February 11, 2021

Northrop Grumman
One Space Park Drive
MS: CER/XE6D21
Redondo Beach, CA 90278

northropgrumman.com

Ms. Rachel K. Gardner, E.I.T.
Assistant Engineer
Region 6 Environmental Remediation
New York State Department of Environmental Conservation
317 Washington Street
Watertown, NY 13601

Subject: Revised Offsite Soil Vapor Corrective Measures Study Report
Former TRW Aeronautical Systems Facility, Utica, New York
USEPA ID#: NYD002244911

Dear Ms. Gardner:

Please find enclosed for your review the Offsite Soil Vapor Corrective Measures Study Report (CMS) for the former TRW Aeronautical Systems facility in Utica, New York, which has been revised based on the New York State Department of Environmental Conservation (NYSDEC) comment letter dated January 14, 2021. Responses to each of NYSDEC's comments are summarized below.

Comment 1: Section 2.3.2 Relevant Onsite Interim Corrective Measures (pg. 5) – This section discusses various volatile organic compound (VOC)-impacted soil removal activities that have been completed at the site. Each bulleted activity should include a reference to that action's CMS summary or certification report where additional information on the ICM could be found.

***Response*:** Text has been added to Sections 2.3.1 and 2.3.2 referencing the CMS summary or certification report with additional information about the specific interim corrective measure(s).

Comment 2: Summary tables should be provided that show the VOC concentrations at each sample location over time. These tables will be helpful in supporting the evaluated alternatives. A table should be included for each media type referenced in the report (e.g., onsite groundwater, onsite soil vapor, offsite soil vapor).

***Response*:** Text has been incorporated in Section 2.6 referencing the addition of Appendix A, which provides VOC concentration data for each sample location and referenced media over time.

Should you have any questions or require any additional information after reviewing the revised report, please contact me or Kurt Batsel, our project manager, at (770) 578-9696 or via e-mail at batsel@dextra-group.com.

Sincerely,

Michael Shannon
Corporate Manager, Environmental Remediation
michael.shannon@ngc.com
p: 310-332-5915 | c: 310-648-1929

Enclosure:
Offsite Soil Vapor Corrective Measures Study Report

Distribution:
(1) Addressee
(1) Kurt Batsel, The Dextra Group, Inc.
(1) Mark Flusche, Arcadis of New York, Inc.
(1) Peter Taylor, New York State Department of Environmental Conservation
(1) Gregory Rys, New York State Department of Health
(1) Maureen Schuck, New York State Department of Health

Lucas Western LLC

OFFSITE SOIL VAPOR CORRECTIVE MEASURES STUDY REPORT

Former TRW Aeronautical Systems Facility
211 Seward Avenue
Utica, New York

February 2021

OFFSITE SOIL VAPOR CORRECTIVE MEASURES STUDY REPORT

Former TRW Aeronautical Systems Facility
211 Seward Avenue Utica, New York

Prepared for:

Lucas Western LLC

Prepared by:

Arcadis of New York, Inc.

855 Route 146

Suite 210

Clifton Park

New York 13202

Tel 518 250 7300

Fax 518 250 7301

Our Ref.:

30052757

Date:

February 11, 2021

I, John C. Brussel, P.E., certify that I am currently a New York State registered Professional Engineer and that this Corrective Measures Study Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

John C. Brussel 2/11/21

John C. Brussel, P.E.
NYS PE License No. 075208

CONTENTS

TABLES

FIGURES

APPENDICES

ACRONYMS AND ABBREVIATIONS

BBL	Blasland, Bouck, & Lee, now known as Arcadis
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CMO	Corrective Measure Objective
CMS	Corrective Measures Study
COPC	constituent of potential concern
DER	Division of Environmental Remediation
ERM	Environmental Resources Management
ICM	Interim Corrective Measure
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
O&M	operation and maintenance
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
NFA	no further action
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OSWER	Office of Solid Waste and Emergency Response
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RSL	Regional Screening Level
SCG	standards, criteria, and guidance
SSD	sub-slab depressurization
SVE	soil vapor extraction
1,1,1-TCA	1,1,1-trichloroethane
TCE	trichloroethene
USEPA	United States Environmental Protection Agency
VI	vapor intrusion
VOC	volatile organic compound

EXECUTIVE SUMMARY

Lucas Western LLC has implemented various Resource Conservation and Recovery Act (RCRA) interim corrective measures (ICMs) to address onsite and offsite impacts associated with the Former TRW Aeronautical Systems Facility (Site) in Utica, New York. Since 2000, numerous soil, groundwater, and soil vapor investigations have been implemented as part of a RCRA Facility Investigation and onsite Corrective Measures Study (CMS). Based on the findings of these investigations, ICMs were developed and implemented. These ICMs included onsite soil excavation with offsite disposal, onsite and offsite storm sewer and associated pipe bedding material removal, offsite storm sewer cleaning, onsite soil barrier layer construction, and operation of onsite and offsite soil vapor extraction and offsite sub-slab depressurization (SSD) systems. As part of these previous investigations, the nature and extent of volatile organic compounds (VOCs), primarily trichloroethene (TCE), in soil, groundwater, and soil vapor were delineated. The ICMs completed to date, including onsite source removal via excavation and offsite disposal, have successfully mitigated VOC sources and human health exposure pathways.

This Offsite Soil Vapor CMS utilizes the corrective measures framework to summarize ICMs completed to date that address residual VOCs in soil vapor outside the boundaries of the Site and assess these completed ICMs against a limited number of remedial alternatives. Corrective measures objectives, which incorporate the applicable regulations and guidance established by the New York State Department of Environmental Conservation and the New York State Department of Health, provide the context for the alternatives evaluation process. Applicable technologies were screened based on chemicals of potential concern and offsite characteristics. The technologies were assembled into potential alternatives and evaluated based on RCRA performance standards and criteria.

The recommended corrective measures consist of continued operation of the existing SSD systems installed at 11 residential homes and three commercial property buildings. A separate operations and maintenance plan for ongoing operation of the SSD systems will be prepared and submitted to NYSDEC for review and approval. An SSD system shutdown evaluation will be conducted prior to permanent shutdown of any of the SSD systems.

1 INTRODUCTION

This Offsite Soil Vapor Corrective Measures Study (CMS) Report (Offsite CMS Report) was prepared on behalf of Lucas Western LLC (Lucas Western) to identify and evaluate corrective measures for potential offsite soil vapor impacts adjacent to the Former TRW Aeronautical Systems Facility (Site) at 211 Seward Avenue in Utica, New York (Figure 1). Lucas Western is the site owner and formerly conducted manufacturing operations at the Site as TRW Aeronautical Systems. This Offsite CMS Report has been prepared using guidelines from relevant sections of the following sources:

- Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR) Part 375-6 (New York State Department of Environmental Conservation [NYSDEC] 2006).
- NYSDEC Policy CP-51 / Soil Cleanup Guidance, dated October 21, 2010 (NYSDEC 2010a).
- New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion (VI) in the State of New York, dated October 2006 (NYSDOH VI Guidance; NYSDOH 2006).
- NYSDEC Division of Environmental Remediation (DER) document titled DER-10/Technical Guidance for Site Investigation and Remediation, dated May 3, 2010 (DER-10; NYSDEC 2010b).
- NYSDEC Corrective Action Program for Hazardous Waste Facilities as presented in NYSDEC's website at: https://www.dec.ny.gov/chemical/9057.html.
- The United States Environmental Protection Agency (USEPA) Corrective Measures Study Scope of Work (USEPA 2011).
- The USEPA's fact sheet for Final Remedy Selection For Results-Based Resource Conservation and Recovery Act (RCRA) Corrective Action available on USEPA's website at: www.epa.gov/sites/production/files/2016-01/documents/select.pdf
- USEPA RCRA Corrective Action Plan, Office of Solid Waste and Emergency Response (OSWER) Directive 9902.3-2A, May 1994 (USEPA 1994).
- USEPA RCRA Corrective Action Decision Documents: The Statement of Basis and Response to Comments. Directive No. 9902.6 (USEPA 1991).

1.1 Purpose

The purpose of this report is to identify and evaluate corrective measures alternatives that are appropriate for offsite soil vapor impacts, protective of human health and the environment, and consistent with applicable laws, regulations, and guidance documents. This report recommends a corrective measures alternative for offsite soil vapor that (1) adequately mitigates potential threats to human health and the environment, if any, arising from constituents of potential concern (COPCs) detected in offsite soil vapor near the Site and (2) is consistent with the corrective measures objectives (CMOs) for offsite soil vapor.

The focus of this report is the residential area directly to the west of the Site in the French Road corridor and the commercial area to the north of the Site beyond Seaward Avenue (Figure 2).

1.2 Report Organization

This report is organized into the following sections:

Section	Purpose
Section 1 – Introduction	Presents the purpose and objective of this report and the report organization.
Section 2 – Background Information	Provides background information relevant to the development of the report and evaluation of potential corrective measures.
Section 3 – Identification of Potential Standards, Criteria, and Guidelines	Identifies the potential standards, criteria, and guidelines that govern the development, selection, and evaluation of corrective measures alternatives.
Section 4 – Corrective Measure Objectives	Presents the CMOs for offsite soil vapor.
Section 5 – Technology Screening and Development of Corrective Measures Alternatives	Presents the results of a screening process to identify applicable corrective measures alternatives that have the potential to meet the CMOs.
Section 6 – Detailed Evaluation of Corrective Measures Alternatives	Presents a detailed description and analysis of each potential corrective measures alternative using the evaluation criteria presented in the referenced corrective measures study guidance documents.
Section 7 – Comparative Analysis of Corrective Measures Alternatives	Presents a comparative analysis of the corrective measures alternatives using the evaluation criteria.
Section 8 – Selection of Corrective Measures Alternative	Identifies the recommended corrective measure for addressing offsite soil vapor.
Section 9 – References	Presents a list of references cited in this report.

