.0000
Trichlorofluoromethane	Averaged	1.35318	1.24623	0.1000	-7.9038	20.0000
1,2,3-Trichloropropane	Averaged	0.39563	0.34510	0.0100	-12.7726	20.0000
1,2,4-Trimethylbenzene	Averaged	4.65531	4.30742	0.0100	-7.4729	20.0000
1,3,5-Trimethylbenzene	Averaged	4.75083	4.40520	0.0100	-7.2751	20.0000
Vinyl chloride	Averaged	0.90785	1.14127	0.1000	25.7104	20.0000
m&p-Xylene	Averaged	1.63253	1.62823	0.1000	-0.2634	20.0000
o-Xylene	Averaged	1.55335	1.54883	0.3000	-0.2909	20.0000
4-Bromofluorobenzene (S)	Averaged	0.78161	0.77750	0.0100	-0.5268	20.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.33458	0.34295	0.0100	2.5025	20.0000
Toluene-d8 (S)	Averaged	2.31518	2.30831	0.0100	-0.2965	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:09

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 070720.B\P24779.D BFB Injection Date 07/07/2020
Instrument ID: 70MSV8 BFB Injection Time 16:24

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.00 - 40.00% of mass 95	18.29	
75	30.00 - 60.00% of mass 95	50.86	
95	Base Peak, 100.00% relative	100.00	
96	5.00 - 9.00% of mass 95	6.42	
173	Less than 2.00% of mass 174	0.66	(1.04)[1]
174	50.00 - 100.00% of mass 95	63.69	
175	5.00 - 9.00% of mass 174	4.66	(7.32)[1]
176	95.00 - 101.00% of mass 174	60.83	(95.50)[1]
177	5.00 - 9.00% of mass 176	4.03	(6.62)[2]

1 - Value is % mass 174 2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13542498CAL1	13542498CAL1	070720.B\P24780.D	07/07/2020	16:50
13542500CAL2	13542500CAL2	070720.B\P24781.D	07/07/2020	17:13
13542495CAL3	13542495CAL3	070720.B\P24782.D	07/07/2020	17:36
13542499CAL4	13542499CAL4	070720.B\P24783.D	07/07/2020	17:59
13542501CAL5	13542501CAL5	070720.B\P24784.D	07/07/2020	18:22
13542497CAL6	13542497CAL6	070720.B\P24785.D	07/07/2020	18:45
13542496CAL7	13542496CAL7	070720.B\P24786.D	07/07/2020	19:08
13542502CAL8	13542502CAL8	070720.B\P24787.D	07/07/2020	19:31
13542697ICV	13542697ICV	070720.B\P24790.D	07/07/2020	20:40

MSV - FORM VI VOA-1
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D
CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D
CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
Acetone	Linear		0.00000	0.14953	0.10636	0.09386	0.08187
Benzene	Averaged	0.96794	0.90005	0.86311	0.86301	0.86207	0.88507
Bromobenzene	Averaged		0.57689	0.60098	0.59531	0.59352	0.60160
Bromochloromethane	Averaged		0.17748	0.20064	0.19989	0.19493	0.19487
Bromodichloromethane	Averaged		0.32554	0.31875	0.31018	0.30924	0.31790
Bromoform	Averaged		0.19464	0.19584	0.21138	0.20668	0.22448
Bromomethane	Quadratic		0.04604	0.05879	0.03929	0.04365	0.04908
2-Butanone (MEK)	Averaged		0.34914	0.36689	0.37336	0.37511	0.38105
n-Butylbenzene	Averaged		2.60551	2.61887	2.66409	2.72791	2.85781
sec-Butylbenzene	Averaged		2.81010	2.86874	2.86427	2.89774	3.06273
tert-Butylbenzene	Averaged		1.83751	1.95435	1.94020	1.96939	2.02108
Carbon disulfide	Averaged		1.15219	1.00660	0.98043	0.93961	0.97352
Carbon tetrachloride	Averaged		0.47036	0.31615	0.32334	0.30582	0.36100
Chlorobenzene	Averaged		1.24715	1.25883	1.28541	1.27433	1.30486
Chlorodifluoromethane	Averaged		0.44225	0.39499	0.37656	0.37851	0.38605
Chloroethane	Averaged		0.25019	0.24562	0.23734	0.22673	0.23895
Chloroform	Averaged		0.71744	0.72135	0.70498	0.69137	0.71245
Chloromethane	Averaged		0.28268	0.23916	0.23144	0.24760	0.25205
2-Chlorotoluene	Averaged		2.05257	1.98436	1.98808	1.97167	2.01440
4-Chlorotoluene	Averaged		2.29930	2.25650	2.24289	2.24469	2.27998
Dibromochloromethane	Averaged		0.37997	0.39222	0.40025	0.40390	0.42656
1,2-Dibromoethane (EDB)	Averaged	0.19742	0.19654	0.19740	0.19107	0.19067	0.19747
Dibromomethane	Averaged		0.14589	0.14145	0.13621	0.13549	0.13589
1,2-Dichlorobenzene	Averaged		0.99710	1.03256	1.07116	1.05343	1.08787
1,3-Dichlorobenzene	Averaged		1.04308	1.12286	1.12783	1.13995	1.16892
1,4-Dichlorobenzene	Averaged		1.09871	1.16088	1.16259	1.16225	1.18702
trans-1,4-Dichloro-2-butene	Averaged		0.21258	0.14831	0.14497	0.13747	0.14971
Dichlorodifluoromethane	Averaged		0.39580	0.37076	0.37721	0.36822	0.39092
1,1-Dichloroethane	Averaged		0.69931	0.68717	0.67329	0.67259	0.68428
1,2-Dichloroethane	Averaged		0.55204	0.56928	0.55428	0.53759	0.56035
1,1-Dichloroethene	Averaged	0.49145	0.30018	0.32218	0.29927	0.31865	0.30114
cis-1,2-Dichloroethene	Averaged		0.41538	0.45520	0.43474	0.43600	0.44301
trans-1,2-Dichloroethene	Averaged		0.38538	0.36451	0.36103	0.36594	0.37151
1,2-Dichloropropane	Averaged		0.23387	0.23129	0.22215	0.22077	0.22504
1,3-Dichloropropane	Averaged		0.64626	0.64674	0.67821	0.65728	0.67151

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-2
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D
CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D
CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
2,2-Dichloropropane	Averaged		0.70619	0.65373	0.60736	0.60508	0.62724
1,1-Dichloropropene	Averaged		0.34552	0.32559	0.31288	0.30979	0.31755
cis-1,3-Dichloropropene	Averaged	0.38347	0.36953	0.38480	0.36560	0.37045	0.37920
trans-1,3-Dichloropropene	Averaged	0.38885	0.33030	0.32812	0.33622	0.32930	0.34274
1,4-Diethylbenzene	Averaged		1.28155	1.31064	1.36169	1.38297	1.43082
Ethanol	Averaged			0.00252	0.00197	0.00182	0.00180
Ethylbenzene	Averaged		0.73654	0.74475	0.76264	0.75578	0.77327
Hexachloro-1,3-butadiene	Averaged		0.18477	0.20196	0.21205	0.21708	0.23352
2-Hexanone	Averaged		0.24838	0.21358	0.22446	0.21724	0.22130
Isopropylbenzene (Cumene)	Averaged		2.81093	2.78052	2.77017	2.75596	2.83718
p-Isopropyltoluene	Averaged		2.41523	2.50617	2.47901	2.50008	2.54264
Methylene Chloride	Averaged		0.39726	0.40626	0.37319	0.36716	0.36893
4-Methyl-2-pentanone (MIBK)	Averaged		0.17026	0.15842	0.15463	0.15905	0.16805
Methyl-tert-butyl ether	Averaged		1.12698	1.15740	1.16649	1.13307	1.15990
Naphthalene	Averaged		1.21849	1.20023	1.22031	1.22091	1.28147
n-Propylbenzene	Averaged		3.25399	3.30185	3.31768	3.31949	3.42697
Styrene	Averaged		1.42101	1.41012	1.48180	1.49228	1.53310
1,1,1,2-Tetrachloroethane	Averaged		0.39884	0.42200	0.42262	0.42543	0.44483
1,1,2,2-Tetrachloroethane	Averaged		0.54247	0.53709	0.52140	0.52296	0.53339
Tetrachloroethene	Averaged		0.43705	0.44289	0.46273	0.46374	0.46990
1,2,4,5-tetramethylbenzene	Averaged		1.88460	1.99224	2.02218	2.05979	2.14702
Toluene	Averaged		1.06663	1.04816	1.02888	1.02482	1.04525
1,2,3-Trichlorobenzene	Averaged		0.35770	0.39169	0.39802	0.40298	0.43057
1,2,4-Trichlorobenzene	Averaged		0.46977	0.51199	0.53533	0.52966	0.56671
1,1,1-Trichloroethane	Averaged		0.39652	0.36463	0.35845	0.36677	0.37366
1,1,2-Trichloroethane	Averaged		0.19000	0.17220	0.17857	0.16602	0.17137
Trichloroethene	Averaged		0.24576	0.25649	0.24792	0.24833	0.25386
Trichlorofluoromethane	Averaged		0.48975	0.55600	0.54632	0.54206	0.57365
1,2,3-Trichloropropane	Averaged	0.15053	0.19000	0.14941	0.16191	0.15136	0.16204
1,2,4-Trimethylbenzene	Averaged		2.20072	2.24806	2.30306	2.29999	2.36062
1,3,5-Trimethylbenzene	Averaged		2.17181	2.30690	2.29875	2.31960	2.37563
Vinyl chloride	Averaged		0.29206	0.28731	0.26271	0.27914	0.29929
m&p-Xylene	Averaged	0.88292	0.91040	0.90402	0.92352	0.92197	0.94782
o-Xylene	Averaged		0.85261	0.86934	0.89886	0.89176	0.90464
4-Bromofluorobenzene (S)	Averaged	0.96257	0.95842	0.95917	0.97183	0.96709	0.96911

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-3

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D

CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D

CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
1,2-Dichloroethane-d4 (S)	Averaged	0.38295	0.37806	0.38440	0.37672	0.37788	0.37630
Toluene-d8 (S)	Averaged	2.44997	2.48914	2.46124	2.52144	2.50341	2.49767

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-4

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D

CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D

CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL7	CAL8
Acetone	Linear	0.07488	0.07567
Benzene	Averaged	0.91304	0.90873
Bromobenzene	Averaged	0.63313	0.61987
Bromochloromethane	Averaged	0.19606	0.17322
Bromodichloromethane	Averaged	0.32658	0.33013
Bromoform	Averaged	0.23821	0.24119
Bromomethane	Quadratic	0.06378	0.10284
2-Butanone (MEK)	Averaged	0.37932	0.38856
n-Butylbenzene	Averaged	3.06479	3.03843
sec-Butylbenzene	Averaged	3.24578	3.19071
tert-Butylbenzene	Averaged	2.13599	2.09591
Carbon disulfide	Averaged	0.99059	0.99155
Carbon tetrachloride	Averaged	0.34433	0.32837
Chlorobenzene	Averaged	1.33964	1.32820
Chlorodifluoromethane	Averaged	0.39857	0.39567
Chloroethane	Averaged	0.22984	0.22489
Chloroform	Averaged	0.72241	0.72556
Chloromethane	Averaged	0.26986	0.28503
2-Chlorotoluene	Averaged	2.13932	2.12332
4-Chlorotoluene	Averaged	2.41215	2.42265
Dibromochloromethane	Averaged	0.44185	0.44236
1,2-Dibromoethane (EDB)	Averaged	0.20254	0.20263
Dibromomethane	Averaged	0.14093	0.14070
1,2-Dichlorobenzene	Averaged	1.12181	1.10359
1,3-Dichlorobenzene	Averaged	1.23161	1.20642
1,4-Dichlorobenzene	Averaged	1.23126	1.22246
trans-1,4-Dichloro-2-butene	Averaged	0.15726	0.16169
Dichlorodifluoromethane	Averaged	0.39375	0.38797
1,1-Dichloroethane	Averaged	0.69686	0.69417
1,2-Dichloroethane	Averaged	0.56112	0.56160
1,1-Dichloroethene	Averaged	0.30473	0.30701
cis-1,2-Dichloroethene	Averaged	0.45372	0.45631
trans-1,2-Dichloroethene	Averaged	0.37889	0.37964
1,2-Dichloropropane	Averaged	0.23272	0.23075
1,3-Dichloropropane	Averaged	0.68707	0.67896

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-5
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D

CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D

CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL7	CAL8
2,2-Dichloropropane	Averaged	0.63722	0.63519
1,1-Dichloropropene	Averaged	0.32656	0.32551
cis-1,3-Dichloropropene	Averaged	0.38939	0.39314
trans-1,3-Dichloropropene	Averaged	0.35170	0.35646
1,4-Diethylbenzene	Averaged	1.52628	1.51242
Ethanol	Averaged	0.00169	0.00157
Ethylbenzene	Averaged	0.80312	0.78562
Hexachloro-1,3-butadiene	Averaged	0.25276	0.25430
2-Hexanone	Averaged	0.22214	0.22123
Isopropylbenzene (Cumene)	Averaged	2.97456	2.92312
p-Isopropyltoluene	Averaged	2.70990	2.65593
Methylene Chloride	Averaged	0.37388	0.37536
4-Methyl-2-pentanone (MIBK)	Averaged	0.16704	0.16407
Methyl-tert-butyl ether	Averaged	1.17963	1.18834
Naphthalene	Averaged	1.34965	1.36557
n-Propylbenzene	Averaged	3.62134	3.60035
Styrene	Averaged	1.58035	1.56561
1,1,1,2-Tetrachloroethane	Averaged	0.45795	0.45031
1,1,2,2-Tetrachloroethane	Averaged	0.54852	0.54997
Tetrachloroethene	Averaged	0.48182	0.46626
1,2,4,5-tetramethylbenzene	Averaged	2.30169	2.28469
Toluene	Averaged	1.08233	1.08313
1,2,3-Trichlorobenzene	Averaged	0.45882	0.46568
1,2,4-Trichlorobenzene	Averaged	0.60181	0.60780
1,1,1-Trichloroethane	Averaged	0.38661	0.38352
1,1,2-Trichloroethane	Averaged	0.17466	0.17484
Trichloroethene	Averaged	0.25856	0.25463
Trichlorofluoromethane	Averaged	0.57998	0.57242
1,2,3-Trichloropropane	Averaged	0.15975	0.16229
1,2,4-Trimethylbenzene	Averaged	2.51233	2.49322
1,3,5-Trimethylbenzene	Averaged	2.51385	2.48447
Vinyl chloride	Averaged	0.31456	0.32330
m&p-Xylene	Averaged	0.97364	0.95463
o-Xylene	Averaged	0.93004	0.92015
4-Bromofluorobenzene (S)	Averaged	0.96138	0.96457

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

08/17/2020 7:06

MSV - FORM VI VOA-6

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D

CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D

CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	CAL7	CAL8
1,2-Dichloroethane-d4 (S)	Averaged	0.36966	0.37285
Toluene-d8 (S)	Averaged	2.49037	2.45563

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-7
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D
CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D
CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
Acetone	Linear		0.99960	0.00657777	0.07365	
Benzene	Averaged	4.02286			0.89538	
Bromobenzene	Averaged	3.04967			0.60304	
Bromochloromethane	Averaged	5.76293			0.19101	
Bromodichloromethane	Averaged	2.53521			0.31976	
Bromoform	Averaged	8.80216			0.21606	
Bromomethane	Quadratic		0.99987	0.00242152	0.02522	0.01923
2-Butanone (MEK)	Averaged	3.38370			0.37335	
n-Butylbenzene	Averaged	6.91692			2.79677	
sec-Butylbenzene	Averaged	5.82799			2.99144	
tert-Butylbenzene	Averaged	5.05126			1.99349	
Carbon disulfide	Averaged	6.78890			1.00493	
Carbon tetrachloride	Averaged	16.04634			0.34991	
Chlorobenzene	Averaged	2.68455			1.29120	
Chlorodifluoromethane	Averaged	5.57930			0.39608	
Chloroethane	Averaged	4.05713			0.23622	
Chloroform	Averaged	1.68273			0.71365	
Chloromethane	Averaged	8.18936			0.25826	
2-Chlorotoluene	Averaged	3.35462			2.03910	
4-Chlorotoluene	Averaged	3.34404			2.30831	
Dibromochloromethane	Averaged	5.97518			0.41244	
1,2-Dibromoethane (EDB)	Averaged	2.25684			0.19697	
Dibromomethane	Averaged	2.74619			0.13951	
1,2-Dichlorobenzene	Averaged	4.02319			1.06679	
1,3-Dichlorobenzene	Averaged	5.38414			1.14867	
1,4-Dichlorobenzene	Averaged	3.78973			1.17502	
trans-1,4-Dichloro-2-butene	Averaged	15.72040			0.15886	
Dichlorodifluoromethane	Averaged	2.94761			0.38352	
1,1-Dichloroethane	Averaged	1.57608			0.68681	
1,2-Dichloroethane	Averaged	1.80838			0.55661	
1,1-Dichloroethene	Averaged	19.83214			0.33058	
cis-1,2-Dichloroethene	Averaged	3.34852			0.44205	
trans-1,2-Dichloroethene	Averaged	2.44400			0.37241	
1,2-Dichloropropane	Averaged	2.33624			0.22808	
1,3-Dichloropropane	Averaged	2.46948			0.66658	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-8
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D

CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D

CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
2,2-Dichloropropane	Averaged	5.36116			0.63886	
1,1-Dichloropropene	Averaged	3.65584			0.32334	
cis-1,3-Dichloropropene	Averaged	2.63898			0.37945	
trans-1,3-Dichloropropene	Averaged	5.91959			0.34546	
1,4-Diethylbenzene	Averaged	6.72799			1.40091	
Ethanol	Averaged	17.60798			0.00190	
Ethylbenzene	Averaged	3.03920			0.76596	
Hexachloro-1,3-butadiene	Averaged	11.65836			0.22235	
2-Hexanone	Averaged	5.04698			0.22405	
Isopropylbenzene (Cumene)	Averaged	2.92306			2.83606	
p-Isopropyltoluene	Averaged	4.06647			2.54414	
Methylene Chloride	Averaged	3.98718			0.38029	
4-Methyl-2-pentanone (MIBK)	Averaged	3.56016			0.16307	
Methyl-tert-butyl ether	Averaged	1.94347			1.15883	
Naphthalene	Averaged	5.38466			1.26523	
n-Propylbenzene	Averaged	4.38478			3.40595	
Styrene	Averaged	4.43974			1.49775	
1,1,1,2-Tetrachloroethane	Averaged	4.73133			0.43171	
1,1,2,2-Tetrachloroethane	Averaged	2.12889			0.53654	
Tetrachloroethene	Averaged	3.37655			0.46063	
1,2,4,5-tetramethylbenzene	Averaged	7.34693			2.09889	
Toluene	Averaged	2.25944			1.05417	
1,2,3-Trichlorobenzene	Averaged	9.32610			0.41507	
1,2,4-Trichlorobenzene	Averaged	9.06602			0.54615	
1,1,1-Trichloroethane	Averaged	3.63262			0.37574	
1,1,2-Trichloroethane	Averaged	4.28291			0.17538	
Trichloroethene	Averaged	1.93091			0.25222	
Trichlorofluoromethane	Averaged	5.58386			0.55146	
1,2,3-Trichloropropane	Averaged	8.07875			0.16091	
1,2,4-Trimethylbenzene	Averaged	5.05111			2.34543	
1,3,5-Trimethylbenzene	Averaged	4.98905			2.35300	
Vinyl chloride	Averaged	7.02078			0.29405	
m&p-Xylene	Averaged	3.19769			0.92736	
o-Xylene	Averaged	3.03611			0.89534	
4-Bromofluorobenzene (S)	Averaged	0.49600			0.96427	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-9

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV8 GC Column: Col 1 SDG No.: 70137879

Calibration Date(s): 07/07/2020 07/07/2020 Calibration Time(s): 16:50 19:31

LAB FILE ID

CAL1 = 070720.B\P24780.D CAL2 = 070720.B\P24781.D CAL3 = 070720.B\P24782.D

CAL4 = 070720.B\P24783.D CAL5 = 070720.B\P24784.D CAL6 = 070720.B\P24785.D

CAL7 = 070720.B\P24786.D CAL8 = 070720.B\P24787.D

COMPOUND	CURVE TYPE	%RSD	R2	A1	A2	A3
1,2-Dichloroethane-d4 (S)	Averaged	1.27718			0.37735	
Toluene-d8 (S)	Averaged	1.02220			2.48361	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

NO SAMPLES ASSOCIATED

SAMPLE NO.

13542697ICV

MSV - FORM VII VOA-1
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Calibration Date: 07/07/2020 Time: 20:40

Instrument ID: 70MSV8 GC Column: Col 1 Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 070720.B\P24790.D Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	$\overline{\text{RRF}}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Linear	50	56.65316	0.1000	13.3063	30.0000
Benzene	Averaged	0.89538	0.95904	0.5000	7.1102	30.0000
Bromobenzene	Averaged	0.60304	0.61566	0.0100	2.0918	30.0000
Bromochloromethane	Averaged	0.19101	0.20509	0.0100	7.3684	30.0000
Bromodichloromethane	Averaged	0.31976	0.31611	0.2000	-1.1422	30.0000
Bromoform	Averaged	0.21606	0.22982	0.1000	6.3684	30.0000
Bromomethane	Quadratic	50	90.63080	0.1000	81.2616	30.0000
2-Butanone (MEK)	Averaged	0.37335	0.17279	0.1000	-53.7197	30.0000
n-Butylbenzene	Averaged	2.79677	2.90133	0.0100	3.7384	30.0000
sec-Butylbenzene	Averaged	2.99144	3.02716	0.0100	1.1940	30.0000
tert-Butylbenzene	Averaged	1.99349	2.05684	0.0100	3.1780	30.0000
Carbon disulfide	Averaged	1.00493	1.01036	0.1000	0.5404	30.0000
Carbon tetrachloride	Averaged	0.34991	0.37003	0.1000	5.7507	30.0000
Chlorobenzene	Averaged	1.29120	1.34929	0.5000	4.4988	30.0000
Chlorodifluoromethane	Averaged	0.39608	0.40411	0.0100	2.0252	30.0000
Chloroethane	Averaged	0.23622	0.24112	0.1000	2.0738	30.0000
Chloroform	Averaged	0.71365	0.72886	0.2000	2.1316	30.0000
Chloromethane	Averaged	0.25826	0.32012	0.1000	23.9500	30.0000
2-Chlorotoluene	Averaged	2.03910	2.08518	0.0100	2.2597	30.0000
4-Chlorotoluene	Averaged	2.30831	2.33023	0.0100	0.9499	30.0000
Dibromochloromethane	Averaged	0.41244	0.44446	0.1000	7.7619	30.0000
1,2-Dibromoethane (EDB)	Averaged	0.19697	0.20738	0.1000	5.2875	30.0000
Dibromomethane	Averaged	0.13951	0.14629	0.0100	4.8642	30.0000
1,2-Dichlorobenzene	Averaged	1.06679	1.13789	0.4000	6.6648	30.0000
1,3-Dichlorobenzene	Averaged	1.14867	1.22400	0.6000	6.5584	30.0000
1,4-Dichlorobenzene	Averaged	1.17502	1.23093	0.5000	4.7580	30.0000
trans-1,4-Dichloro-2-butene	Averaged	0.15886	0.15004	0.0100	-5.5532	30.0000
Dichlorodifluoromethane	Averaged	0.38352	0.39659	0.1000	3.4079	30.0000
1,1-Dichloroethane	Averaged	0.68681	0.70678	0.2000	2.9082	30.0000
1,2-Dichloroethane	Averaged	0.55661	0.57157	0.1000	2.6879	30.0000
1,1-Dichloroethene	Averaged	0.33058	0.33541	0.1000	1.4631	30.0000
cis-1,2-Dichloroethene	Averaged	0.44205	0.45494	0.1000	2.9151	30.0000
trans-1,2-Dichloroethene	Averaged	0.37241	0.40208	0.1000	7.9647	30.0000
1,2-Dichloropropane	Averaged	0.22808	0.23277	0.1000	2.0545	30.0000
1,3-Dichloropropane	Averaged	0.66658	0.70301	0.0100	5.4655	30.0000
2,2-Dichloropropane	Averaged	0.63886	0.64525	0.0100	1.0010	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

SAMPLE NO.