2 BACKGROUND INFORMATION

This section presents relevant background information used to develop this report with a focus on offsite soil vapor data for areas adjacent to the west and north of the Site. A description of the Site is presented below, followed by a summary of the historical uses of the Site. This section also summarizes results obtained from previous investigation and remediation activities.

2.1 Site Description

The Site consists of an approximately 22-acre parcel located at 211 Seward Avenue in the City of Utica, New York. The Site is bordered: to the north by two manufacturing facilities, a commercial retail business, and an automobile service station; to the south by residential properties; to the east by railroad tracks owned by New York Susquehanna and Western Railway Corporation; and to the west by commercial and residential properties. A site location map is included as Figure 1.

Between June 2003 and February 2004, all above-grade structures at the Site were razed in accordance with the Demolition Work Plan (Blasland, Bouck, & Lee [BBL], now known as Arcadis, 2003). Above-grade structures and concrete slabs were removed and/or crushed. Foundation structures were crushed and removed to a depth of at least 1 foot below ground surface (bgs). The generated debris was either disposed of or reused as onsite backfill, in accordance with applicable regulations. The demolition activities performed between June 2003 and February 2004 are detailed in a Demolition Summary Report (BBL 2004a).

The Site has been vacant since the completion of demolition activities. The formerly developed portions of the Site are enclosed by a chain-link fence. An onsite trailer-mounted soil vapor extraction (SVE) blower has been operating since May 18, 2009, as discussed in Section 2.6.

2.2 Historical Site Operations

Prior to 1946, a portion of the Site was used as a park and playground, and the remaining portions of the Site were undeveloped (Environmental Resources Management [ERM] 2001). From 1946 to 1951, the Site was used for the production of cans for frozen foods. Beginning in 1951, the Site was used for a variety of industrial operations including the design, manufacturing, and testing of components related to the aviation and aerospace industries. Specific processes previously conducted at the Site include metal cutting, electrochemical milling, plating, welding, painting, and component cleaning. Industrial operations at the Site were discontinued in 2002.

2.3 Summary of Previous Onsite Investigations and Corrective Measures

Onsite investigations and interim corrective measures (ICMs) relevant to offsite soil vapor are discussed below.

2.3.1 Relevant Onsite Investigations

In 2000, Lucas Western voluntarily initiated a RCRA Corrective Action process at the Site, which is subject to NYSDEC oversight. A RCRA Facility Assessment was completed for the Site in 2001, and a RCRA Facility Investigation (RFI) was implemented at the Site between 2001 and 2004. Additional investigations were performed onsite in support of various ICMs (for delineation/verification purposes) and to evaluate the potential for vapor intrusion at nearby offsite structures. Previous comprehensive investigations included sampling of site soil, groundwater, and soil vapor and analysis of COPCs identified for each media (polychlorinated biphenyls [PCBs], volatile organic compounds [VOCs], semi-volatile organic compounds, and/or inorganic constituents [including cyanide]).

Onsite investigations historically identified VOC concentrations in groundwater above applicable standards and guidelines. Elevated soil vapor concentrations, notably 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), and tetrachloroethene (PCE), have been identified onsite and offsite in the past. Onsite and offsite soil vapor sampling locations and groundwater monitoring wells are shown on Figure 3.

Relevant site reports related to offsite soil vapor investigations and ICMs include:

- Soil Remediation Closure Report prepared by ERM in January 1999 (ERM 1999), which summarizes the VOC-impacted soil removal conducted between the former Main Production Building and the former Chemical Storage Building.
- RCRA Facility Assessment Report prepared by ERM in March 2001 (ERM 2001), which identifies areas of potential concern and provides recommendations for further investigations.
- RFI Report prepared by BBL in March 2004 (BBL 2004b), which details the results of a comprehensive environmental investigation for soil and groundwater.
- ICM Storm Sewer Removal Certification Report (BBL 2004f), which details the removal of onsite, below grade storm sewer piping and drainage structures, pipe bedding material, and associated impacted soil.
- Gilmore Street Storm Sewer ICM Report prepared by BBL in December 2004 (BBL 2004c), which describes corrective measures to remove the storm sewer system and impacted environmental media associated with the storm sewer system.
- SVE Pilot Test Work Plan prepared by Arcadis in September 2007 (Arcadis 2007), which outlines the installation and operation of an SVE pilot test for the Site.
- SVE Pilot Test Report prepared by Arcadis in December 2008 (Arcadis 2008), which summarizes the SVE pilot test activities performed from September 2007 to September 2008.
- Revised SVE System Expansion Work Plan prepared by Arcadis in July 2010 (Arcadis 2010a), which describes proposed SVE system expansion activities to reduce soil vapor concentrations in areas that have shown elevated soil vapor concentrations within Site boundaries.
- Revised Focused Onsite Soil Gas Source Evaluation Work Plan prepared by Arcadis in July 2010 (Arcadis 2010b), which describes proposed activities to further evaluate potential onsite sources of chlorinated VOCs in soil vapor at two areas at the Site. These activities and findings are summarized

in the Focused Onsite Soil Gas Source Evaluation Report that was submitted to the NYSDEC on March 9, 2011 (Arcadis 2011a).

- Phase II SVE System Expansion Work Plan prepared by Arcadis in June 2011 (Arcadis 2011b), which describes further SVE system expansion activities to reduce soil vapor levels offsite.
- Quarterly Soil Vapor Monitoring Reports prepared by multiple consultants from February 2008 to the present that summarize soil vapor sampling and findings.
- Annual Groundwater Monitoring Reports prepared by multiple consultants from 2006 to the present that summarize groundwater analytical data.

2.3.2 Relevant Onsite Interim Corrective Measures

Onsite ICMs have been conducted to remove impacted materials, address exposure pathways, and limit the potential for offsite migration. These corrective measures included building demolition, excavation and offsite disposal of impacted soil from the Site, installation of an engineered soil barrier layer, and installation of an SVE system.

VOC-Impacted Soil Removal Activities

Several remedial activities have been conducted onsite to remove soil containing PCBs, VOCs, SVOCs, and inorganic constituents. The focus of this subsection is VOC-impacted soil removal activities:

- In 1998, VOC-impacted soil in the area between the former Main Production Building and the former Chemical Storage Building was removed and transported for offsite treatment/disposal. This work resulted in removal of the identified source of VOCs in groundwater and soil vapor. The VOCs in this area were attributed to a former 1,1,1-TCA-containing aboveground storage tank and solvent handling in the area. Refer to the Soil Remediation Closure Report (ERM 1999) for details of the VOC-impacted soil removal.
- From 2003 to 2004, storm sewer ICMs were performed. VOC-impacted soil located in a former drainage area between the former Main Production Building and the former Chemical Storage Building was removed and transported for offsite disposal. ICM activities also included the removal of all below-grade storm sewer piping, drainage structures (catch basins, manholes, a stormwater junction box, and a collection trench), and pipe bedding material associated with the onsite storm sewer system. Refer to the ICM Storm Sewer Removal Certification Report (BBL 2004f) for details regarding the onsite storm sewer ICMs. In addition to onsite activities, approximately 100 linear feet of offsite storm sewer piping and associated bedding material were removed from the eastern end of Gilmore Street to the intersection of Gilmore Street and Lyon Place. Offsite, the removed portion of the storm sewer pipe was replaced with new piping. The trench was backfilled with clean soil and disturbed portions of the road were repaved. The offsite storm sewer removal and replacement activities were a follow-up to storm sewer cleaning (via hydroflushing) performed to remove accumulated debris (silt, sand, gravel) from accessible sections of the offsite storm sewers along the French Road corridor and Gilmore Street. Refer to the Gilmore Street Storm Sewer ICM Report (BBL 2004c) for details of the offsite storm sewer ICM.

SVE System Installation and Operation

An SVE system is currently extracting onsite and offsite soil vapor and has undergone several expansions since its inception in 2007. As discussed below, NYSDEC approved, in an October 7, 2020 letter, the shutdown of the SVE system for one year to assess the potential for rebound of soil vapor VOC concentrations.

The SVE system was initially operated as part of a pilot study from October 3, 2007 to September 29, 2008 and included three SVE points. The full-scale SVE system has been operational since May 18, 2009, and started with the operation of nine SVE points (VEW-1 through VEW-3 installed as part of the pilot study, and P-VEW-4 through P-VEW-9 installed as part of the full-scale operation, as shown on Figure 3). The full-scale SVE system has been expanded three times and currently extracts from 13 SVE points, including eight onsite points and five offsite points. The full-scale SVE system expansions completed since 2009 included:

1. Extraction points P-VEW-10 and P-VEW-11 were installed onsite on September 13, 2010. The extraction points are located adjacent to soil vapor probes SG-2R and SG-27, respectively.
2. Extraction point P-VEW-12 was installed to the west of the Site in the right-of-way across French Road (adjacent to soil vapor probe SG-19) on September 14, 2010.
3. Extraction point P-VEW-13 was installed northwest of the Site in the right-of-way across French Road (adjacent to soil vapor probe SG-8) on November 12, 2011.

Both the second and third expansions of the full-scale SVE system involved directional drilling in the right-of-way across French Road, thus extending into the offsite area (see Figure 3 for the SVE system extraction points). The SVE system was designed for pore-volume exchange to remove VOC-impacted soil vapor from near the extraction points. The observed radius of influence of the SVE wells during the pilot test ranged from 15 to 20 feet. The SVE system extracts soil vapor from along French Road adjacent to the Site to minimize the potential for offsite soil vapor migration from locations where elevated VOC concentrations have been reported in soil vapor samples.