13542697ICV

MSV - FORM VII VOA-2
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Calibration Date: 07/07/2020 Time: 20:40

Instrument ID: 70MSV8 GC Column: Col 1 Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 070720.B\P24790.D Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	$\overline{\text{RRF}}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.32334	0.32281	0.0100	-0.1656	30.0000
cis-1,3-Dichloropropene	Averaged	0.37945	0.40244	0.2000	6.0596	30.0000
trans-1,3-Dichloropropene	Averaged	0.34546	0.36635	0.1000	6.0463	30.0000
1,4-Diethylbenzene	Averaged	1.40091	1.53041	0.0100	9.2440	30.0000
Ethanol	Averaged	0.00190	0.00176	0.0100	470.0794	30.0000
Ethylbenzene	Averaged	0.76596	0.76767	0.1000	0.2236	30.0000
Hexachloro-1,3-butadiene	Averaged	0.22235	0.25288	0.0100	13.7325	30.0000
2-Hexanone	Averaged	0.22405	0.21841	0.1000	-2.5184	30.0000
Isopropylbenzene (Cumene)	Averaged	2.83606	2.87137	0.1000	1.2450	30.0000
p-Isopropyltoluene	Averaged	2.54414	2.60549	0.0100	2.4114	30.0000
Methylene Chloride	Averaged	0.38029	0.37806	0.1000	-0.5881	30.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.16307	0.16837	0.1000	3.2485	30.0000
Methyl-tert-butyl ether	Averaged	1.15883	1.19476	0.1000	3.1005	30.0000
Naphthalene	Averaged	1.26523	1.39282	0.0100	10.0839	30.0000
n-Propylbenzene	Averaged	3.40595	3.36852	0.0100	-1.0988	30.0000
Styrene	Averaged	1.49775	1.52900	0.3000	2.0863	30.0000
1,1,1,2-Tetrachloroethane	Averaged	0.43171	0.45219	0.0100	4.7442	30.0000
1,1,2,2-Tetrachloroethane	Averaged	0.53654	0.56461	0.3000	5.2320	30.0000
Tetrachloroethene	Averaged	0.46063	0.48142	0.2000	4.5152	30.0000
1,2,4,5-tetramethylbenzene	Averaged	2.09889	2.25193	0.0100	7.2919	30.0000
Toluene	Averaged	1.05417	1.07690	0.4000	2.1560	30.0000
1,2,3-Trichlorobenzene	Averaged	0.41507	0.46135	0.0100	11.1503	30.0000
1,2,4-Trichlorobenzene	Averaged	0.54615	0.58987	0.2000	8.0042	30.0000
1,1,1-Trichloroethane	Averaged	0.37574	0.38087	0.1000	1.3661	30.0000
1,1,2-Trichloroethane	Averaged	0.17538	0.17941	0.1000	2.2959	30.0000
Trichloroethene	Averaged	0.25222	0.25563	0.2000	1.3519	30.0000
Trichlorofluoromethane	Averaged	0.55146	0.64050	0.1000	16.1472	30.0000
1,2,3-Trichloropropane	Averaged	0.16091	0.16599	0.0100	3.1577	30.0000
1,2,4-Trimethylbenzene	Averaged	2.34543	2.39611	0.0100	2.1607	30.0000
1,3,5-Trimethylbenzene	Averaged	2.35300	2.41116	0.0100	2.4718	30.0000
Vinyl chloride	Averaged	0.29405	0.39231	0.1000	33.4153	30.0000
m&p-Xylene	Averaged	0.92736	0.94199	0.1000	1.5773	30.0000
o-Xylene	Averaged	0.89534	0.91441	0.3000	2.1294	30.0000
4-Bromofluorobenzene (S)	Averaged	0.96427	0.95829	0.0100	-0.6202	30.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.37735	0.37733	0.0100	-0.0058	30.0000
Toluene-d8 (S)	Averaged	2.48361	2.48406	0.0100	0.0183	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 071620.B\P24947.D BFB Injection Date 07/16/2020
Instrument ID: 70MSV8 BFB Injection Time 08:49

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.00 - 40.00% of mass 95	18.06	
75	30.00 - 60.00% of mass 95	50.65	
95	Base Peak, 100.00% relative	100.00	
96	5.00 - 9.00% of mass 95	6.50	
173	Less than 2.00% of mass 174	0.69	(1.11)[1]
174	50.00 - 100.00% of mass 95	62.30	
175	5.00 - 9.00% of mass 174	4.57	(7.34)[1]
176	95.00 - 101.00% of mass 174	59.89	(96.13)[1]
177	5.00 - 9.00% of mass 176	3.96	(6.61)[2]

1 - Value is % mass 174 2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13588256CCV	13588256CCV	071620.B\P24949.D	07/16/2020	10:37
818096BLANK	818096BLANK	071620.B\P24950.D	07/16/2020	11:35
818097LCS	818097LCS	071620.B\P24951.D	07/16/2020	11:59
TRIP BLANK	70137879004	071620.B\P24952.D	07/16/2020	12:42
AZ-PZ-1	70137879001	071620.B\P24961.D	07/16/2020	16:06
AZ-PZ-2	70137879005	071620.B\P24962.D	07/16/2020	16:29
MW-18	70137879006	071620.B\P24963.D	07/16/2020	16:51
MW-2	70137879007	071620.B\P24964.D	07/16/2020	17:14
MW-1	70137879008	071620.B\P24965.D	07/16/2020	17:37
MW-3	70137879009	071620.B\P24966.D	07/16/2020	18:00
MW-4	70137879010	071620.B\P24967.D	07/16/2020	18:23
MW-4-DUP	70137879011	071620.B\P24968.D	07/16/2020	18:46
MW-10	70137879012	071620.B\P24969.D	07/16/2020	19:09
PZ-11R	70137879015	071620.B\P24970.D	07/16/2020	19:32
PZ-13R	70137879016	071620.B\P24971.D	07/16/2020	19:55

SAMPLE NO.

13588256CCV

MSV - FORM VII VOA-1
MSV CONTINUING CALIBRATION DATA

Lab Name: Pace Analytical - New York Calibration Date: 07/16/2020 Time: 10:37

Instrument ID: 70MSV8 GC Column: Col 1 Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 071620.B\P24949.D Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	$\overline{\text{RRF}}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Linear	50	76.81742	0.1000	53.6349	20.0000
Benzene	Averaged	0.89538	0.90722	0.5000	1.3224	20.0000
Bromobenzene	Averaged	0.60304	0.56976	0.0100	-5.5185	20.0000
Bromochloromethane	Averaged	0.19101	0.22189	0.0100	16.1668	20.0000
Bromodichloromethane	Averaged	0.31976	0.31817	0.2000	-0.4955	20.0000
Bromoform	Averaged	0.21606	0.17281	0.1000	-20.0166	20.0000
Bromomethane	Quadratic	50	62.85079	0.1000	25.7016	20.0000
2-Butanone (MEK)	Averaged	0.37335	0.44757	0.1000	19.8809	20.0000
n-Butylbenzene	Averaged	2.79677	3.00002	0.0100	7.2671	20.0000
sec-Butylbenzene	Averaged	2.99144	3.06159	0.0100	2.3449	20.0000
tert-Butylbenzene	Averaged	1.99349	1.95209	0.0100	-2.0768	20.0000
Carbon disulfide	Averaged	1.00493	1.07041	0.1000	6.5162	20.0000
Carbon tetrachloride	Averaged	0.34991	0.27115	0.1000	-22.5072	20.0000
Chlorobenzene	Averaged	1.29120	1.21693	0.5000	-5.7524	20.0000
Chlorodifluoromethane	Averaged	0.39608	0.41186	0.0100	3.9827	20.0000
Chloroethane	Averaged	0.23622	0.27983	0.1000	18.4583	20.0000
Chloroform	Averaged	0.71365	0.83201	0.2000	16.5845	20.0000
Chloromethane	Averaged	0.25826	0.28645	0.1000	10.9138	20.0000
2-Chlorotoluene	Averaged	2.03910	2.10555	0.0100	3.2585	20.0000
4-Chlorotoluene	Averaged	2.30831	2.40237	0.0100	4.0750	20.0000
Dibromochloromethane	Averaged	0.41244	0.36868	0.1000	-10.6101	20.0000
1,2-Dibromoethane (EDB)	Averaged	0.19697	0.19212	0.1000	-2.4607	20.0000
Dibromomethane	Averaged	0.13951	0.14360	0.0100	2.9342	20.0000
1,2-Dichlorobenzene	Averaged	1.06679	1.05687	0.4000	-0.9295	20.0000
1,3-Dichlorobenzene	Averaged	1.14867	1.13897	0.6000	-0.8439	20.0000
1,4-Dichlorobenzene	Averaged	1.17502	1.16172	0.5000	-1.1320	20.0000
trans-1,4-Dichloro-2-butene	Averaged	0.15886	0.14017	0.0100	-11.7649	20.0000
Dichlorodifluoromethane	Averaged	0.38352	0.30322	0.1000	-20.9373	20.0000
1,1-Dichloroethane	Averaged	0.68681	0.81175	0.2000	18.1910	20.0000
1,2-Dichloroethane	Averaged	0.55661	0.66405	0.1000	19.3033	20.0000
1,1-Dichloroethene	Averaged	0.33058	0.34295	0.1000	3.7421	20.0000
cis-1,2-Dichloroethene	Averaged	0.44205	0.51662	0.1000	16.8695	20.0000
trans-1,2-Dichloroethene	Averaged	0.37241	0.41677	0.1000	11.9096	20.0000
1,2-Dichloropropane	Averaged	0.22808	0.23669	0.1000	3.7723	20.0000
1,3-Dichloropropane	Averaged	0.66658	0.68577	0.0100	2.8791	20.0000
2,2-Dichloropropane	Averaged	0.63886	0.56766	0.0100	-11.1454	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

SAMPLE NO.

MSV - FORM VII VOA-2
MSV CONTINUING CALIBRATION DATA

13588256CCV

Lab Name: Pace Analytical - New York Calibration Date: 07/16/2020 Time: 10:37

Instrument ID: 70MSV8 GC Column: Col 1 Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 071620.B\P24949.D Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	$\overline{RRF}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.32334	0.31663	0.0100	-2.0776	20.0000
cis-1,3-Dichloropropene	Averaged	0.37945	0.35669	0.2000	-5.9965	20.0000
trans-1,3-Dichloropropene	Averaged	0.34546	0.29322	0.1000	-15.1218	20.0000
1,4-Diethylbenzene	Averaged	1.40091	1.41851	0.0100	1.2566	20.0000
Ethanol	Averaged	0.00190	0.00226	0.0100	19.2907	20.0000
Ethylbenzene	Averaged	0.76596	0.72098	0.1000	-5.8721	20.0000
Hexachloro-1,3-butadiene	Averaged	0.22235	0.20217	0.0100	-9.0728	20.0000
2-Hexanone	Averaged	0.22405	0.22130	0.1000	-1.2272	20.0000
Isopropylbenzene (Cumene)	Averaged	2.83606	2.85103	0.1000	0.5278	20.0000
p-Isopropyltoluene	Averaged	2.54414	2.51840	0.0100	-1.0118	20.0000
Methylene Chloride	Averaged	0.38029	0.44290	0.1000	16.4624	20.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.16307	0.17755	0.1000	8.8762	20.0000
Methyl-tert-butyl ether	Averaged	1.15883	1.31100	0.1000	13.1315	20.0000
Naphthalene	Averaged	1.26523	1.37720	0.0100	8.8495	20.0000
n-Propylbenzene	Averaged	3.40595	3.57805	0.0100	5.0528	20.0000
Styrene	Averaged	1.49775	1.43803	0.3000	-3.9876	20.0000
1,1,1,2-Tetrachloroethane	Averaged	0.43171	0.36956	0.0100	-14.3973	20.0000
1,1,2,2-Tetrachloroethane	Averaged	0.53654	0.58944	0.3000	9.8588	20.0000
Tetrachloroethene	Averaged	0.46063	0.38610	0.2000	-16.1794	20.0000
1,2,4,5-tetramethylbenzene	Averaged	2.09889	2.12899	0.0100	1.4345	20.0000
Toluene	Averaged	1.05417	1.06191	0.4000	0.7338	20.0000
1,2,3-Trichlorobenzene	Averaged	0.41507	0.40581	0.0100	-2.2298	20.0000
1,2,4-Trichlorobenzene	Averaged	0.54615	0.51842	0.2000	-5.0779	20.0000
1,1,1-Trichloroethane	Averaged	0.37574	0.33064	0.1000	-12.0019	20.0000
1,1,2-Trichloroethane	Averaged	0.17538	0.17677	0.1000	0.7929	20.0000
Trichloroethene	Averaged	0.25222	0.24697	0.2000	-2.0828	20.0000
Trichlorofluoromethane	Averaged	0.55146	0.62859	0.1000	13.9881	20.0000
1,2,3-Trichloropropane	Averaged	0.16091	0.16651	0.0100	3.4762	20.0000
1,2,4-Trimethylbenzene	Averaged	2.34543	2.42260	0.0100	3.2902	20.0000
1,3,5-Trimethylbenzene	Averaged	2.35300	2.39219	0.0100	1.6657	20.0000
Vinyl chloride	Averaged	0.29405	0.33841	0.1000	15.0843	20.0000
m&p-Xylene	Averaged	0.92736	0.88385	0.1000	-4.6920	20.0000
o-Xylene	Averaged	0.89534	0.84115	0.3000	-6.0525	20.0000
4-Bromofluorobenzene (S)	Averaged	0.96427	0.95320	0.0100	-1.1478	20.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.37735	0.39076	0.0100	3.5529	20.0000
Toluene-d8 (S)	Averaged	2.48361	2.44221	0.0100	-1.6670	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 071720.B\P24974.D BFB Injection Date 07/17/2020
Instrument ID: 70MSV8 BFB Injection Time 16:19

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.00 - 40.00% of mass 95	18.65	
75	30.00 - 60.00% of mass 95	50.55	
95	Base Peak, 100.00% relative	100.00	
96	5.00 - 9.00% of mass 95	6.33	
173	Less than 2.00% of mass 174	0.68	(1.14)[1]
174	50.00 - 100.00% of mass 95	59.11	
175	5.00 - 9.00% of mass 174	4.27	(7.23)[1]
176	95.00 - 101.00% of mass 174	56.68	(95.88)[1]
177	5.00 - 9.00% of mass 176	3.71	(6.54)[2]

1 - Value is % mass 174 2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13593680CCV	13593680CCV	071720.B\P24975.D	07/17/2020	17:11
MW-18	70137879006	071720.B\P24982.D	07/17/2020	20:19

CIS-1,2-DICHLOROETHENE ONLY

SAMPLE NO.

13593680CCV

MSV - FORM VII VOA-1
MSV CONTINUING CALIBRATION DATA

Lab Name: Pace Analytical - New York Calibration Date: 07/17/2020 Time: 17:11

Instrument ID: 70MSV8 GC Column: Col 1 Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 071720.B\P24975.D Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	$\overline{RRF}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
Acetone	Linear	50	109.3455	0.1000	118.6911	20.0000
Benzene	Averaged	0.89538	0.93332	0.5000	4.2370	20.0000
Bromobenzene	Averaged	0.60304	0.54833	0.0100	-9.0726	20.0000
Bromochloromethane	Averaged	0.19101	0.21704	0.0100	13.6244	20.0000
Bromodichloromethane	Averaged	0.31976	0.31788	0.2000	-0.5869	20.0000
Bromoform	Averaged	0.21606	0.16205	0.1000	-24.9995	20.0000
Bromomethane	Quadratic	50	63.58731	0.1000	27.1746	20.0000
2-Butanone (MEK)	Averaged	0.37335	0.44608	0.1000	19.4806	20.0000
n-Butylbenzene	Averaged	2.79677	3.07399	0.0100	9.9121	20.0000
sec-Butylbenzene	Averaged	2.99144	3.11377	0.0100	4.0893	20.0000
tert-Butylbenzene	Averaged	1.99349	1.96927	0.0100	-1.2149	20.0000
Carbon disulfide	Averaged	1.00493	1.11642	0.1000	11.0947	20.0000
Carbon tetrachloride	Averaged	0.34991	0.31427	0.1000	-10.1854	20.0000
Chlorobenzene	Averaged	1.29120	1.16927	0.5000	-9.4434	20.0000
Chlorodifluoromethane	Averaged	0.39608	0.44721	0.0100	12.9084	20.0000
Chloroethane	Averaged	0.23622	0.30627	0.1000	29.6523	20.0000
Chloroform	Averaged	0.71365	0.85441	0.2000	19.7236	20.0000
Chloromethane	Averaged	0.25826	0.30463	0.1000	17.9559	20.0000
2-Chlorotoluene	Averaged	2.03910	2.09760	0.0100	2.8685	20.0000
4-Chlorotoluene	Averaged	2.30831	2.41294	0.0100	4.5328	20.0000
Dibromochloromethane	Averaged	0.41244	0.34576	0.1000	-16.1686	20.0000
1,2-Dibromoethane (EDB)	Averaged	0.19697	0.18770	0.1000	-4.7082	20.0000
Dibromomethane	Averaged	0.13951	0.14254	0.0100	2.1774	20.0000
1,2-Dichlorobenzene	Averaged	1.06679	1.02743	0.4000	-3.6894	20.0000
1,3-Dichlorobenzene	Averaged	1.14867	1.11259	0.6000	-3.1404	20.0000
1,4-Dichlorobenzene	Averaged	1.17502	1.12859	0.5000	-3.9516	20.0000
trans-1,4-Dichloro-2-butene	Averaged	0.15886	0.14338	0.0100	-9.7448	20.0000
Dichlorodifluoromethane	Averaged	0.38352	0.31354	0.1000	-18.2472	20.0000
1,1-Dichloroethane	Averaged	0.68681	0.84849	0.2000	23.5402	20.0000
1,2-Dichloroethane	Averaged	0.55661	0.66905	0.1000	20.2006	20.0000
1,1-Dichloroethene	Averaged	0.33058	0.36408	0.1000	10.1344	20.0000
cis-1,2-Dichloroethene	Averaged	0.44205	0.53010	0.1000	19.9175	20.0000
trans-1,2-Dichloroethene	Averaged	0.37241	0.44207	0.1000	18.7035	20.0000
1,2-Dichloropropane	Averaged	0.22808	0.24125	0.1000	5.7710	20.0000
1,3-Dichloropropane	Averaged	0.66658	0.65412	0.0100	-1.8683	20.0000
2,2-Dichloropropane	Averaged	0.63886	0.60036	0.0100	-6.0261	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

SAMPLE NO.

MSV - FORM VII VOA-2
MSV CONTINUING CALIBRATION DATA

13593680CCV

Lab Name: Pace Analytical - New York Calibration Date: 07/17/2020 Time: 17:11

Instrument ID: 70MSV8 GC Column: Col 1 Init. Calib. Date(s): 07/07/2020 07/07/2020

Lab File ID: 071720.B\P24975.D Init. Calib. Time(s): 16:50 19:31

SDG No.: 70137879

COMPOUND	CURVE	$\overline{RRF}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,1-Dichloropropene	Averaged	0.32334	0.32945	0.0100	1.8884	20.0000
cis-1,3-Dichloropropene	Averaged	0.37945	0.35956	0.2000	-5.2423	20.0000
trans-1,3-Dichloropropene	Averaged	0.34546	0.29486	0.1000	-14.6471	20.0000
1,4-Diethylbenzene	Averaged	1.40091	1.42311	0.0100	1.5849	20.0000
Ethanol	Averaged	0.00190	0.00260	0.0100	37.1884	20.0000
Ethylbenzene	Averaged	0.76596	0.71191	0.1000	-7.0563	20.0000
Hexachloro-1,3-butadiene	Averaged	0.22235	0.20567	0.0100	-7.4990	20.0000
2-Hexanone	Averaged	0.22405	0.22838	0.1000	1.9344	20.0000
Isopropylbenzene (Cumene)	Averaged	2.83606	2.86974	0.1000	1.1875	20.0000
p-Isopropyltoluene	Averaged	2.54414	2.54970	0.0100	0.2185	20.0000
Methylene Chloride	Averaged	0.38029	0.45631	0.1000	19.9902	20.0000
4-Methyl-2-pentanone (MIBK)	Averaged	0.16307	0.17885	0.1000	9.6759	20.0000
Methyl-tert-butyl ether	Averaged	1.15883	1.31976	0.1000	13.8875	20.0000
Naphthalene	Averaged	1.26523	1.30070	0.0100	2.8035	20.0000
n-Propylbenzene	Averaged	3.40595	3.61530	0.0100	6.1467	20.0000
Styrene	Averaged	1.49775	1.38139	0.3000	-7.7688	20.0000
1,1,1,2-Tetrachloroethane	Averaged	0.43171	0.35089	0.0100	-18.7199	20.0000
1,1,2,2-Tetrachloroethane	Averaged	0.53654	0.58532	0.3000	9.0904	20.0000
Tetrachloroethene	Averaged	0.46063	0.37040	0.2000	-19.5869	20.0000
1,2,4,5-tetramethylbenzene	Averaged	2.09889	2.10284	0.0100	0.1886	20.0000
Toluene	Averaged	1.05417	1.08663	0.4000	3.0789	20.0000
1,2,3-Trichlorobenzene	Averaged	0.41507	0.38566	0.0100	-7.0845	20.0000
1,2,4-Trichlorobenzene	Averaged	0.54615	0.50103	0.2000	-8.2629	20.0000
1,1,1-Trichloroethane	Averaged	0.37574	0.33699	0.1000	-10.3117	20.0000
1,1,2-Trichloroethane	Averaged	0.17538	0.17833	0.1000	1.6830	20.0000
Trichloroethene	Averaged	0.25222	0.24921	0.2000	-1.1945	20.0000
Trichlorofluoromethane	Averaged	0.55146	0.65272	0.1000	18.3626	20.0000
1,2,3-Trichloropropane	Averaged	0.16091	0.16141	0.0100	0.3087	20.0000
1,2,4-Trimethylbenzene	Averaged	2.34543	2.40880	0.0100	2.7018	20.0000
1,3,5-Trimethylbenzene	Averaged	2.35300	2.40341	0.0100	2.1424	20.0000
Vinyl chloride	Averaged	0.29405	0.37843	0.1000	28.6946	20.0000
m&p-Xylene	Averaged	0.92736	0.86483	0.1000	-6.7435	20.0000
o-Xylene	Averaged	0.89534	0.81368	0.3000	-9.1205	20.0000
4-Bromofluorobenzene (S)	Averaged	0.96427	0.94386	0.0100	-2.1166	20.0000
1,2-Dichloroethane-d4 (S)	Averaged	0.37735	0.39939	0.0100	5.8393	20.0000
Toluene-d8 (S)	Averaged	2.48361	2.39581	0.0100	-3.5352	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 060220.B\B7188.D BFB Injection Date: 06/02/2020
Instrument ID: 70MSV9 BFB Injection Time: 13:38

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.00 - 40.00% of mass 95	17.23	
75	30.00 - 60.00% of mass 95	48.99	
95	Base Peak, 100.00% relative	100.00	
96	5.00 - 9.00% of mass 95	6.52	
173	Less than 2.00% of mass 174	0.61	(0.68)[1]
174	50.00 - 100.00% of mass 95	89.08	
175	5.00 - 9.00% of mass 174	6.27	(7.03)[1]
176	95.00 - 101.00% of mass 174	87.03	(97.71)[1]
177	5.00 - 9.00% of mass 176	5.67	(6.51)[2]

1 - Value is % mass 174 2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13370737CAL1	13370737CAL1	060220.B\B7189.D	06/02/2020	14:20
13370733CAL2	13370733CAL2	060220.B\B7190.D	06/02/2020	14:44
13370731CAL3	13370731CAL3	060220.B\B7191.D	06/02/2020	15:10
13370738CAL4	13370738CAL4	060220.B\B7192.D	06/02/2020	15:37
13370736CAL5	13370736CAL5	060220.B\B7193.D	06/02/2020	16:04
13370735CAL6	13370735CAL6	060220.B\B7194.D	06/02/2020	16:31
13370734CAL7	13370734CAL7	060220.B\B7195.D	06/02/2020	16:58
13370732ICV	13370732ICV	060220.B\B7196.D	06/02/2020	17:24

MSV - FORM VI VOA-1

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV9 GC Column: FULL SDG No.: 70137879

Calibration Date(s): 06/02/2020 06/02/2020 Calibration Time(s): 14:20 16:58

LAB FILE ID

CAL1 = 060220.B\B7189.D CAL2 = 060220.B\B7190.D CAL3 = 060220.B\B7191.D

CAL4 = 060220.B\B7192.D CAL5 = 060220.B\B7193.D CAL6 = 060220.B\B7194.D

CAL7 = 060220.B\B7195.D

COMPOUND	CURVE TYPE	CAL1	CAL2	CAL3	CAL4	CAL5	CAL6
1,4-Dioxane (p-Dioxane)	Averaged	0.01940	0.01936	0.01820	0.01806	0.01843	0.02092
4-Bromofluorobenzene (S)	Averaged	0.31218	0.32724	0.31283	0.31828	0.25215	0.32789
1,2-Dichlorobenzene-d4 (S)	Averaged	0.36450	0.39291	0.37608	0.38829	0.39688	0.40511

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM VI VOA-2

MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Instrument ID: 70MSV9 GC Column: FULL SDG No.: 70137879

Calibration Date(s): 06/02/2020 06/02/2020 Calibration Time(s): 14:20 16:58

LAB FILE ID

CAL1 = 060220.B\B7189.D CAL2 = 060220.B\B7190.D CAL3 = 060220.B\B7191.D

CAL4 = 060220.B\B7192.D CAL5 = 060220.B\B7193.D CAL6 = 060220.B\B7194.D

CAL7 = 060220.B\B7195.D

COMPOUND	CURVE TYPE	CAL7	%RSD	R2	A1	A2	A3
1,4-Dioxane (p-Dioxane)	Averaged	0.02307	9.18930			0.01964	
4-Bromofluorobenzene (S)	Averaged	0.26079	10.46368			0.30162	
1,2-Dichlorobenzene-d4 (S)	Averaged	0.41385	4.29336			0.39109	

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

SAMPLE NO.

13370732ICV

MSV - FORM VII VOA-1
MSV INITIAL CALIBRATION DATA

Lab Name: Pace Analytical - New York Calibration Date: 06/02/2020 Time: 17:24

Instrument ID: 70MSV9 GC Column: FULL Init. Calib. Date(s): 06/02/2020 06/02/2020

Lab File ID: 060220.B\B7196.D Init. Calib. Time(s): 14:20 16:58

SDG No.: 70137879

COMPOUND	CURVE	$\overline{RRF}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,4-Dioxane (p-Dioxane)	Averaged	0.01964	0.01743	0.0100	-11.2435	30.0000
4-Bromofluorobenzene (S)	Averaged	0.30162	0.31571	0.0100	4.6699	30.0000
1,2-Dichlorobenzene-d4 (S)	Averaged	0.39109	0.39555	0.0100	1.1395	30.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

MSV - FORM V VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Pace Analytical - New York SDG No.: 70137879 Contract: LMC Utica Annual 7/8
Lab File ID: 072020.B\B7772.D BFB Injection Date 07/20/2020
Instrument ID: 70MSV9 BFB Injection Time 14:40

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.00 - 40.00% of mass 95	20.02	
75	30.00 - 60.00% of mass 95	54.82	
95	Base Peak, 100.00% relative	100.00	
96	5.00 - 9.00% of mass 95	6.46	
173	Less than 2.00% of mass 174	0.60	(0.71)[1]
174	50.00 - 100.00% of mass 95	84.33	
175	5.00 - 9.00% of mass 174	6.10	(7.23)[1]
176	95.00 - 101.00% of mass 174	82.41	(97.72)[1]
177	5.00 - 9.00% of mass 176	5.60	(6.80)[2]

1 - Value is % mass 174 2 - Value is % mass 176

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
13597958CCV	13597958CCV	072020.B\B7775.D	07/20/2020	17:43
820538BLANK	820538BLANK	072020.B\B7776.D	07/20/2020	18:07
820539LCS	820539LCS	072020.B\B7777.D	07/20/2020	18:34
TRIP BLANK	70137879004	072020.B\B7779.D	07/20/2020	19:28
EQUIPMENT BLANK	70137879003	072020.B\B7780.D	07/20/2020	19:54
FIELD BLANK	70137879002	072020.B\B7781.D	07/20/2020	20:21
AZ-PZ-1	70137879001	072020.B\B7782.D	07/20/2020	20:48
820749DUP	820749DUP	072020.B\B7783.D	07/20/2020	21:13
820750MS	820750MS	072020.B\B7784.D	07/20/2020	21:39

SAMPLE NO.