The remedial objective of the SVE system was to be the primary mitigation measure to reduce the aerial extent of the VOC soil vapor plume and reduce subsurface vapor concentrations at and adjacent to the Site following removal of the VOC source (i.e., impacted soil associated with a former 1,1,1-TCA aboveground storage tank and Chemical Storage Building). The SVE system effectively removed VOC-containing soil vapor from the operating area. Quarterly soil vapor monitoring data (from 2008 to present) indicate that soil vapor concentrations appear to be fluctuating nominally now. VOC concentrations in soil vapor at onsite monitoring locations have decreased by 79% to 95% from historical maximums. Similarly, VOC concentrations in soil vapor at offsite monitoring locations have decreased by as much as 99% from historical maximums.[1] The SVE system removed significantly more VOC mass during the initial years of operation; mass removal rates have decreased to a minimal amount and are now nearly negligible (a few kilograms per year or less). The SVE system provides minimal VOC mass removal and has a limited horizontal spatial influence. Thus, it can be concluded that turning off the SVE system would have little effect on offsite soil vapor concentrations. Although low level residual VOCs remain in offsite soil vapor,

[1] The percent reductions are based on results reported for the April 2020 soil vapor monitoring event.

existing sub-slab depressurization (SSD) systems in the nearby residences and businesses address this potential exposure pathway.

In a May 26, 2020 letter to NYSDEC, Lucas Western requested NYSDEC approval to shut down the SVE system. After a round of comments and responses, NYSDEC provided approval in an October 7, 2020 letter to shut down the SVE system for one year to assess the potential for rebound of soil vapor VOC concentrations. This approval is based on the fact that the SVE system has operated for nearly 13 years, vapor intrusion is currently addressed by existing SSD systems, and data trends have confirmed that the SVE system has removed significant VOC mass over time and is now removing very little VOC mass from the subsurface as it has successfully achieved the ICM remedial objectives.

2.4 Summary of Previous Offsite Investigations and Corrective Measures

The potential for an offsite soil vapor intrusion pathway was first identified in 2004, as discussed in the Corrective Measures Study Report (BBL 2004e). Following identification of this potential pathway, proactive steps were taken to implement ICMs while the nature and extent of the offsite soil vapor were characterized.

2.4.1 Offsite Investigations

Offsite soil vapor and groundwater investigations are summarized in the following documents:

- Phase I through Phase IV Soil Vapor Work Plans and corresponding reports prepared by BBL, Geosyntec Corporation, and Lucas Western from January 2005 to August 2007 (see documents listed in Section 9 below) outline and summarize multiple soil vapor investigations, including offsite soil vapor sampling results.
- Focused Off-Site Soil Vapor Intrusion Investigation Report prepared by Conestoga-Rovers & Associates in March 2014 (CRA 2014) describes offsite soil vapor intrusion sampling events at residential properties (420 and 424 French Road).
- Focused Off-Site Soil Vapor Investigation Report, 2nd Event prepared by Conestoga-Rovers & Associates in March 2015 (CRA 2015) describes a second round of offsite soil vapor intrusion sampling events at 420 and 424 French Road.
- Quarterly Soil Gas Monitoring Reports prepared by multiple consultants from February 2008 to present and summarize onsite and offsite soil vapor concentrations.
- Annual Groundwater Monitoring Reports prepared by multiple consultants from 2006 to present summarize onsite and offsite groundwater analytical data.

2.4.2 Current Offsite Interim Corrective Measures

As indicated in Section 2.3.2, the SVE system is currently operating and it extracts and treats soil vapor from on and offsite. Based on the presence of VOCs in soil gas by nearby residences and businesses, SSD systems were installed to proactively protect against potential vapor intrusion risks. The SSD systems vent potential migrating soil vapor from below building foundations to the ambient air. The SSD systems were installed in accordance with the Sub-Slab Depressurization System Interim Corrective Measure Work Plan (Geosyntec Corporation 2006).

SSD systems have been installed at 11 residential homes and 3 commercial buildings and are operated and inspected annually as described in the NYSDOH VI Guidance and in accordance with the Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Plan (Geosyntec Corporation 2007). Confirmation indoor air sampling occurred following SSD system installation at each property. The SSD systems continue to operate as designed. The properties with operating SSD systems and installation year are indicated below and locations are shown on Figure 3:

Property Number	Installation Year
Residential Properties	
429 French Road	2007
431 French Road	2007
433 French Road	2007
435 French Road	2007
437 French Road	2007
439 French Road	2007
441 French Road	2007
443 French Road	2007
445 French Road	2016
447 French Road	2007
305 Gilmore Street	2009
Commercial Properties	
470 French Road (Funeral Parlor)	2007
470 French Road (Warehouse)	2007
216 Seward Avenue (former McHarris Gifts Store)	2007

With the concurrence of NYSDEC, SSD systems were not installed at two commercial parcels to the north of the Site (450 French Road and 210 Seward Avenue). Records for these facilities identified evidence of current or previous generation, use/handling, storage, or release of TCE, 1,1,1-TCA, or PCE. No further action (NFA) was proposed for these properties because of the potential for VOCs in indoor air or soil gas at these facilities unrelated to the Site. NYSDEC provided concurrence with this proposal in a March 15, 2006 letter (Appendix B).

2.5 Geologic and Hydrogeologic Setting

Offsite geologic and hydrogeologic characteristics mimic those identified onsite, where more extensive investigations have been conducted. The Site and nearby areas are situated on relatively flat-lying land at an elevation of approximately 510 feet above mean sea level. Previous site investigations have identified two principal unconsolidated geologic units below the Site, both of which are glacial outwash deposits, approximately 25 to 35 feet thick, overlying glacial till. Based on subsurface characteristics observed during investigations at the Site, the shallow overburden material across much of the area appears to be a heterogeneous brown fine-to-coarse gravel and fine-to-coarse sand. Toward the east of the Site, the gravel/sand appears to contain an increased amount of silty layers. Toward the west of the Site, there appears to be a predominance of silt layers with a few sandy layers. Underlying the glacial outwash unit, a 30- to 60-foot-thick unit of dense glacial till exists and extends to the top of bedrock. The bedrock underlying the Site and nearby areas is identified as Utica Shale and is typically encountered at a depth ranging from 60 to 95 feet bgs.

Groundwater in the area is typically encountered at 10 to 15 feet bgs, within the unconsolidated deposits, and is perched above the glacial till layer. The groundwater flow direction has consistently been to the north/northwest.

2.6 Nature and Extent of Volatile Organic Compounds in Soil Vapor

VOCs, consisting mainly of TCE, 1,1,1-TCA, and PCE, are considered the COPC for offsite soil vapor. A multi-phase soil vapor investigation as described in Sections 2.3.1 and 2.3.2 began in January 2005. Soil vapor monitoring continued during the operation of the SVE pilot study from October 2007 to September 2008. Quarterly soil vapor sampling began upon installation of the full-scale SVE system in May 2009 and has continued to present. The historical quarterly VOC soil vapor analytical data are presented in Appendix A.

The source of contaminant mass has been removed from the Site. As such, VOCs in soil vapor are considered to be residual impacts. Soil vapor investigations indicate the presence of COPCs in soil vapor onsite, to the west of the Site in the French Road corridor and to the north of the Site in the commercial area. The Second Quarter (April) 2020 Soil Gas Monitoring Event Reported the following (Lucas Western 2020):

- Total VOC concentrations in offsite soil vapor probes ranged from 7.28 micrograms per cubic meter [$\mu g/m^3$] (SG-33B) to 259 $\mu g/m^3$ (SG-19).
- Percent reductions of VOCs of interest at offsite soil vapor probe locations ranged from 84.3% (SG-40) to near 100% (SG-33B) when compared to their respective historical maximums.

Overall, soil vapor analytical results indicate that VOC concentrations at and near the Site are significantly below historical maximum values. The high reduction rates of site-related VOCs from historical maximums indicate that the SVE system and onsite source removal actions have been effective in removing VOC mass from the subsurface.

TCE concentrations in soil vapor samples from monitoring points in the vicinity of the structures with SSD systems along French Road (SG-6, SG-8, and SG-19) have decreased substantially over time. TCE concentrations in soil vapor probes SG-6 and SG-8 are often less than the 60 $\mu g/m^3$ action level outlined in NYSDOH VI Guidance Matrix A (the action level triggering mitigation even if TCE is not present in indoor air samples).

In addition to sampling vapor from the soil vapor probes and vapor extraction wells, offsite soil vapor intrusion sampling events were conducted at 420 and 424 French Road in both 2014 and 2015. The vapor intrusion sampling included the collection and analysis of sub-slab soil vapor, indoor air, and outdoor air samples, all of which were analyzed for VOCs using EPA Method TO-15. The two residential structures at these properties are located south of Gilmore Street along the east side of French Road

(See Figure 3). 1,1,1-TCA and TCE were detected in the sub-slab soil vapor; however, these constituents were either identified at non-detect levels or at low concentrations in indoor air. Based on the results compared to the NYSDOH VI Guidance Matrices, GHD recommended NFA for vapor intrusion at these locations in the Focused Off-Site Soil Vapor Intrusion Investigation Second Sampling Event (CRA 2015) report that was submitted to NYSDEC on May 6, 2015.

Partitioning of VOCs from groundwater to soil vapor is the primary vapor intrusion source for offsite areas. The VOC concentrations in groundwater samples collected from monitoring wells located along the western site boundary near French Road (wells B95-2 and MW03-4) are decreasing over time and have been less than the NYSDEC water quality standard of 5 micrograms per liter (µg/L) since 2010 (see analytical data in Appendix A). VOC concentrations in groundwater samples collected from four of the five monitoring wells located along the northern downgradient property boundary near Seward Avenue (wells B85-2, B94-1, B94-6, and MW03-5) are also decreasing over time. TCE and 1,1,1-TCA concentrations had decreased to below groundwater standards at B85-2 (located furthest east) by 1987, at B94-6 (located second furthest east) by 2007, and MW03-5 (westernmost well) by 2020, as indicated by data tabulated and graphed in the annual groundwater monitoring reports. Sampling at B94-1 was discontinued in 2003 when MW03-5 was installed immediately adjacent and served as a replacement in the monitoring network. MW03-5 is the last well along the northern property boundary to have VOCs in groundwater above the respective groundwater standard, as follows:

- The TCE concentration in MW03-5 decreased steadily from 11 µg/L when this well was first sampled (2003) to 4.3 µg/L in the most recent monitoring event (2020). The TCE concentration at MW03-5 is expected to continue to decrease due to continued natural attenuation processes.
- 1,1,1-TCA was initially detected in MW03-5 at concentrations above the 5 µg/L groundwater quality standard, but 1,1,1-TCA concentrations in this well have been consistently below 5 µg/L for over a decade.