MSV - FORM VII VOA-1
MSV CONTINUING CALIBRATION DATA

13597958CCV

Lab Name: Pace Analytical - New York Calibration Date: 07/20/2020 Time: 17:43

Instrument ID: 70MSV9 GC Column: FULL Init. Calib. Date(s): 06/02/2020 06/02/2020

Lab File ID: 072020.B\B7775.D Init. Calib. Time(s): 14:20 16:58

SDG No.: 70137879

COMPOUND	CURVE	$\overline{RRF}$ or Amount	RRF or Amount	MIN RRF	%D	MAX %D
1,4-Dioxane (p-Dioxane)	Averaged	0.01964	0.01604	0.0100	-18.3249	20.0000
4-Bromofluorobenzene (S)	Averaged	0.30162	0.33097	0.0100	9.7310	20.0000
1,2-Dichlorobenzene-d4 (S)	Averaged	0.39109	0.32611	0.0100	-16.6142	20.0000

The values for compounds reported as total are based on a summation of the components within the laboratory information management system.

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFBA #	PFPeA #	C3PFBS #	PFHxA #	PFHxS #	C4PFHA #	M262FTS #	PFOA #
AZ-PZ-1	200-54421-1	82	86	94	97	76	64	100	89
FIELD BLANK	200-54421-2	116	113	112	112	83	67	112	100
EQUIPMENT BLANK	200-54421-3	101	104	98	96	74	61	92	94
TRIP BLANK	200-54421-4	103	101	101	106	81	66	96	91
	MB 200-157062/1-A	96	89	92	91	88	91	93	88
	LCS 200-157062/2-A	99	96	96	97	98	95	93	90
	LCSD 200-157062/3-A	103	102	104	99	99	98	99	94

	QC LIMITS
PFBA = 13C4 PFBA	50-150
PFPeA = 13C5 PFPeA	50-150
C3PFBS = 13C3 PFBS	50-150
PFHxA = 13C2 PFHxA	50-150
PFHxS = 18O2 PFHxS	50-150
C4PFHA = 13C4 PFHpA	50-150
M262FTS = M2-6:2 FTS	50-150
PFOA = 13C4 PFOA	70-130

Column to be used to flag recovery values

FORM II 25101:2009

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFOS #	PFNA #	PFDA #	M282FTS #	PFOSA #	d3NMFOS #	PFUnA #	d5NEFOS #
AZ-PZ-1	200-54421-1	86	95	94	96	74	71	81	75
FIELD BLANK	200-54421-2	95	110	98	98	78	85	91	92
EQUIPMENT BLANK	200-54421-3	81	92	89	90	66	69	72	73
TRIP BLANK	200-54421-4	89	94	92	90	73	84	80	77
	MB 200-157062/1-A	83	89	95	92	74	73	80	93
	LCS 200-157062/2-A	92	93	90	100	74	79	83	98
	LCSD 200-157062/3-A	97	95	99	94	84	88	90	93

	QC LIMITS
PFOS = 13C4 PFOS	70-130
PFNA = 13C5 PFNA	50-150
PFDA = 13C2 PFDA	50-150
M282FTS = M2-8:2 FTS	50-150
PFOSA = 13C8 FOSA	50-150
d3NMFOS = d3-NMeFOSAA	50-150
PFUnA = 13C2 PFUnA	50-150
d5NEFOS = d5-NEtFOSAA	50-150

Column to be used to flag recovery values

FORM II 25101:2009

FORM II
LCMS SURROGATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low

GC Column (1): C-18 ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	PFDoA #	PFTDA #
AZ-PZ-1	200-54421-1	71	69
FIELD BLANK	200-54421-2	81	86
EQUIPMENT BLANK	200-54421-3	68	67
TRIP BLANK	200-54421-4	82	77
	MB 200-157062/1-A	85	76
	LCS 200-157062/2-A	86	79
	LCSD 200-157062/3-A	87	85

	QC LIMITS
PFDoA = 13C2 PFDoA	50-150
PFTDA = 13C2 PFTeDA	50-150

Column to be used to flag recovery values

FORM II 25101:2009

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Sample No.: ICIS 200-156907/10 Date Analyzed: 07/16/2020 14:22

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm)

Lab File ID (Standard): PA200716ICAL10.d Heated Purge: (Y/N) N

Calibration ID: 43797

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		940577	3.47				
UPPER LIMIT							
LOWER LIMIT							
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 200-156907/14		932531	3.47				
CCVL 200-157082/5		839116	3.46				
CCVIS 200-157082/6		898485	3.45				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area

Column used to flag values outside QC limits

FORM VIII 25101:2009

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Sample No.: CCVIS 200-157082/6 Date Analyzed: 07/21/2020 18:19

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm)

Lab File ID (Standard): PA200721A06.d Heated Purge: (Y/N) N

Calibration ID: 43797

		13PFOA					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		898485	3.45				
UPPER LIMIT							
LOWER LIMIT							
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 200-157062/1-A		1107479	3.45				
LCS 200-157062/2-A		1046629	3.45				
LCSD 200-157062/3-A		994158	3.46				
200-54421-1	AZ-PZ-1	1059581	3.46				
200-54421-2	FIELD BLANK	932389	3.46				
200-54421-3	EQUIPMENT BLANK	1086892	3.45				
200-54421-4	TRIP BLANK	1069982	3.45				
CCV 200-157082/20		949701	3.46				

13PFOA = 13C2 PFOA

Area Limit = 50%-150% of internal standard area

Column used to flag values outside QC limits

FORM VIII 25101:2009

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab File ID: PA200721A13.d Lab Sample ID: MB 200-157062/1-A

Matrix: Water Date Extracted: 07/21/2020 12:30

Instrument ID: LC812 Date Analyzed: 07/21/2020 19:17

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 200-157062/2-A	PA200721A14.d	07/21/2020 19:26
	LCSD 200-157062/3-A	PA200721A15.d	07/21/2020 19:34
AZ-PZ-1	200-54421-1	PA200721A16.d	07/21/2020 19:42
FIELD BLANK	200-54421-2	PA200721A17.d	07/21/2020 19:50
EQUIPMENT BLANK	200-54421-3	PA200721A18.d	07/21/2020 19:59
TRIP BLANK	200-54421-4	PA200721A19.d	07/21/2020 20:07

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: Lab Sample ID: MB 200-157062/1-A

Matrix: Water Lab File ID: PA200721A13.d

Analysis Method: 25101:2009 Date Collected:

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 250(mL) Date Analyzed: 07/21/2020 19:17

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	
375-85-9	Perfluoroheptanoic acid (PFHpA)	2.00	U	2.00	
335-67-1	Perfluorooctanoic acid (PFOA)	2.00	U	2.00	
375-95-1	Perfluorononanoic acid (PFNA)	2.00	U	2.00	
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	
355-46-4	Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00	
375-22-4	Perfluorobutanoic acid	2.00	U	2.00	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	
375-92-8	Perfluoroheptanesulfonic acid	2.00	U	2.00	
754-91-6	Perfluorooctanesulfonamide	10.0	U	10.0	
2706-90-3	Perfluoropentanoic acid	2.00	U	2.00	
335-76-2	Perfluorodecanoic acid	2.00	U	2.00	
307-55-1	Perfluorododecanoic acid	2.00	U	2.00	
307-24-4	Perfluorohexanoic acid	2.00	U	2.00	
376-06-7	Perfluorotetradecanoic acid	2.00	U	2.00	
39108-34-4	1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	20.0	U	20.0	
72629-94-8	Perfluorotridecanoic acid	2.00	U	2.00	
27619-97-2	1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	20.0	U	20.0	
2058-94-8	Perfluoroundecanoic acid	2.00	U	2.00	
2991-50-6	N-ethylperfluorooctanesulfonamidoacetic acid	20.0	U	20.0	
2355-31-9	N-methylperfluorooctanesulfonamidoacetic acid	20.0	U	20.0	
335-77-3	Perfluorodecanesulfonic acid	2.00	U	2.00	

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Client Sample ID: Lab Sample ID: MB 200-157062/1-A

Matrix: Water Lab File ID: PA200721A13.d

Analysis Method: 25101:2009 Date Collected:

Extraction Method: 25101:2009 SPE Date Extracted: 07/21/2020 12:30

Sample wt/vol: 250(mL) Date Analyzed: 07/21/2020 19:17

Con. Extract Vol.: 10(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: C-18 ID: 4.6(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 157082 Units: ng/L

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00994	18O2 PFHxS	88		50-150
STL01892	13C4 PFHpA	91		50-150
STL00990	13C4 PFOA	88		70-130
STL00991	13C4 PFOS	83		70-130
STL00995	13C5 PFNA	89		50-150
STL02279	M2-6:2 FTS	93		50-150
STL02280	M2-8:2 FTS	92		50-150
STL02116	13C2 PFTeDA	76		50-150
STL02118	d3-NMeFOSAA	73		50-150
STL02117	d5-NEtFOSAA	93		50-150
STL00992	13C4 PFBA	96		50-150
STL00998	13C2 PFDoA	85		50-150
STL00993	13C2 PFHxA	91		50-150
STL00996	13C2 PFDA	95		50-150
STL00997	13C2 PFUnA	80		50-150
STL01056	13C8 FOSA	74		50-150
STL01893	13C5 PFPeA	89		50-150
STL02337	13C3 PFBS	92		50-150

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low Lab File ID: PA200721A14.d

Lab ID: LCS 200-157062/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluoroheptanoic acid (PFHpA)	40.0	41.30	103	50-150	
Perfluorooctanoic acid (PFOA)	40.0	41.86	105	70-130	
Perfluorononanoic acid (PFNA)	40.0	37.79	94	50-150	
Perfluorobutanesulfonic acid (PFBS)	35.4	35.72	101	50-150	
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.29	97	50-150	
Perfluorobutanoic acid	40.0	38.68	97	50-150	
Perfluorooctanesulfonic acid (PFOS)	37.1	38.40	103	70-130	
18O2 PFHxS	47.3	46.37	98	50-150	
Perfluoroheptanesulfonic acid	38.1	40.14	105	50-150	
13C4 PFHpA	50.0	47.60	95	50-150	
13C4 PFOA	50.0	44.76	90	70-130	
13C4 PFOS	47.8	44.09	92	70-130	
13C5 PFNA	50.0	46.55	93	50-150	
Perfluorooctanesulfonamide	40.0	44.41	111	50-150	
Perfluoropentanoic acid	40.0	38.70	97	50-150	
Perfluorodecanoic acid	40.0	39.82	100	50-150	
Perfluorododecanoic acid	40.0	40.11	100	50-150	
Perfluorohexanoic acid	40.0	39.45	99	50-150	
Perfluorotetradecanoic acid	40.0	39.38	98	50-150	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	38.94	102	50-150	
Perfluorotridecanoic acid	40.0	40.15	100	50-150	
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	36.68	97	50-150	
Perfluoroundecanoic acid	40.0	42.17	105	50-150	
N-ethylperfluorooctanesulfonamidoacetic acid	40.0	32.24	81	50-150	
M2-6:2 FTS	47.5	44.40	93	50-150	
M2-8:2 FTS	47.9	48.04	100	50-150	
N-methylperfluorooctanesulfonamidoacetic acid	40.0	32.43	81	50-150	
13C2 PFTeDA	50.0	39.51	79	50-150	
d3-NMeFOSAA	50.0	39.46	79	50-150	
d5-NEtFOSAA	50.0	49.10	98	50-150	
13C4 PFBA	50.0	49.60	99	50-150	
13C2 PFDoA	50.0	42.85	86	50-150	
13C2 PFHxA	50.0	48.63	97	50-150	
13C2 PFDA	50.0	44.98	90	50-150	
13C2 PFUnA	50.0	41.34	83	50-150	
13C8 FOSA	50.0	37.09	74	50-150	

Column to be used to flag recovery and RPD values

FORM III 25101:2009

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low Lab File ID: PA200721A14.d

Lab ID: LCS 200-157062/2-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
13C5 PFPeA	50.0	47.94	96	50-150	
Perfluorodecanesulfonic acid	38.6	35.46	92	50-150	
13C3 PFBS	46.5	44.86	96	50-150	