VOC concentrations in the downgradient wells are expected to continue to decrease. The potential for vapor intrusion associated with the presence of TCE in groundwater is diminishing. Groundwater TCE and 1,1,1-TCA and other VOC concentrations over time are presented in Appendix A.

2.7 Human Exposure Evaluation

Based on results of the RFI (BBL 2004b), a qualitative human health exposure evaluation was conducted to identify potentially complete exposure pathways for the Site. Details of the human health exposure evaluation are presented in the RFI Report. Based on a review of soil vapor analytical results and the ICMs that have been implemented at and near the Site, potential current and future exposure pathways associated with offsite soil vapor are related to the potential for vapor intrusion. Residential and commercial properties are located west and north of the Site, respectively. Based on the comprehensive soil vapor investigations performed offsite, there was a potential for exposure to elevated offsite soil vapor concentrations along the French Road corridor and commercial properties north of the Site; however, the potential exposure pathway is currently being mitigated by the operation of the SSD systems. The corrective measures alternatives evaluated in this CMS address this potential exposure pathway long-term.

3 IDENTIFICATION OF POTENTIAL STANDARDS, CRITERIA, AND GUIDANCE

Standards, criteria, and guidance (SCGs) that may be applicable to the French Road corridor and commercial properties north of the Site and/or to potential corrective measures alternatives are reviewed and evaluated in this section. Understanding federal, state, and local SCGs assists in identifying (1) CMOs for the offsite study area, (2) the type of corrective measures alternatives that may be appropriate, and (3) the scope and extent to which each retained alternative would be designed and implemented. SCGs do not dictate an alternative and do not set remedial cleanup levels.

The SCGs identified for the project are presented in this section.

3.1 Definitions of SCGs

“Standards and criteria” are cleanup standards, standards of control, and other substantive environmental requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance.

“Guidelines” are non-promulgated criteria, advisories, and/or guidance that are not legal requirements and do not have the same status as “standards and criteria.” However, in developing the corrective measures alternatives, guidance documents were considered if, based on professional judgment, they were deemed applicable to the project.

Considering SCGs in the CMS allows for the development of each alternative to a reasonably accurate level of detail and provides a common basis for comparison among alternatives.

3.2 Types of SCGs

SCGs have been categorized into the following classifications:

- *Chemical-Specific SCGs* – These SCGs are typically health- or risk-based numerical values or methodologies that establish allowable concentrations of COCs associated with the impacted media (e.g., soil vapor, groundwater).
- *Action-Specific SCGs* – These SCGs are typically technology- or activity-based requirements related to the performance of corrective measure activities. These types of SCGs typically influence the implementation aspects of a given alternative.
- *Location-Specific SCGs* – These SCGs include regulations related to activities conducted in floodplains, wetlands, and navigable waters. Location-specific SCGs also include local requirements such as noise mitigation requirements, building permit conditions for permanent or semi-permanent facilities constructed during the corrective measures (if any), sewer discharge requirements, and street closing policy.

3.3 Soil Vapor SCGs

The SCGs identified for the evaluation of soil vapor corrective measure alternatives are presented in the following subsections. These SCGs have been identified as potentially applicable, but their actual applicability will be determined during the evaluation of a particular remedy, and further described during development of the remedial design (i.e., as needed, after the final site remedy has been selected). Each potential remedy will satisfy the identified SCGs or indicate why an SCG cannot or will not be obtained.

3.3.1 Chemical-Specific SCGs

New York State does not have SCGs for concentrations of volatile constituents in soil vapor, but has issued guidance for sub-slab vapor and indoor air. The following SCGs for sub-slab vapor and indoor air are potentially applicable to this CMS:

- The soil vapor/indoor air matrices presented in the NYSDOH VI Guidance (NYSDOH 2006), with updates (most recently May 2017).
- Air guideline values presented in Table 3.1 of the NYSDOH VI Guidance, updated in September 2013 and August 2015.
- Background levels established in the NYSDOH Study of Volatile Organic Compounds in Air of Fuel Oil Heated Homes, as referenced in the NYSDOH VI Guidance.
- USEPA Building Assessment and Survey Evaluation 90th percentile values, as referenced in the NYSDOH VI Guidance.
- USEPA Residential and Industrial Air Regional Screening Levels.

3.3.2 Action-Specific SCGs

Action-specific SCGs include topics such as general health and safety requirements and handling and disposal of hazardous waste (e.g. permitting, manifesting, transportation and disposal, and treatment and disposal facility operations). The low concentrations of VOCs in offsite soil vapor and groundwater are not indicative of hazardous waste, and thus, hazardous waste disposal is not anticipated. Site activities (e.g., environmental monitoring or site/system inspections) would need to comply with applicable requirements established by the Occupational Safety and Health Administration (OSHA) and be in accordance with a site-specific health and safety plan.

3.3.3 Location-Specific SCGs

Location-specific SCGs generally include floodplain and wetland regulations and restrictions promulgated under the National Historic Preservation Act, Endangered Species Act, and other federal acts. The Site is not located within a 100- or 500-year flood zone or a National Wetland Inventory-mapped wetland area. Therefore, location-specific SCGs pertaining to floodplains and wetlands are not applicable to the potential remedial alternatives.

4 CORRECTIVE MEASURE OBJECTIVE

This section presents the CMO developed to address residual offsite soil vapor in the French Road corridor including (1) residential properties that are within one property of, and on either side of, French Road from Lomond Place to just north of Seward Avenue, as well as along Gilmore Street within one block of French Road and (2) the commercial area to the north of the Site (see Offsite CMS Evaluation Area on Figure 2). Based on considerations specific to these offsite areas (e.g., detected constituents, site use, and potential exposure pathways), the CMO has been identified to maintain and/or achieve conditions that are protective of public health and the environment. The CMO developed for offsite soil vapor related to the Site is consistent with the remedy selection process described in 6 NYCRR Part 375 (NYSDEC 2006) and guidance presented in DER-10 (NYSDEC 2010b). The CMO is based on the results of the completed investigations, the SCGs presented in Section 3 of this CMS, and the conclusions drawn from the RFI (BBL 2004b) and On-Site CMS Report (BBL 2004e). The CMO is used to identify the need to implement one of the remedial alternatives presented in Section 5 of this CMS. The CMO developed for the applicable offsite areas is to mitigate potential impacts to public health (if any) resulting from existing, or the potential for, soil vapor intrusion into buildings in the French Road corridor and northern commercial area.

5 TECHNOLOGY SCREENING AND DEVELOPMENT OF CORRECTIVE MEASURES ALTERNATIVES

The objective of technology screening is to identify remedial options that are implementable and potentially effective at addressing offsite soil vapor in the French Road corridor and northern commercial area. Corrective measures may also include various non-technology-specific actions, such as monitoring and institutional controls.

This section identifies the technologies that apply to the French Road corridor and northern commercial area, and that, once assembled into corrective measures alternatives, will achieve the CMO. Corrective measures alternatives may be comprised of a standalone technology or combined technologies. The resulting alternative(s) will be screened against the threshold criteria before being considered in the alternatives evaluation. The threshold criteria that must be satisfied for an alternative to be considered for selection are:

(1) Protection of human health and the environment.

(2) Attainment of the established standards, criteria, and guidance.

This initial comprehensive screening eliminates technologies or process options that are not applicable (based on COPCs, infrastructure present, and geology) before developing comprehensive corrective measures alternatives or analyzing the implementation of the technology in more detail. This comprehensive screening entails:

- Screening of technical implementability (preliminary screening).
- Evaluation of process options (secondary screening).
- Selection of technologies retained.
- Assembly of corrective measures alternatives that meet the threshold criteria.

Detailed evaluations of these assembled corrective measures alternatives are presented in Section 6.

5.1 Identification of Remedial Technologies

Remedial technology types that are potentially applicable for addressing the impacted media were identified through a variety of sources, including vendor information, engineering experience, and review of available literature that included the following documents:

- NYCRR Part 375 (NYSDEC 2006).
- NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010b).
- Guidance for Conducting Remedial Investigations and Feasibility Studies Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA; USEPA 1988).
- NYSDOH VI Guidance (NYSDOH 2006).
- Presumptive Remedies: Policy and Procedures (USEPA 1993).

- Data Requirements for Selecting Remedial Action Technologies (Nunno et al. 1987).
- Remediation Technologies Screening Matrix and Reference Guide, Version 3 (Federal Remedial Technologies Roundtable 1997).
- USEPA RCRA Corrective Action Plan, OSWER Directive 9902.3-2A May 1994 (USEPA 1994).
- USEPA RCRA Corrective Action Decision Documents: The Statement of Basis and Response to Comments. Directive No. 9902.6 (USEPA 1991).

Although each site offers its own unique characteristics, the evaluation of remedial technology types and process options that are applicable for soil vapor intrusion is well documented. This collective knowledge and experience, and regulatory acceptance of previous feasibility studies performed on similar sites, were used to reduce the plethora of potentially applicable options for the study area to those with documented success in achieving similar CMOs.

The remedial technologies identified as potentially applicable for addressing soil vapor intrusion are listed in Table 1.

5.2 Technology Screening

Potentially applicable technologies and technology processes underwent preliminary and secondary screening to select the technologies that would most effectively achieve the CMO identified for the offsite study area. Technology refers to a general category of technologies, such as capping or immobilization, while the technology process is a specific process within each technology type. A “no-action” general response has been included and retained through the screening evaluation. The no-action response will serve as a baseline for comparing the potential overall effectiveness of the other technologies.

5.2.1 Preliminary Screening

The preliminary screening was performed to reduce the number of potentially applicable technologies and technology processes based on technical implementability. Existing site characterization information was used to evaluate technical implementability and to screen out remedial technology types/technology process options that could not reasonably or practicably be implemented. This screening considers the site-specific CMO, site-specific conditions (geologic setting and contaminant distribution), and contaminant characteristics. The results of the preliminary screening of soil vapor remedial technologies/technology processes are presented in Table 1.

5.2.2 Secondary Screening

The technology process options retained through preliminary screening were subjected to a secondary screening to further evaluate potential means to address offsite soil vapor. The objective of the secondary screening was to choose, when possible, one representative remedial technology process for each remedial technology category to simplify the subsequent development and evaluation of the remedial alternatives. A description of the screening criteria is presented below.

- *Effectiveness* – The effectiveness of corrective measure technologies and process options are evaluated based on the:

  - Ability to mitigate potential threats to public health and the environment during the construction and implementation phase of the project.
  - Potential effectiveness in meeting the CMO for the constituent types, site conditions, and estimated areas and volumes of affected media.
  - Potential human exposures, adverse environmental effects, and nuisance conditions resulting from implementation.
- *Implementability* – This criterion evaluates both the technical and administrative feasibility of implementing the technology process. Because technical implementability was considered during the preliminary screening, this subsequent, more detailed evaluation places more emphasis on the institutional aspects of implementability (e.g., the ability to obtain necessary permits for offsite actions, the availability of treatment, storage, and disposal services, the availability of necessary equipment, etc.). This criterion also evaluates the ability to construct, reliably operate and maintain, and meet technical specifications associated with each technology process.
- *Relative Costs* – This criterion evaluates the overall cost required to implement the remedial technology. As a screening tool, relative capital and operation and maintenance (O&M) costs are used rather than detailed cost estimates. For each technology process option, relative costs are presented as low, moderate, or high. Costs are estimated on the basis of engineering judgment and industry experience.

The results of the secondary screening of soil vapor remedial technologies/technology processes are presented in Table 2.

5.2.3 Technologies Retained

The remedial action technologies for soil vapor that were retained through secondary screening using the above-listed criteria are summarized in Table 3 and identified below:

- NFA
- SVE
- Residential/Commercial SSD system(s)

The retained technologies and process options are briefly described below and evaluated based on effectiveness, implementability, and cost (Table 2).

<u>No Further Action</u>

The NFA process option is retained and examined as a baseline against which other corrective measures are compared. NFA would involve permanently shutting down the currently-operating SVE and SSD systems and discontinuing environmental or system monitoring. NFA received a “low” effectiveness rating as VOCs are currently detected in soil vapor as described in Section 2, a “high” implementability rating as it is easy to implement, and a “low” relative costs rating as it would have minimal cost to remove equipment (Table 2). Despite the poor overall rating, it is retained as the baseline for the alternatives evaluation.

Soil Vapor Extraction

SVE is an accepted, recognized, and cost-effective technology for remediating soils impacted with VOCs. Depending on site conditions and how the system is designed, an SVE system could also be used to control soil vapor migration and soil vapor mass flux. This technology is known in the industry by various other names, such as soil venting and vacuum extraction. The process involves inducing air flow in the subsurface with an applied vacuum to wells screened in the vadose zone using blowers or vacuum pumps, and thus, enhancing the in-situ volatilization of contaminants. The organic compounds or various fractions of a mixture of organic compounds volatilize or evaporate into the air and are transported to the surface or towards an SVE well. Depending on the depth of soil being remediated, extraction of air laden with impacted vapors can be achieved with vertical extraction wells or horizontal extraction pipes. The SVE process takes advantage of the volatility of the contaminants to allow mass transfer from adsorbed, dissolved, and free phases in the soil to the vapor phase, where it is removed under vacuum and treated (if needed) and discharged above ground. For this process to be effective, the contaminants of concern must be volatile enough, and have a low enough water solubility, to be drawn into soil vapor for removal. The COPC are well-suited for SVE. Based on current soil vapor concentrations and removal rates, treatment of the soil vapor extracted by the SVE system is not needed prior to discharge to the atmosphere.

The components of an SVE system are usually readily available as off-the-shelf products. A typical SVE system consists of one or more extraction wells, one or more air inlet or injection wells (optional), piping or air headers, vacuum pumps or air blowers, flow meters and controllers, vacuum gauges, sampling ports, air-water separator (optional), vapor treatment (optional), and a cap. SVE received “low” effectiveness, “high” implementability, and “moderate” cost rating and would be implemented with other remedial technologies. The effectiveness is considered “low” as this technology is typically effective to address a higher concentration source area rather than a dispersed, dilute soil gas plume as is currently observed at the Site.

Sub-Slab Depressurization

Pressure gradient is the driving force for potential migration of soil vapor into buildings (e.g., gas/vapor flows from high to low pressure). Soil gas/vapor can migrate through cracks in the slab or foundation, drain tiles, utility pipes, sumps, conduit penetrations, and other surfaces if the pressure underneath the slab is greater than the pressure in the building. By lowering the sub-slab air pressure relative to indoor air pressure, SSD minimizes the potential for infiltration of vapors into a building.

SSD is generally the most common, reliable, cost-effective, and efficient approach for soil vapor intrusion mitigation (Interstate Technology and Regulatory Council 2007). The NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH 2006) states (page 58) “[i]n conjunction with sealing potential subsurface vapor entry points, an active sub-slab depressurization system (SSD system) is the preferred mitigation method for buildings with a basement slab or slab-on-grade foundation.” Mitigation methods such as SSD are designed to minimize the migration of sub-slab vapors into a building. SSD systems are not designed for mass removal of vapors or to remediate the vapor source.

SSD is commonly achieved using an engineered system designed to create a negative pressure under the floor slab by extracting sub-slab gas/vapors through a network of suction points. The suction points are constructed by creating a void directly below the slab and backfilling with gravel. Riser piping is installed from the suction points to a fan or blower and associated discharge point. The practicality of using fans depends on the number of individual systems necessary to achieve depressurization in an area. The cost benefit of operating smaller fans in lieu of a larger blower can be negated if too many fans are needed. SSD can also be achieved through the installation of vapor extraction points near or adjacent to the slab that have an effective radius that extends beneath the slab surface. These extraction points would similarly be connected through a piping network to a fan or blower.

Fans or blowers are installed outside the target building(s) to minimize the potential for vapor leaks at the fan/blower or through the discharge piping. Discharge points are placed above the roof line and away from openings into the building(s). The piping and fans/blowers for the system are sized based on the flow and vacuum observed during testing and the total requirement needed to create adequate SSD for the target area.

If SSD uses a central system in which suction points are connected to an enclosed system, individual riser pipes are typically connected to a larger diameter system of header pipes. Pipes are sized to minimize friction losses, and valves are installed on each riser pipe to control the flow from each suction point. Advantages of centralized systems include the ability to use blowers capable of larger vacuums when necessary and the ability to accommodate carbon treatment if necessary. Disadvantages can include the installation and operating cost (electricity and O&M), and space constraints.

SSD received “high” effectiveness, “moderate” implementability, and “moderate” cost ratings (Table 2).

5.2.4 Corrective Measures Alternatives

Remedial technologies retained during the technical implementability and process option screenings are presented in Table 3. These process options are assembled into corrective measures alternatives (Table 4), as appropriate, to form comprehensive corrective measures alternatives capable of addressing the CMO for offsite soil vapor. Consistent with 40 Code of Federal Regulations (CFR) Part 300.430 and Chapter 4 of DER-10 (NYSDEC 2010b), the following range of alternatives was developed to the extent practical:

- The no-action alternative.
- Alternatives that involve little or no treatment but provide protection of human health and the environment by preventing or minimizing exposure to COPCs through the use of containment options and/or institutional controls.
- Alternatives that treat the COPCs but vary in the degree of treatment employed and long-term management needed.
- Alternatives that remove COPCs to the maximum extent possible, thereby eliminating or minimizing the need for long-term management.

Each alternative is described, including a conceptual design for implementation and the assumptions made, to provide a basis for detailed analysis and comparison to other alternatives in the sections that follow.

The following corrective measures alternatives were developed:

Alternative ID	Alternative Title	Report Section
Alternative A	No Further Action	5.2.4.1
Alternative B	Sub-Slab Depressurization	5.2.4.2
Alternative C	Sub-Slab Depressurization and Soil Vapor Extraction	5.2.4.3

The corrective measures alternatives listed above are a combination of process options that represent integrated approaches intended to satisfy the corrective action objective. The corrective measures alternatives are in accordance with the SCGs in Section 3 (except the no action alternative, which is provided for comparison purposes).

5.2.4.1 Alternative A: No Further Action

The NFA alternative does not require a corrective measure or covenant to reduce, control, or monitor potential human health or ecological risks associated with soil vapor intrusion or exposure to soil vapor. This option is retained and examined as a baseline against which other corrective measures can be compared. The conceptual design assumptions for the NFA alternative are identified in Table 4. This would include discontinuing any current actions offsite including:

- Operation of systems that provide SSD and SVE.
- Current soil vapor monitoring program.

The result would be that no action is made in the future to provide treatment or monitoring.