Column to be used to flag recovery and RPD values

FORM III 25101:2009

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low Lab File ID: PA200721A15.d

Lab ID: LCSD 200-157062/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluoroheptanoic acid (PFHpA)	40.0	39.28	98	5	20	50-150	
Perfluorooctanoic acid (PFOA)	40.0	43.18	108	3	20	70-130	
Perfluorononanoic acid (PFNA)	40.0	36.91	92	2	20	50-150	
Perfluorobutanesulfonic acid (PFBS)	35.4	34.18	97	4	20	50-150	
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.04	94	4	20	50-150	
Perfluorobutanoic acid	40.0	39.04	98	1	20	50-150	
Perfluorooctanesulfonic acid (PFOS)	37.1	37.39	101	3	20	70-130	
18O2 PFHxS	47.3	46.60	99			50-150	
Perfluoroheptanesulfonic acid	38.1	40.60	107	1	20	50-150	
13C4 PFHpA	50.0	49.01	98			50-150	
13C4 PFOA	50.0	47.09	94			70-130	
13C4 PFOS	47.8	46.18	97			70-130	
13C5 PFNA	50.0	47.48	95			50-150	
Perfluorooctanesulfonamide	40.0	38.82	97	13	20	50-150	
Perfluoropentanoic acid	40.0	37.01	93	4	20	50-150	
Perfluorodecanoic acid	40.0	39.96	100	0	20	50-150	
Perfluorododecanoic acid	40.0	41.71	104	4	20	50-150	
Perfluorohexanoic acid	40.0	40.57	101	3	20	50-150	
Perfluorotetradecanoic acid	40.0	38.84	97	1	20	50-150	
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	38.3	40.08	105	3	20	50-150	
Perfluorotridecanoic acid	40.0	40.60	101	1	20	50-150	
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	37.9	37.04	98	1	20	50-150	
Perfluoroundecanoic acid	40.0	38.91	97	8	20	50-150	
N-ethylperfluorooctanesulfonamidoacetic acid	40.0	36.07	90	11	20	50-150	
M2-6:2 FTS	47.5	47.04	99			50-150	
M2-8:2 FTS	47.9	45.14	94			50-150	
N-methylperfluorooctanesulfonamidoacetic acid	40.0	36.62	92	12	20	50-150	
13C2 PFTeDA	50.0	42.50	85			50-150	
d3-NMeFOSAA	50.0	44.21	88			50-150	
d5-NEtFOSAA	50.0	46.51	93			50-150	
13C4 PFBA	50.0	51.28	103			50-150	
13C2 PFDoA	50.0	43.67	87			50-150	
13C2 PFHxA	50.0	49.36	99			50-150	
13C2 PFDA	50.0	49.39	99			50-150	
13C2 PFUnA	50.0	44.77	90			50-150	
13C8 FOSA	50.0	42.21	84			50-150	

Column to be used to flag recovery and RPD values

FORM III 25101:2009

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Matrix: Water Level: Low Lab File ID: PA200721A15.d

Lab ID: LCSD 200-157062/3-A Client ID:

COMPOUND	SPIKE ADDED (ng/L)	LCSD CONCENTRATION (ng/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
13C5 PFPeA	50.0	51.05	102			50-150	
Perfluorodecanesulfonic acid	38.6	35.62	92	0	20	50-150	
13C3 PFBS	46.5	48.17	104			50-150	

Column to be used to flag recovery and RPD values

FORM III 25101:2009

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Instrument ID: LC812 Start Date: 07/16/2020 13:08

Analysis Batch Number: 156907 End Date: 07/16/2020 15:04

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		07/16/2020 13:08	1		C-18 4.6(mm)
ZZZZZ		07/16/2020 13:16	1		C-18 4.6(mm)
ZZZZZ		07/16/2020 13:24	1		C-18 4.6(mm)
ZZZZZ		07/16/2020 13:33	1		C-18 4.6(mm)
ZZZZZ		07/16/2020 13:41	1		C-18 4.6(mm)
ZZZZZ		07/16/2020 13:49	1		C-18 4.6(mm)
IC 200-156907/7		07/16/2020 13:57	1	PA200716ICAL07.d	C-18 4.6(mm)
IC 200-156907/8		07/16/2020 14:06	1	PA200716ICAL08.d	C-18 4.6(mm)
IC 200-156907/9		07/16/2020 14:14	1	PA200716ICAL09.d	C-18 4.6(mm)
ICIS 200-156907/10		07/16/2020 14:22	1	PA200716ICAL10.d	C-18 4.6(mm)
IC 200-156907/11		07/16/2020 14:31	1	PA200716ICAL11.d	C-18 4.6(mm)
IC 200-156907/12		07/16/2020 14:39	1	PA200716ICAL12.d	C-18 4.6(mm)
ICB 200-156907/13		07/16/2020 14:47	1		C-18 4.6(mm)
ICV 200-156907/14		07/16/2020 14:56	1	PA200716ICAL14.d	C-18 4.6(mm)
ZZZZZ		07/16/2020 15:04	1		C-18 4.6(mm)

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-156907/7	PA200716ICAL07.d
Level 2	IC 200-156907/8	PA200716ICAL08.d
Level 3	IC 200-156907/9	PA200716ICAL09.d
Level 4	ICIS 200-156907/10	PA200716ICAL10.d
Level 5	IC 200-156907/11	PA200716ICAL11.d
Level 6	IC 200-156907/12	PA200716ICAL12.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Perfluorobutanoic acid	0.7864 0.7435	0.8078	0.8225	0.8296	0.8084	AveID		0.7997				3.9		35.0			
Perfluoropentanoic acid	0.9207 0.7617	0.8690	0.8585	0.8407	0.7635	AveID		0.8357				7.5		35.0			
Perfluorobutanesulfonic acid (PFBS)	0.8022 0.8391	0.9257	0.8961	0.8340	0.7635	AveID		0.8435				7.1		35.0			
Perfluorohexanoic acid	0.8621 0.7150	0.8089	0.8678	0.8234	0.8140	AveID		0.8152				6.7		35.0			
Perfluorohexanesulfonic acid (PFHxS)	0.9580 0.8483	0.9493	0.9634	0.9382	0.9018	AveID		0.9265				4.8		35.0			
Perfluoroheptanoic acid (PFHpA)	0.9159 0.7571	0.7589	0.8510	0.8475	0.8076	AveID		0.8230				7.4		35.0			
Perfluoroheptanesulfonic acid	0.7714 0.9858	0.8633	1.0443	1.0132	0.9989	AveID		0.9462				11.2		35.0			
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	0.6677 0.5804	0.8050	0.7678	0.6062	0.6183	AveID		0.6742				13.7		35.0			
Perfluorooctanoic acid (PFOA)	0.8505 0.8337	0.7928	0.9975	0.9195	0.8473	AveID		0.8736				8.4		20.0			
Perfluorooctanesulfonic acid (PFOS)	0.7400 0.8929	0.7851	0.9418	0.9090	0.8940	AveID		0.8605				9.2		20.0			
Perfluorononanoic acid (PFNA)	0.8981 0.7705	0.9804	1.0038	0.8665	0.8013	AveID		0.8868				10.6		35.0			
Perfluorodecanoic acid	0.8087 0.7102	0.7926	0.8348	0.8426	0.7588	AveID		0.7913				6.3		35.0			
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	0.2845 +++++	0.3464	0.3341	0.2671	0.2637	AveID		0.2991				12.9		35.0			
Perfluorooctanesulfonamide	0.7099 0.7669	0.7660	0.7645	0.7680	0.8220	AveID		0.7662				4.6		35.0			
N-methylperfluorooctanesulfonamidoacetic acid	0.7890 0.6081	0.8543	0.9106	0.5846	0.6306	AveID		0.7295				19.1		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Perfluorodecanesulfonic acid	0.4801 0.4930	0.5623	0.6430	0.5337	0.5698	AveID		0.5470				10.8		35.0			
Perfluoroundecanoic acid	0.6649 0.6272	0.6720	0.7001	0.6434	0.6013	AveID		0.6515				5.4		35.0			
N-ethylperfluorooctanesulfonamidoacetic acid	0.8225 0.6522	0.8113	0.7343	0.7759	0.7805	AveID		0.7628				8.2		35.0			
Perfluorododecanoic acid	0.7054 0.7215	0.8492	0.9381	0.7402	0.7161	AveID		0.7784				12.1		35.0			
Perfluorotridecanoic acid	0.6981 0.6245	0.6067	0.6825	0.7073	0.5980	AveID		0.6528				7.5		35.0			
Perfluorotetradecanoic acid	0.2070 0.1726	0.1804	0.1939	0.1829	0.1830	AveID		0.1866				6.5		35.0			
13C4 PFBA	1.4853 1.4520	1.3759	1.2876	1.3725	1.3688	Ave		1.3903				5.0		30.0			
13C5 PFPeA	1.0659 1.0493	1.0598	0.9259	1.0209	0.9889	Ave		1.0185				5.3		30.0			
13C3 PFBS	1.3944 1.3661	1.2665	1.2267	1.3258	1.3313	Ave		1.3185				4.7		30.0			
13C2 PFHxA	1.1134 1.0807	1.0117	0.8716	1.0860	0.9746	Ave		1.0230				8.8		30.0			
18O2 PFHxS	0.9701 0.9768	0.9129	0.8742	0.9300	0.8787	Ave		0.9238				4.7		30.0			
13C4 PFHpA	0.9886 0.9883	0.9828	0.8758	0.9662	0.9301	Ave		0.9553				4.7		30.0			
M2-6:2 FTS	0.1404 0.1329	0.1290	0.1171	0.1290	0.1256	Ave		0.1290				6.0		30.0			
13C4 PFOA	0.9905 0.9711	1.0097	0.8550	0.9409	0.9938	Ave		0.9602				5.9		30.0			
13C4 PFOS	0.8761 0.7847	0.8183	0.7022	0.7610	0.7377	Ave		0.7800				7.9		30.0			
13C5 PFNA	0.8872 0.8414	0.7940	0.7236	0.7877	0.8221	Ave		0.8093				6.8		30.0			
13C2 PFDA	0.8031 0.7502	0.7731	0.7015	0.7362	0.7466	Ave		0.7518				4.6		30.0			
M2-8:2 FTS	0.1715 0.1437	0.1460	0.1364	0.1548	0.1527	Ave		0.1509				8.0		30.0			
13C8 FOSA	1.3028 1.2819	1.2738	1.2442	1.3060	1.1961	Ave		1.2674				3.3		30.0			
d3-NMeFOSAA	0.0513 0.0471	0.0428	0.0381	0.0498	0.0484	Ave		0.0463				10.7		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
13C2 PFUnA	0.6341 0.5776	0.6199	0.5431	0.6152	0.6013	Ave		0.5985				5.5		30.0			
d5-NEtFOSAA	0.0520 0.0521	0.0502	0.0475	0.0465	0.0456	Ave		0.0490				5.8		30.0			
13C2 PFDoA	0.6846 0.6169	0.6233	0.5434	0.6252	0.6172	Ave		0.6184				7.3		30.0			
13C2 PFTeDA	0.4781 0.4736	0.4736	0.4197	0.4857	0.4638	Ave		0.4658				5.1		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 200-156907/7	PA200716ICAL07.d
Level 2	IC 200-156907/8	PA200716ICAL08.d
Level 3	IC 200-156907/9	PA200716ICAL09.d
Level 4	ICIS 200-156907/10	PA200716ICAL10.d
Level 5	IC 200-156907/11	PA200716ICAL11.d
Level 6	IC 200-156907/12	PA200716ICAL12.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perfluorobutanoic acid		AveID	39966 7416866	85823	425997	856804	2142805	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluoropentanoic acid		AveID	33580 5491608	71121	319772	645807	1462074	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorobutanesulfonic acid (PFBS)		AveID	33838 6962113	80030	390915	735539	1739953	0.0442 8.84	0.0884	0.442	0.884	2.21
Perfluorohexanoic acid		AveID	32843 5309212	63195	304283	672887	1536243	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorohexanesulfonic acid (PFHxS)		AveID	28938 5180593	60900	308298	597395	1396358	0.0455 9.10	0.0910	0.455	0.910	2.28
Perfluoroheptanoic acid (PFHpA)		AveID	30981 5140490	57598	299840	616123	1454669	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluoroheptanesulfonic acid		AveID	22017 5059317	51935	280846	552312	1358528	0.0476 9.52	0.0952	0.476	0.952	2.38
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)		AveID	3040 502536	7600	34292	55797	142585	0.0474 9.48	0.0948	0.474	0.948	2.37
Perfluorooctanoic acid (PFOA)		AveID	28825 5562495	61819	343100	651044	1630547	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorooctanesulfonic acid (PFOS)		AveID	20587 4466941	46038	246892	483049	1185105	0.0464 9.28	0.0928	0.464	0.928	2.32
Perfluorononanoic acid (PFNA)		AveID	27264 4454104	60113	292200	513623	1275533	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorodecanoic acid		AveID	22222 3660379	47319	235584	466782	1097030	0.0500 10.0	0.100	0.500	1.00	2.50
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)		AveID	1600 +++++	3741	17566	29810	74698	0.0479 +++++	0.0958	0.479	0.958	2.40
Perfluorooctanesulfonamide		AveID	31644 6754039	75349	382609	754665	1903856	0.0500 10.0	0.100	0.500	1.00	2.50
N-methylperfluorooctanesulfonamidoacetic acid		AveID	1386 196965	2822	13943	21922	59059	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorodecanesulfonic acid		AveID	13874 2562012	34252	175093	294598	784730	0.0482 9.64	0.0964	0.482	0.964	2.41