5.2.4.2 Alternative B: Sub-Slab Depressurization

Alternative B includes the continued operation of the existing SSD systems and termination of the current SVE system. This alternative includes both individual SSD systems (one extraction point, one blower) and centralized SSD systems (multiple extraction points connected to one blower). No periodic, ongoing, or annual environmental monitoring is included in this alternative, though the SSD systems would need to be periodically inspected to confirm they are operating. The SVE system would be terminated for the reasons discussed in Section 2.3.2, as summarized below:

- Decreased mass removal.
- Limited horizontal spatial influence.
- Limited impact on soil vapor concentrations.
- Effective mitigation of potential soil vapor intrusion through operation of the SSD systems.

SSD systems have been installed at 11 residential homes and three commercial property buildings to proactively address the potential for soil vapor intrusion (Section 2.4.2). An SSD system is designed to create a vacuum under the slab through a network of suction pits and/or piping, thereby creating a pressure gradient and preventing vapor intrusion. Maintenance of the SSD systems includes annual inspections of each system, using a checklist for each property to record vacuum readings and evaluate the piping, noise, vibration, alarm, fan, and electrical system components. This work is performed under an NYSDEC approved operations and maintenance plan.

The existing SSD systems will continue to operate until it is established via an SSD system shutdown evaluation that operation of the system is no longer warranted. This evaluation will be on a system-by-system basis, and will consist of collection of a sub-slab vapor sample and indoor air sample from each building with an SSD system 30 days following a temporary shutdown of the SSD system. Each sample would be analyzed for site-related VOCs, and the analytical results would be compared to the NYSDOH Soil Vapor/Indoor Air matrices. SSD system operation at a specific building would be discontinued if the concentrations do not fall under the “mitigate” category on the respective NYSDOH decision matrix.

Since operating SSD systems have not yet been evaluated for system shutdown, the time period before system shutdown is not known. For costing purposes, Alternative B assumes that the SSD system operation period will continue for 10 years.

5.2.4.3 Alternative C: Sub-Slab Depressurization and Soil Vapor Extraction

Alternative C includes the continued operation of the existing SVE and SSD systems. However, Alternative C will not be a viable option if the pilot shutdown of the SVE system, described in Section 2.3.2 above, concludes that continued SVU system operation is not warranted. No periodic, ongoing, or annual environmental sampling is included in this alternative, though the SVE and SSD systems would need to be periodically inspected to confirm they are operating. The SSD system shutdown evaluation described in Alternative B would also be included in Alternative C. If the pilot shutdown of the SVE system concludes that continued SVE system operation is warranted (i.e., significant rebound in vapor samples at the end of one-year of shutdown), the system will be restarted and will continue to operate until the SVE system shutdown strategy is completed pursuant to the following procedure:

(1) When SVE system shutdown criteria evaluation is initiated, baseline samples would be collected from key soil vapor probes (SG-6, SG-8, SG-16, SG-17, SG-18, SG-19, SG-22, SG-23, SG-24, SG-32B, and SG-33B) prior to temporarily suspending SVE operation.

(2) Approximately 2 months after suspending SVE operations, soil vapor samples would be collected from the baseline sample locations.

(3) If post-shutdown TCE sample concentrations are within an order of magnitude of the baseline samples or are less than 500 micrograms per cubic meter[2], the SVE system operation would be permanently discontinued, as shutdown would not be expected to have a negative impact on nearby soil vapor.

Although the period of SSD and SVE system operation in unknown, Alternative C assumes for costing purposes that the SSD systems operation period will continue for 10 years and the SVE system will operate for 5 years.

---

[2] 500 µg/m^3 is the soil vapor concentration in equilibrium with USEPA’s vapor intrusion screening levels for TCE in groundwater at temperatures ranging between 10 and 20 degrees Centigrade.

6 DETAILED EVALUATION OF CORRECTIVE MEASURES ALTERNATIVES

This section presents the evaluation criteria and a description and analysis of corrective measures alternatives developed to address the CMO for the offsite soil vapor conditions. In addition, unique engineering aspects (if any) or physical components of the corrective measures alternatives are discussed.

6.1 Evaluation Criteria

The evaluation criteria used for analysis of the corrective measures alternatives are based on criteria specified in NYSDEC DER-10 (NYSDEC 2010b), RCRA Corrective Action Decision Documents: Statement of Basis and Response to Comments, Directive No. 9902.6 (USEPA 1991), the USEPA CMS Scope of Work (USPEA 2011), and USEPA's fact sheet for Final Remedy Selection For Results-Based RCRA Corrective Action available on USEPA's website at: www.epa.gov/sites/production/files/2016-01/documents/select.pdf. These criteria encompass statutory requirements and include other gauges of overall feasibility and acceptability of corrective measures options. These criteria are divided into the threshold criteria and the balancing criteria. The threshold criteria, identified in Section 5, were used to perform the precursory screening of the corrective measures alternatives.

Each corrective measures alternative that passed the threshold screening was evaluated relative to the following balancing criteria:

- Short-term impact and effectiveness.
- Long-term effectiveness and permanence.
- Reduction in the toxicity, mobility, and volume of COPCs through treatment.
- Implementability.
- Green remediation.
- Cost.

Balancing criteria analyses are intended to help select an alternative that provides a permanent solution, and reduces toxicity, mobility, and/or volume of area-specific COPCs. Selection of the preferred corrective measures alternative is based on the results of these evaluations.

As indicated in 6 NYCRR Part 375-1.8(f) and related NYSDEC guidance, other criteria to be considered when evaluating potential corrective measures alternatives are land use and community acceptance. Land use is a consideration if unrestricted levels of use cannot be achieved. The community acceptance assessment will be completed by NYSDEC after community comments are received on the NYSDEC's proposed corrective actions, to be published in NYSDEC's upcoming decision document.

An additional factor to be considered in the evaluation of the criteria listed above is "green remediation" as outlined in the NYSDEC document titled DER-31/Green Remediation, issued on August 11, 2010 and last revised January 20, 2011 (NYSDEC 2010c). Green remediation is defined in DER-31 as "*the practice of considering all environmental effects of remedy implementation and incorporating options to minimize* *the environmental footprint of cleanup actions*." It is intended to improve the overall sustainability of cleanups by promoting the use of more sustainable practices and technologies. Green remediation concepts include minimizing energy consumption, using renewable energy sources, reducing greenhouse gas emissions, maximizing the reuse of land, recycling materials, and conserving natural resources. Green remediation has been added as a balancing criterion.

6.1.1 Short-Term Impact and Effectiveness

The short-term effectiveness of the corrective measures alternative is evaluated relative to its effect on human health and the environment during implementation of the alternative. The evaluation of each corrective measures alternative with respect to its short-term effectiveness considers the following:

- Short-term impacts to which the community may be exposed during implementation of the alternative.
- Potential impacts to workers during implementation of the corrective measures alternative, and the effectiveness and reliability of protective measures.
- Potential environmental impacts of the corrective measures alternative and the effectiveness of mitigation measures to be used during implementation.
- Time required to achieve the CMO for protection of health and the environment.

6.1.2 Long-Term Effectiveness and Permanence

The evaluation of each corrective measures alternative relative to its long-term effectiveness and permanence is made by considering the risks that may remain following completion of the corrective measures alternative. The following factors will be assessed in the evaluation of the alternative's long-term effectiveness and permanence:

- Potential environmental impacts from untreated waste or treatment residuals remaining at the completion of the alternative.
- The adequacy and reliability of controls (if any) that will be used to manage treatment residuals or untreated waste remaining after the completion of the corrective measures alternative.
- The ability of the corrective measures alternative to meet the CMO established for offsite soil vapor.

6.1.3 Reduction of Toxicity, Mobility, or Volume through Treatment

This criterion evaluates the degree to which corrective measures alternatives will permanently and significantly reduce the toxicity, mobility, or volume of the constituents present in the site media. The evaluation will be based on the following factors:

- Treatment process and the volume of materials to be treated.
- Anticipated ability of the treatment process to reduce the toxicity, mobility, or volume of chemical constituents of interest.
- Nature and quantity of treatment residuals that will remain after treatment.

- Relative amount of hazardous substances and/or chemical constituents that will be destroyed, treated, or recycled.
- Degree to which the treatment is irreversible.

6.1.4 Implementability

This criterion evaluates the technical and administrative feasibility of implementing the corrective measures alternative, including the availability of the various services and materials required for implementation. The following factors are considered during the implementability evaluation:

- *Technical Feasibility* – This refers to the relative ease of implementing or completing the corrective measures alternative based on site-specific constraints. In addition, the ease of construction, operational reliability, and ability to monitor the effectiveness of the corrective measures alternative are considered.
- *Administrative Feasibility* – This refers to the availability of necessary personnel, materials, and equipment along with potential difficulties in obtaining approvals for long-term operation of treatment systems, access agreements for construction, and acquiring necessary approvals and permits for remedial construction.

Additional items to be considered when evaluating the corrective measures alternative relative to its implementability are identified as specific considerations in Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (USEPA 1988) and include:

- The ability to construct and operate a corrective measures alternative.
- The ease of executing additional corrective measures alternative, if necessary.

6.1.5 Green Remediation

This criterion addresses natural resource consumption and the environmental burden of implementing an alternative (consistent with the green remediation practices and strategies in Subsection 1.14 of DER-10).

Qualitative sustainability was assessed based on five green remediation metrics (energy use, air emissions, water consumption, land impact, and material consumption and waste generation).

(1) *Energy use* was evaluated by a qualitative fuel, electrical energy, and machinery power comparison to requirements for corrective measures alternative implementation and operation.

(2) *Air emissions* (particulates and other air pollutants) were qualitatively evaluated for each alternative using anticipated greenhouse gas emissions associated with equipment use and transportation of materials.

(3) *Water consumption* was evaluated for each corrective measure (e.g., use of potable water for equipment cleaning and the offsite disposal of extracted water).

(4) *Land impact* was evaluated using relative expected disturbed footprint of each corrective measures alternative with onsite activities (e.g., excavation area, well installation, staging, and decontamination). Consideration was given in the qualitative evaluation to the disturbed acreage original condition (i.e., pristine undisturbed versus previously disturbed industrial area).

(5) *Material consumption and waste generation* were evaluated by estimating the amount of materials to be consumed and waste created (e.g., polyvinyl chloride for piping and well casings, soil from excavation or wells) for each corrective measure.

The sustainability assessment is a qualitative comparison of the potential corrective measures alternatives and incorporates the commonly accepted principles of green remediation into the corrective measures selection process.

6.1.6 Cost

This criterion evaluates the estimated total cost to implement the corrective measures alternative. The estimated total cost of each alternative is based on a present worth analysis of the sum of the direct capital costs (materials, equipment, and labor), indirect capital costs (engineering, licenses/permits, and contingency allowances), and O&M costs. O&M costs may include operating labor, energy, chemicals, and sampling and analysis. These costs will be estimated with an anticipated accuracy between -30% to +50%. A 15% contingency factor is included to cover unforeseen costs incurred during implementation of the corrective measures alternative. Present-worth costs, assuming a 1% discount rate, are calculated for alternatives expected to last more than 2 years. A 1% discount rate (before taxes and after inflation), which is representative of current market factors and consistent with Lucas Western practice, is used to calculate present worth.

6.2 Corrective Measures Evaluation

In the following subsections, and in Table 5, the corrective measures alternatives, as described in Section 5.2.4, are evaluated against the criteria listed in Section 6.1.

6.2.1 Alternative A: No Further Action

Alternative A would involve discontinuing operation of the existing SVE and residential/commercial SSD systems and monitoring of the soil vapor points. This alternative would:

- Have no impact to the community or workers during implementation.
- Be ineffective in the short-term.
- Not have long-term effectiveness and permanence.
- Not reduce the toxicity, mobility, or volume of the constituents present in soil vapor.
- Be easy to implement.
- Contribute nothing to the green remediation footprint because no resources are used.
- Have minimal costs.

Because Alternative A would include discontinuing and decommissioning actions currently in operation, there are limited costs associated with this alternative. The approximate capital cost associated with Alternative A is $115,000 (Table 6) and covers removal of the existing SSD systems, SVE system, and vapor sampling points. There is no annual O&M cost associated with Alternative A. The present worth cost for Alternative A is $115,000.

The NFA alternative is used as a baseline for comparing the potential overall effectiveness of the other alternatives.

6.2.2 Alternative B: Sub-Slab Depressurization

A description of Alternative B is provided in Section 5.2.4.2. An analysis of Alternative B relative to the balancing criteria is provided in the following sections.

6.2.2.1 Short-Term Impact and Effectiveness

The SSD systems are already installed and operating. SSD is effective at mitigating vapor intrusion. No disruption in activity is expected and the short-term effectiveness of Alternative B is immediate. The maintenance of SSD systems would pose minimal exposure risks to the community, workers, and the environment. This alternative includes no construction activities because the systems are already installed.

6.2.2.2 Long-Term Effectiveness and Permanence

The reliability and effectiveness of SSD systems in minimization of the potential for soil vapor intrusion is very high. SSD systems remove soil vapor containing COPCs from below the building and address the potential for vapor intrusion. The SSD systems would operate until the shutdown evaluation results indicate that the SSD systems can be deactivated, as detailed in Section 5.2.4.2. For this alternative, it is assumed that the SSD systems would operate for an estimated ten (additional) years.

6.2.2.3 Reduction of Toxicity, Mobility, or Volume of Wastes

The source of contaminant mass has previously been removed from the Site. As such, the VOCs remaining in soil vapor are considered residual impacts. These residual impacts are expected to continue to diminish over time due to natural degradation or abiotic assimilative processes (i.e., as the low VOC concentrations in groundwater continue to decrease). SSD is considered an active mitigation technology because it removes COPC mass from below the building utilizing an induced pressure gradient. Primarily, an SSD system depressurizes the sub-slab (relative to indoor air) to prevent the migration of sub-slab vapors into a building. SSD system operation reduces toxicity and volume of COPC mass in indoor air by minimizing the potential for soil vapor intrusion. Although the toxicity and volume of COPCs in the sub-slab soil vapor would not be reduced appreciably, SSD would minimize potential exposure to COPCs in the offsite area.

6.2.2.4 Implementability

SSD is both technically and administratively feasible and would have minimal interference with current operations at offsite properties. O&M activities and reporting requires minimal administrative activities (e.g., periodic inspection and repair). This alternative would not limit or interfere with future corrective measures. No construction is necessary because SSD systems are already in place and operating.

6.2.2.5 Green Remediation

Operating the SSD systems involves routine activities that require minimal energy and some fuel consumption. Additionally, the transfer of the air from beneath the slab to the discharge point above the roofline potentially results in vapor emissions, though they are minimal.

6.2.2.6 Cost

The approximate capital cost associated with Alternative B is $104,000 and includes the removal of the existing SVE system and existing vapor sampling points (Table 6). The total O&M cost associated with Alternative B is approximately $127,800. Total periodic costs, including the removal of the SSD systems (assumed in year 10) are approximately $85,000. The present worth cost for Alternative B is $300,000.

6.2.3 Alternative C: Sub-Slab Depressurization and Soil Vapor Extraction

A description of Alternative C is provided in Section 5.2.4.3. An analysis of Alternative C relative to the balancing criteria is provided in the following subsections.

6.2.3.1 Short-Term Impact and Effectiveness

The SVE and SSD systems are already been installed and shown to be effective. As presented to NYSDEC in correspondence dated August 24, 2020, future SVE effectiveness is limited because there is no remaining source material, and the limited remaining VOCs in soil vapor are (1) at generally low concentrations (less than 500 µg/m^3), which are expected to further decrease as the remaining VOCs in groundwater continue to decrease in concentration; and (2) are widely dispersed. As indicated above, SSD is effective at mitigating vapor intrusion. The same as Alternative B, no disruption in activity is expected and the short-term effectiveness of Alternative C is immediate. The maintenance of the SVE and SSD systems would pose minimal exposure risks to the community, workers, and the environment. This alternative includes no construction activities.

6.2.3.2 Long-Term Effectiveness

As supported by the current monitoring data, the overall effectiveness of SVE has diminished over time as mass has been removed, and VOC concentrations have already reached or are reaching asymptotic levels. The reliability and effectiveness of SSD systems at minimizing the potential for soil vapor intrusion is very high. SSD systems remove soil vapor containing COPCs from below the building and address the potential for vapor intrusion. For this alternative, it is assumed that the SVE system would only operate for 5 additional years and SSD systems would operate for 10 additional years. Operation of these systems would be discontinued when shutdown criteria are achieved (i.e., systems no longer needed), thereby making this alternative effective over the long-term.

6.2.3.3 Reduction of Toxicity, Mobility, or Volume of Wastes

SVE and SSD are active mitigation technologies because they remove some COPC mass from the subsurface and from below the building, respectively. Both SVE and SSD involve removal of vapors from the subsurface, although SVE is focused on mass removal, while SSD is focused on sub-slab depressurization. Although the toxicity and volume of COPCs in the sub-slab soil would not be reduced appreciably by continued SVE and SSD system operations, SSD would minimize potential exposure to COPCs while SVE would not have any appreciable effect on reducing exposure.

6.2.3.4 Implementability

SVE and SSD are both technically and administratively feasible and would have minimal interference with current operations at offsite properties. O&M activities and reporting require minimal administrative activities (e.g., periodic inspection and repair). This alternative would not limit or interfere with future corrective measures.

6.2.3.5 Green Remediation

Operating the SVE and SSD systems involves routine activities that require energy and some fuel consumption. Additionally, the transfer of the air from the subsurface or beneath the slab to the discharge point potentially results in vapor emissions, though they are minimal.

6.2.3.6 Cost

The approximate capital cost associated with Alternative C is $54,000 (Table 6). The total O&M cost associated with Alternative C is approximately $287,500. Periodic costs are approximately $178,300 and includes removal of the existing SVE system (assumed in year 5), vapor sampling points (assumed in year 5), and SSD systems (assumed in year 10). The present worth cost for Alternative C is $491,000.

7 COMPARATIVE ANALYSIS OF CORRECTIVE MEASURES ALTERNATIVES

A comparative analysis was completed using the balancing criteria in Table 5 to identify the recommended corrective measure alternatives. The “no action” alternative was removed from consideration because it did not achieve the threshold criteria or the balancing criteria and is therefore not considered in the evaluation. Based on the comparative analysis of the alternatives against the screening criteria outlined in Section 6.2, Alternative B is the recommended corrective measure.

7.1 Short-Term Effectiveness

This criterion evaluates the potential effects that the alternative will have on human health and the environment during construction and implementation. Short-term effectiveness of alternatives is affected by the amount of activities performed to implement the alternative. Alternatives B and C would pose no risks to the community, workers, and the environment since no construction or modification is needed in the short term to implement the alternatives.

7.2 Long-Term Effectiveness

Both Alternatives B and C would be effective over the long-term. However, the effectiveness of the SVE component of Alternative C is limited (as described in Section 6.2.3). There is no difference in long-term effectiveness of Alternatives B and C because these alternatives would be the same after the SVE system is shut down in year 5 under Alternative C. The limited COPC removal until year 5 is not anticipated to make any appreciable difference in long-term effectiveness. The reliability and effectiveness of Alternatives B and C is related to the ability of the SSD systems to minimize exposures over the long-term (until the systems are no longer needed).

7.3 Reduction of Toxicity, Mobility, or Volume

The source of contaminant mass has been removed from the Site. As such, the VOCs remaining in offsite soil vapor are residual impacts. Both Alternatives B and C result in some reductions of COPCs from below each building where SSD systems are installed. Because the SVE system would operate under Alternative C, there is a marginally greater reduction in toxicity and mobility.

7.4 Implementability

Because of the existing infrastructure at the Site, each of the alternatives are technically and administratively feasible and would not interfere with operations offsite at properties owned by others.