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perfluoroundecanoic acid		AveID	14425 2488883	32165	152947	297809	700132	0.0500 10.0	0.100	0.500	1.00	2.50
N-ethylperfluorooctanesulfonamidoacetic acid		AveID	1463 233567	3146	14024	27133	68870	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorododecanoic acid		AveID	16523 3058238	40874	205048	348239	855872	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorotridecanoic acid		AveID	16352 2646900	29200	149190	332754	714664	0.0500 10.0	0.100	0.500	1.00	2.50
Perfluorotetradecanoic acid		AveID	3387 561611	6599	32746	66823	164364	0.0500 10.0	0.100	0.500	1.00	2.50
13C4 PFBA	13PFOA	Ave	1270554 1246978	1328065	1294889	1290967	1325288	1.25 1.25	1.25	1.25	1.25	1.25
13C5 PFPeA	13PFOA	Ave	911798 901150	1023027	931217	960277	957518	1.25 1.25	1.25	1.25	1.25	1.25
13C3 PFBS	13PFOA	Ave	1109347 1091086	1136897	1147303	1159732	1198760	1.16 1.16	1.16	1.16	1.16	1.16
13C2 PFHxA	13PFOA	Ave	952454 928125	976546	876547	1021450	943628	1.25 1.25	1.25	1.25	1.25	1.25
18O2 PFHxS	13PFOA	Ave	785026 793563	833614	831658	827462	804835	1.18 1.18	1.18	1.18	1.18	1.18
13C4 PFHpA	13PFOA	Ave	845650 848730	948673	880814	908786	900595	1.25 1.25	1.25	1.25	1.25	1.25
M2-6:2 FTS	13PFOA	Ave	114062 108463	118264	111897	115295	115552	1.19 1.19	1.19	1.19	1.19	1.19
13C4 PFOA	13PFOA	Ave	847268 834001	974653	859875	885012	962195	1.25 1.25	1.25	1.25	1.25	1.25
13C4 PFOS	13PFOA	Ave	716506 644226	755101	675154	684266	682839	1.20 1.20	1.20	1.20	1.20	1.20
13C5 PFNA	13PFOA	Ave	758905 722603	766443	727754	740920	795943	1.25 1.25	1.25	1.25	1.25	1.25
13C2 PFDA	13PFOA	Ave	686977 644269	746260	705494	692452	722844	1.25 1.25	1.25	1.25	1.25	1.25
M2-8:2 FTS	13PFOA	Ave	140575 118248	135015	131454	139523	141637	1.20 1.20	1.20	1.20	1.20	1.20
13C8 FOSA	13PFOA	Ave	1114435 1100867	1229573	1251251	1228354	1158067	1.25 1.25	1.25	1.25	1.25	1.25
d3-NMeFOSAA	13PFOA	Ave	43917 40487	41290	38279	46874	46826	1.25 1.25	1.25	1.25	1.25	1.25
13C2 PFUnA	13PFOA	Ave	542409 496058	598320	546168	578599	582184	1.25 1.25	1.25	1.25	1.25	1.25
d5-NEtFOSAA	13PFOA	Ave	44467 44763	48470	47745	43713	44120	1.25 1.25	1.25	1.25	1.25	1.25

FORM VI
LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1 Analy Batch No.: 156907

SDG No.: 70137879

Instrument ID: LC812 GC Column: C-18 ID: 4.6(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/16/2020 13:57 Calibration End Date: 07/16/2020 14:39 Calibration ID: 43797

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
13C2 PFDoA	13PF OA	Ave	585623 529829	601628	546457	588087	597582	1.25 1.25	1.25	1.25	1.25	1.25
13C2 PFTeDA	13PF OA	Ave	408967 406762	457157	422133	456806	449091	1.25 1.25	1.25	1.25	1.25	1.25

Curve Type Legend:
Ave = Average ISTD
AveID = Average isotope dilution

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab Sample ID: ICV 200-156907/14 Calibration Date: 07/16/2020 14:56

Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57

GC Column: C-18 ID: 4.60(mm) Calib End Date: 07/16/2020 14:39

Lab File ID: PA200716ICAL14.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid	AveID	0.7997	0.9641		1.21	1.00	20.6	40.0
Perfluoropentanoic acid	AveID	0.8357	1.101		1.33	1.01	31.8	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	0.8435	1.006		1.19	1.00	19.3	
Perfluorohexanoic acid	AveID	0.8152	1.004		1.24	1.01	23.2	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.8230	1.020		1.24	1.00	23.9	
Perfluorohexanesulfonic acid (PFHxS)	AveID	0.9265	1.120		1.22	1.01	20.9	
Perfluoroheptanesulfonic acid	AveID	0.9462	1.268		1.34	1.00	34.1	40.0
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	AveID	0.6742	0.8333		1.24	1.00	23.6	50.0
Perfluorooctanoic acid (PFOA)	AveID	0.8736	1.124		1.29	1.00	28.7	
Perfluorooctanesulfonic acid (PFOS)	AveID	0.8605	0.9854		1.16	1.01	14.5	
Perfluorononanoic acid (PFNA)	AveID	0.8868	1.026		1.16	1.00	15.7	
Perfluorodecanoic acid	AveID	0.7913	1.052		1.33	1.00	32.9	40.0
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	AveID	0.2991	0.4178		1.41	1.01	39.7	50.0
Perfluorooctanesulfonamide	AveID	0.7662	1.004		1.31	1.00	31.1	40.0
N-methylperfluorooctanesulfonamidoacetic acid	AveID	0.7295	0.9848		1.35	1.00	35.0	50.0
Perfluorodecanesulfonic acid	AveID	0.5470	0.7733		1.43	1.01	41.4*	40.0
Perfluoroundecanoic acid	AveID	0.6515	0.7758		1.19	1.00	19.1	40.0
N-ethylperfluorooctanesulfonamidoacetic acid	AveID	0.7628	0.8497		1.11	1.00	11.4	50.0
Perfluorododecanoic acid	AveID	0.7784	0.9045		1.16	1.00	16.2	40.0
Perfluorotridecanoic acid	AveID	0.6528	0.6948		1.06	1.00	6.4	40.0
Perfluorotetradecanoic acid	AveID	0.1866	0.2164		1.16	1.00	15.9	40.0
13C4 PFBA	Ave	1.390	1.255		1.13	1.25	-9.7	50.0
13C5 PFPeA	Ave	1.018	0.8738		1.07	1.25	-14.2	50.0
13C3 PFBS	Ave	1.318	1.162		1.03	1.16	-11.8	50.0
13C2 PFHxA	Ave	1.023	0.9660		1.18	1.25	-5.6	50.0
13C4 PFHpA	Ave	0.9553	0.8473		1.11	1.25	-11.3	50.0
18O2 PFHxS	Ave	0.9238	0.8314		1.06	1.18	-10.0	50.0
M2-6:2 FTS	Ave	0.1290	0.1160		1.07	1.19	-10.1	50.0
13C4 PFOA	Ave	0.9602	0.7897		1.03	1.25	-17.8	20.0
13C4 PFOS	Ave	0.7800	0.6623		1.02	1.20	-15.1	20.0
13C5 PFNA	Ave	0.8093	0.7148		1.10	1.25	-11.7	50.0
13C2 PFDA	Ave	0.7518	0.6694		1.11	1.25	-11.0	50.0
M2-8:2 FTS	Ave	0.1509	0.1374		1.09	1.20	-9.0	50.0
13C8 FOSA	Ave	1.267	1.106		1.09	1.25	-12.7	50.0
d3-NMeFOSAA	Ave	0.0463	0.0400		1.08	1.25	-13.6	50.0
13C2 PFUnA	Ave	0.5985	0.5109		1.07	1.25	-14.6	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab Sample ID: ICV 200-156907/14 Calibration Date: 07/16/2020 14:56

Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57

GC Column: C-18 ID: 4.60(mm) Calib End Date: 07/16/2020 14:39

Lab File ID: PA200716ICAL14.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d5-NEtFOSAA	Ave	0.0490	0.0448		1.14	1.25	-8.4	50.0
13C2 PFDoA	Ave	0.6184	0.5593		1.13	1.25	-9.6	50.0
13C2 PFTeDA	Ave	0.4658	0.4216		1.13	1.25	-9.5	50.0

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Instrument ID: LC812 Start Date: 07/21/2020 18:11

Analysis Batch Number: 157082 End Date: 07/21/2020 20:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVL 200-157082/5		07/21/2020 18:11	1	PA200721A05.d	C-18 4.6(mm)
CCVIS 200-157082/6		07/21/2020 18:19	1	PA200721A06.d	C-18 4.6(mm)
MB 200-157062/1-A		07/21/2020 19:17	1	PA200721A13.d	C-18 4.6(mm)
LCS 200-157062/2-A		07/21/2020 19:26	1	PA200721A14.d	C-18 4.6(mm)
LCSD 200-157062/3-A		07/21/2020 19:34	1	PA200721A15.d	C-18 4.6(mm)
200-54421-1		07/21/2020 19:42	1	PA200721A16.d	C-18 4.6(mm)
200-54421-2		07/21/2020 19:50	1	PA200721A17.d	C-18 4.6(mm)
200-54421-3		07/21/2020 19:59	1	PA200721A18.d	C-18 4.6(mm)
200-54421-4		07/21/2020 20:07	1	PA200721A19.d	C-18 4.6(mm)
CCV 200-157082/20		07/21/2020 20:15	1	PA200721A20.d	C-18 4.6(mm)

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab Sample ID: CCVL 200-157082/5 Calibration Date: 07/21/2020 18:11

Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57

GC Column: C-18 ID: 4.60(mm) Calib End Date: 07/16/2020 14:39

Lab File ID: PA200721A05.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid	AveID	0.7997	0.9113		0.0570	0.0500	14.0	50.0
Perfluoropentanoic acid	AveID	0.8357	1.041		0.0623	0.0500	24.6	50.0
Perfluorobutanesulfonic acid (PFBS)	AveID	0.8435	1.053		0.0552	0.0442	24.8	50.0
Perfluorohexanoic acid	AveID	0.8152	0.9323		0.0572	0.0500	14.4	50.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.8230	1.045		0.0635	0.0500	27.0	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	0.9265	1.167		0.0573	0.0455	26.0	50.0
Perfluoroheptanesulfonic acid	AveID	0.9462	1.168		0.0588	0.0476	23.5	50.0
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	AveID	0.6742	0.6885		0.484	0.474	2.1	50.0
Perfluorooctanoic acid (PFOA)	AveID	0.8736	1.081		0.0619	0.0500	23.7	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.8605	1.114		0.0601	0.0464	29.5	50.0
Perfluorononanoic acid (PFNA)	AveID	0.8868	1.117		0.0630	0.0500	26.0	50.0
Perfluorodecanoic acid	AveID	0.7913	0.9350		0.0591	0.0500	18.2	50.0
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	AveID	0.2991	0.3173		0.508	0.479	6.1	50.0
Perfluorooctanesulfonamide	AveID	0.7662	0.9289		0.250	0.0500	21.2	50.0
N-methylperfluorooctanesulfonamidoacetic acid	AveID	0.7295	0.7601		0.521	0.500	4.2	50.0
Perfluorodecanesulfonic acid	AveID	0.5470	0.6543		0.0577	0.0482	19.6	50.0
Perfluoroundecanoic acid	AveID	0.6515	0.7973		0.0612	0.0500	22.4	50.0
N-ethylperfluorooctanesulfonamidoacetic acid	AveID	0.7628	0.7616		0.499	0.500	-0.2	50.0
Perfluorododecanoic acid	AveID	0.7784	1.093		0.0702	0.0500	40.4	50.0
Perfluorotridecanoic acid	AveID	0.6528	0.7881		0.0604	0.0500	20.7	50.0
Perfluorotetradecanoic acid	AveID	0.1866	0.2144		0.0574	0.0500	14.9	50.0
13C4 PFBA	Ave	1.390	1.480		1.33	1.25	6.4	50.0
13C5 PFPeA	Ave	1.018	1.059		1.30	1.25	4.0	50.0
13C3 PFBS	Ave	1.318	1.297		1.14	1.16	-1.6	50.0
13C2 PFHxA	Ave	1.023	1.101		1.35	1.25	7.6	50.0
13C4 PFHpA	Ave	0.9553	0.9323		1.22	1.25	-2.4	50.0
18O2 PFHxS	Ave	0.9238	0.9521		1.22	1.18	3.1	50.0
M2-6:2 FTS	Ave	0.1290	0.1331		1.23	1.19	3.2	50.0
13C4 PFOA	Ave	0.9602	0.9545		1.24	1.25	-0.6	50.0
13C4 PFOS	Ave	0.7800	0.7456		1.14	1.20	-4.4	50.0
13C5 PFNA	Ave	0.8093	0.8458		1.31	1.25	4.5	50.0
13C2 PFDA	Ave	0.7518	0.7347		1.22	1.25	-2.3	50.0
M2-8:2 FTS	Ave	0.1509	0.1607		1.28	1.20	6.5	50.0
13C8 FOSA	Ave	1.267	1.307		1.29	1.25	3.1	50.0
d3-NMeFOSAA	Ave	0.0463	0.0441		1.19	1.25	-4.7	50.0
13C2 PFUnA	Ave	0.5985	0.5999		1.25	1.25	0.2	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab Sample ID: CCVL 200-157082/5 Calibration Date: 07/21/2020 18:11

Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57

GC Column: C-18 ID: 4.60(mm) Calib End Date: 07/16/2020 14:39

Lab File ID: PA200721A05.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d5-NEtFOSAA	Ave	0.0490	0.0518		1.32	1.25	5.8	50.0
13C2 PFDoA	Ave	0.6184	0.6116		1.24	1.25	-1.1	50.0
13C2 PFTeDA	Ave	0.4658	0.4620		1.24	1.25	-0.8	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab Sample ID: CCVIS 200-157082/6 Calibration Date: 07/21/2020 18:19

Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57

GC Column: C-18 ID: 4.60(mm) Calib End Date: 07/16/2020 14:39

Lab File ID: PA200721A06.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid	AveID	0.7997	0.8150		1.02	1.00	1.9	40.0
Perfluoropentanoic acid	AveID	0.8357	0.8435		1.01	1.00	0.9	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	0.8435	0.9145		0.958	0.884	8.4	40.0
Perfluorohexanoic acid	AveID	0.8152	0.7847		0.963	1.00	-3.7	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	0.9265	0.9835		0.966	0.910	6.2	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.8230	0.8395		1.02	1.00	2.0	40.0
Perfluoroheptanesulfonic acid	AveID	0.9462	1.025		1.03	0.952	8.4	50.0
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	AveID	0.6742	0.5974		0.840	0.948	-11.4	50.0
Perfluorooctanoic acid (PFOA)	AveID	0.8736	0.9113		1.04	1.00	4.3	20.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.8605	0.9226		0.995	0.928	7.2	20.0
Perfluorononanoic acid (PFNA)	AveID	0.8868	0.8310		0.937	1.00	-6.3	40.0
Perfluorodecanoic acid	AveID	0.7913	0.7461		0.943	1.00	-5.7	40.0
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	AveID	0.2991	0.3110		0.996	0.958	4.0	50.0
Perfluorooctanesulfonamide	AveID	0.7662	0.7756		1.01	1.00	1.2	40.0
N-methylperfluorooctanesulfonamidoacetic acid	AveID	0.7295	0.6121		0.839	1.00	-16.1	40.0
Perfluorodecanesulfonic acid	AveID	0.5470	0.5251		0.925	0.964	-4.0	50.0
Perfluoroundecanoic acid	AveID	0.6515	0.6453		0.991	1.00	-0.9	40.0
N-ethylperfluorooctanesulfonamidoacetic acid	AveID	0.7628	0.7849		1.03	1.00	2.9	40.0
Perfluorododecanoic acid	AveID	0.7784	0.6935		0.891	1.00	-10.9	40.0
Perfluorotridecanoic acid	AveID	0.6528	0.6955		1.07	1.00	6.5	50.0
Perfluorotetradecanoic acid	AveID	0.1866	0.1818		0.974	1.00	-2.6	40.0
13C4 PFBA	Ave	1.390	1.423		1.28	1.25	2.3	50.0
13C5 PFPeA	Ave	1.018	1.044		1.28	1.25	2.5	50.0
13C3 PFBS	Ave	1.318	1.319		1.16	1.16	0.0	50.0
13C2 PFHxA	Ave	1.023	1.095		1.34	1.25	7.0	50.0
18O2 PFHxS	Ave	0.9238	0.9251		1.18	1.18	0.1	50.0
13C4 PFHpA	Ave	0.9553	0.9753		1.28	1.25	2.1	50.0
M2-6:2 FTS	Ave	0.1290	0.1416		1.30	1.19	9.7	50.0
13C4 PFOA	Ave	0.9602	1.003		1.31	1.25	4.5	20.0
13C4 PFOS	Ave	0.7800	0.7786		1.19	1.20	-0.2	20.0
13C5 PFNA	Ave	0.8093	0.8581		1.33	1.25	6.0	50.0
13C2 PFDA	Ave	0.7518	0.8226		1.37	1.25	9.4	50.0
M2-8:2 FTS	Ave	0.1509	0.1544		1.23	1.20	2.3	50.0
13C8 FOSA	Ave	1.267	1.337		1.32	1.25	5.5	50.0
d3-NMeFOSAA	Ave	0.0463	0.0450		1.22	1.25	-2.8	50.0
13C2 PFUnA	Ave	0.5985	0.6173		1.29	1.25	3.1	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab Sample ID: CCVIS 200-157082/6 Calibration Date: 07/21/2020 18:19

Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57

GC Column: C-18 ID: 4.60(mm) Calib End Date: 07/16/2020 14:39

Lab File ID: PA200721A06.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d5-NEtFOSAA	Ave	0.0490	0.0508		1.30	1.25	3.7	50.0
13C2 PFDoA	Ave	0.6184	0.6531		1.32	1.25	5.6	50.0
13C2 PFTeDA	Ave	0.4658	0.4635		1.24	1.25	-0.5	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab Sample ID: CCV 200-157082/20 Calibration Date: 07/21/2020 20:15

Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57

GC Column: C-18 ID: 4.60(mm) Calib End Date: 07/16/2020 14:39

Lab File ID: PA200721A20.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid	AveID	0.7997	0.7427		2.32	2.50	-7.1	40.0
Perfluoropentanoic acid	AveID	0.8357	0.8497		2.54	2.50	1.7	40.0
Perfluorobutanesulfonic acid (PFBS)	AveID	0.8435	0.8992		2.36	2.21	6.6	40.0
Perfluorohexanoic acid	AveID	0.8152	0.8101		2.48	2.50	-0.6	40.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.8230	0.8061		2.45	2.50	-2.1	40.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	0.9265	0.8240		2.02	2.28	-11.1	40.0
Perfluoroheptanesulfonic acid	AveID	0.9462	1.015		2.55	2.38	7.3	50.0
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	AveID	0.6742	0.6012		2.11	2.37	-10.8	50.0
Perfluorooctanoic acid (PFOA)	AveID	0.8736	0.8714		2.49	2.50	-0.3	20.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.8605	0.9460		2.55	2.32	9.9	20.0
Perfluorononanoic acid (PFNA)	AveID	0.8868	0.8572		2.42	2.50	-3.3	40.0
Perfluorodecanoic acid	AveID	0.7913	0.8067		2.55	2.50	1.9	40.0
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	AveID	0.2991	0.3353		2.68	2.40	12.1	50.0
Perfluorooctanesulfonamide	AveID	0.7662	0.8310		2.71	2.50	8.5	40.0
N-methylperfluorooctanesulfonamidoacetic acid	AveID	0.7295	0.6185		2.12	2.50	-15.2	40.0
Perfluorodecanesulfonic acid	AveID	0.5470	0.5244		2.31	2.41	-4.1	50.0
Perfluoroundecanoic acid	AveID	0.6515	0.5555		2.13	2.50	-14.7	40.0
N-ethylperfluorooctanesulfonamidoacetic acid	AveID	0.7628	0.7360		2.41	2.50	-3.5	40.0
Perfluorododecanoic acid	AveID	0.7784	0.6935		2.23	2.50	-10.9	40.0
Perfluorotridecanoic acid	AveID	0.6528	0.5931		2.27	2.50	-9.1	50.0
Perfluorotetradecanoic acid	AveID	0.1866	0.1851		2.48	2.50	-0.8	40.0
13C4 PFBA	Ave	1.390	1.492		1.34	1.25	7.3	50.0
13C5 PFPeA	Ave	1.018	1.002		1.23	1.25	-1.7	50.0
13C3 PFBS	Ave	1.318	1.283		1.13	1.16	-2.7	50.0
13C2 PFHxA	Ave	1.023	1.086		1.33	1.25	6.2	50.0
13C4 PFHpA	Ave	0.9553	0.9703		1.27	1.25	1.6	50.0
18O2 PFHxS	Ave	0.9238	0.9938		1.27	1.18	7.6	50.0
M2-6:2 FTS	Ave	0.1290	0.1351		1.24	1.19	4.7	50.0
13C4 PFOA	Ave	0.9602	0.9694		1.26	1.25	1.0	20.0
13C4 PFOS	Ave	0.7800	0.7760		1.19	1.20	-0.5	20.0
13C5 PFNA	Ave	0.8093	0.8107		1.25	1.25	0.2	50.0
13C2 PFDA	Ave	0.7518	0.7592		1.26	1.25	1.0	50.0
M2-8:2 FTS	Ave	0.1509	0.1595		1.27	1.20	5.7	50.0
13C8 FOSA	Ave	1.267	1.294		1.28	1.25	2.1	50.0
d3-NMeFOSAA	Ave	0.0463	0.0452		1.22	1.25	-2.4	50.0
13C2 PFUnA	Ave	0.5985	0.6058		1.27	1.25	1.2	50.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Burlington Job No.: 200-54421-1

SDG No.: 70137879

Lab Sample ID: CCV 200-157082/20 Calibration Date: 07/21/2020 20:15

Instrument ID: LC812 Calib Start Date: 07/16/2020 13:57

GC Column: C-18 ID: 4.60(mm) Calib End Date: 07/16/2020 14:39

Lab File ID: PA200721A20.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
d5-NEtFOSAA	Ave	0.0490	0.0473		1.21	1.25	-3.4	50.0
13C2 PFDoA	Ave	0.6184	0.6715		1.36	1.25	8.6	50.0
13C2 PFTeDA	Ave	0.4658	0.4635		1.24	1.25	-0.5	50.0

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-54421-1

SDG No.: 70137879

Batch Number: 157062 Batch Start Date: 07/21/20 12:30 Batch Analyst: Murray, John W

Batch Method: 25101:2009 SPE Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCPFC32MTXStk 00022	LCPFCIDASPK 00001
MB 200-157062/1		25101:2009 SPE, 25101:2009		250 g	0 g	250 mL	10 mL		25 uL
LCS 200-157062/2		25101:2009 SPE, 25101:2009		250 g	0 g	250 mL	10 mL	25 uL	25 uL
LCSD 200-157062/3		25101:2009 SPE, 25101:2009		250 g	0 g	250 mL	10 mL	25 uL	25 uL
200-54421-A-1	AZ-PZ-1	25101:2009 SPE, 25101:2009	T	314.90 g	39.83 g	275.1 mL	10 mL		25 uL
200-54421-A-2	FIELD BLANK	25101:2009 SPE, 25101:2009	T	318.64 g	39.44 g	279.2 mL	10 mL		25 uL
200-54421-A-3	EQUIPMENT BLANK	25101:2009 SPE, 25101:2009	T	313.65 g	39.33 g	274.3 mL	10 mL		25 uL
200-54421-A-4	TRIP BLANK	25101:2009 SPE, 25101:2009	T	312.29 g	38.94 g	273.4 mL	10 mL		25 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00019	AnalysisComment				
MB 200-157062/1		25101:2009 SPE, 25101:2009		5 uL					
LCS 200-157062/2		25101:2009 SPE, 25101:2009		5 uL					
LCSD 200-157062/3		25101:2009 SPE, 25101:2009		5 uL					
200-54421-A-1	AZ-PZ-1	25101:2009 SPE, 25101:2009	T	5 uL	Sample container dreid in oven and sediment discarded; 273.40 mL extracted				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: Eurofins TestAmerica, Burlingt Job No.: 200-54421-1

SDG No.: 70137879

Batch Number: 157062 Batch Start Date: 07/21/20 12:30 Batch Analyst: Murray, John W

Batch Method: 25101:2009 SPE Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	PFAS21 IS Stk 00019	AnalysisComment				
200-54421-A-2	FIELD BLANK	25101:2009 SPE, 25101:2009	T	5 uL					
200-54421-A-3	EQUIPMENT BLANK	25101:2009 SPE, 25101:2009	T	5 uL					
200-54421-A-4	TRIP BLANK	25101:2009 SPE, 25101:2009	T	5 uL					

Batch Notes	
Balance ID	M02926
First End time	01/15/20 14:40
H2O ID	07102020A
Hexane ID	1392537
Manifold ID	IDA 3 & 4
Methanol ID	258181
Sodium Hydroxide ID	1403658
Analyst ID - Reagent Drop	JWM
Analyst ID - SU Reagent Drop	JWM
Analyst ID - SU Reagent Drop Witness	NDD
Solvent Lot #	1403242
Solvent Name	Methanol (0.3% NH4OH)
SOP Number	BR-LC-009
SPE Cartridge Lot ID	005339338A
First Start time	01/15/20 14:25

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.