7.5 Green Remediation

The green remediation evaluation of each alternative was judged based on the natural resource consumption and the environmental burden of implementing an alternative (consistent with the green remediation practices and strategies in Subsection 1.14 of DER-10). Each of the alternatives requires fuel consumption for trips to the Site. Alternatives B and C also require energy use to operate the fans. Because of the SVE system operation, Alternative C has the highest level of natural resource consumption.

7.6 Cost

The costs for each corrective measures alternative evaluated are summarized in Table 6 and Appendix C. Factors that affect the overall costs for each alternative are the capital cost and the O&M costs.

The cost for each of the alternatives increases as the period of SSD or SVE system operation increases. No systems operate under Alternative A (NFA), which has the lowest cost. Alternative B has the median cost and Alternative C (which adds SVE system operation) has the highest cost.

8 SELECTION OF CORRECTIVE MEASURES ALTERNATIVE

Consistent with the RCRA Corrective Action Decision Documents: Statement of Basis and Response to Comments, Directive No. 9902.6 (USEPA 1991), the recommended corrective measure for offsite soil vapor is outlined below.

Evaluation of the three alternatives for offsite soil vapor identified Alternative B as having the best balance of the applicable criteria, placing it above the other alternatives evaluated. Based on the decreasing concentrations of VOCs in soil vapor, pairing operation of the existing SSD systems with a strategy for shutting down the systems provides an alternative that is protective of human health and the environment, implementable, and cost-effective. Alternative A could potentially result in a risk to human health. Alternative C would provide no increase in the protectiveness of human health and only a very limited (if any) increase in the protectiveness of the environment, but such potential benefit would be more than offset (negated) by the increase in the environmental footprint (i.e., noise and energy consumption associated with the SVE system O&M) and the increase in cost.

9 REFERENCES

Arcadis. 2007. The Soil Vapor Extraction Pilot Test Work Plan. September.

Arcadis. 2008. Soil Vapor Extraction Pilot Test Report. December.

Arcadis. 2010a. SVE System Expansion Work Plan. July.

Arcadis. 2010b. Revised Focused Onsite Soil Gas Source Evaluation Work Plan. July.

Arcadis. 2011a. Focused Onsite Soil Gas Source Evaluation Report. March.

Arcadis. 2011b. Phase II SVE System Expansion Work Plan. June.

BBL. 2003. Demolition Work Plan.

BBL. 2004a. Demolition Summary Report. December 6.

BBL. 2004b. RCRA Facility Investigation Report, Volumes 1, 2, and 3.

BBL. 2004c. Gilmore Street Storm Sewer Interim Corrective Measure Report.

BBL. 2004d. Soil Gas Investigation Work Plan.

BBL. 2004e. Corrective Measures Study Report. December 30.

BBL. 2004f. ICM Storm Sewer Removal Certification Report.

BBL. 2006. Phase II Soil Gas Investigation Work Plan and Addenda.

CRA. 2011. Phase II SVE System Expansion Work Plan. July.

CRA. 2014. Focused Off-Site Soil Vapor Intrusion Investigation Report. March.

CRA. 2015. Focused Off-Site Soil Vapor Investigation Report, 2nd Event. May.

Environmental Resources Management (ERM). 1999. Soil Remediation Closure Report. January.

ERM. 2001. RCRA Facility Assessment Report. March.

Federal Remedial Technologies Roundtable. 1997. Remediation Technologies Screening Matrix and Reference Guide, Version 3.

Geosyntec Corporation. 2006. Sub-Slab Depressurization System Interim Corrective Measure Work Plan.

Geosyntec Corporation. 2007. Sub-Slab Depressurization System Operation, Maintenance, and Monitoring Plan.

Interstate Technology and Regulatory Council. 2007. Vapor Intrusion Pathway: A Practical Guide. VI-1. Washington, D.C.: Interstate Technology & Regulatory Council, Vapor Intrusion Team. www.itrcweb.org January.

Lucas Western LLC. 2020. Second Quarter (April) 2020 Quarterly Soil Gas Report. September 8.

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 (TOGS 1.1.1). June 1998 and addended April 2000 and June 2004.

NYSDEC. 2006. 6 NYCRR Subpart 375-6, Remedial Program Soil Cleanup Objectives. December 14.

NYSDEC. 2010a. CP-51/Soil Cleanup Guidance. October 21.

NYSDEC. 2010b. Final DER-10 Technical Guidance for Site Investigation and Remediation. May 3.

NYSDEC. 2010c. DER-31/Green Remediation. August 11, 2010. Last revised January 20, 2011.

NYSDOH. 2006. Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

Nunno, T., L. Wilk, M. Offenhauer, and S. Palmer. 1987. Technology Briefs: Data Requirements for Selecting Remedial Action Technology. USEPA, Washington, D.C., EPA/600/2-87/001 (NTIS PB87161238).

Shea, David, Claire G. Lund, and Bradley A. Green. 2010. HVAC Influence on Vapor Intrusion in Commercial and Industrial Buildings. Abstract from the Air and Waste Management Conference Vapor Intrusion 2010, Chicago, IL. September 29-30.

USEPA. 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies CERCLA.

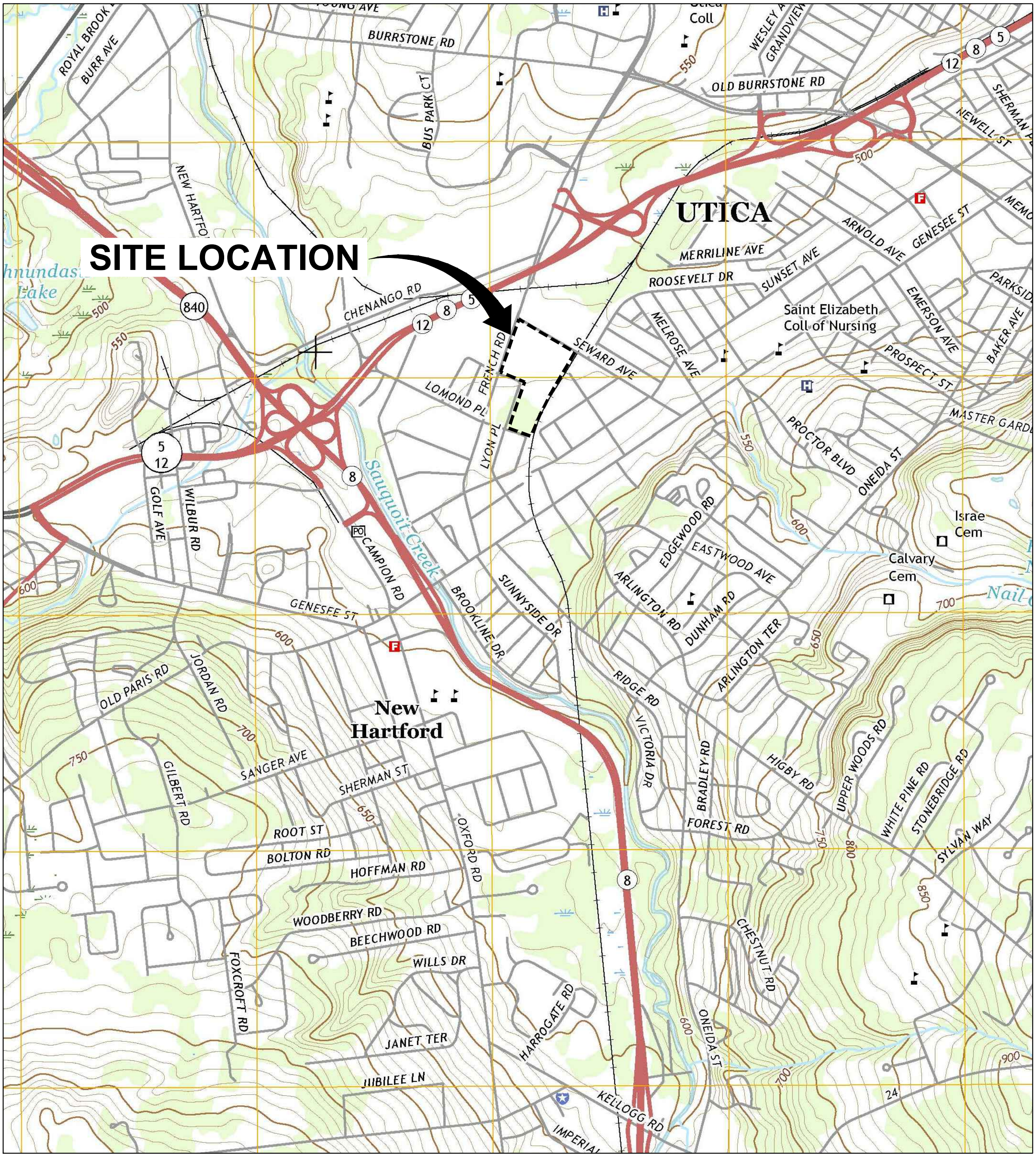
USEPA. 1991. RCRA Corrective Action Decision Documents: The Statement of Basis and Response to Comments. Directive No. 9902.6.

USEPA. 1993. Presumptive Remedies: Policy and Procedures.

USEPA. 1994. RCRA Corrective Action Plan, OSWER Directive 9902.3-2A May 1994.

USEPA. 2011. Corrective Measures Study Scope of Work. July 14, 2011.

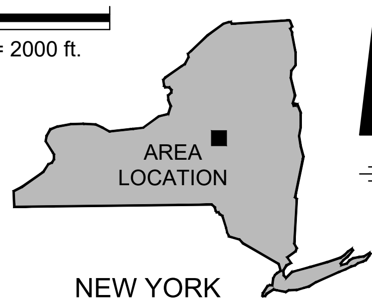
FIGURES



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., UTICA WEST, NEW STATE, 2016.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



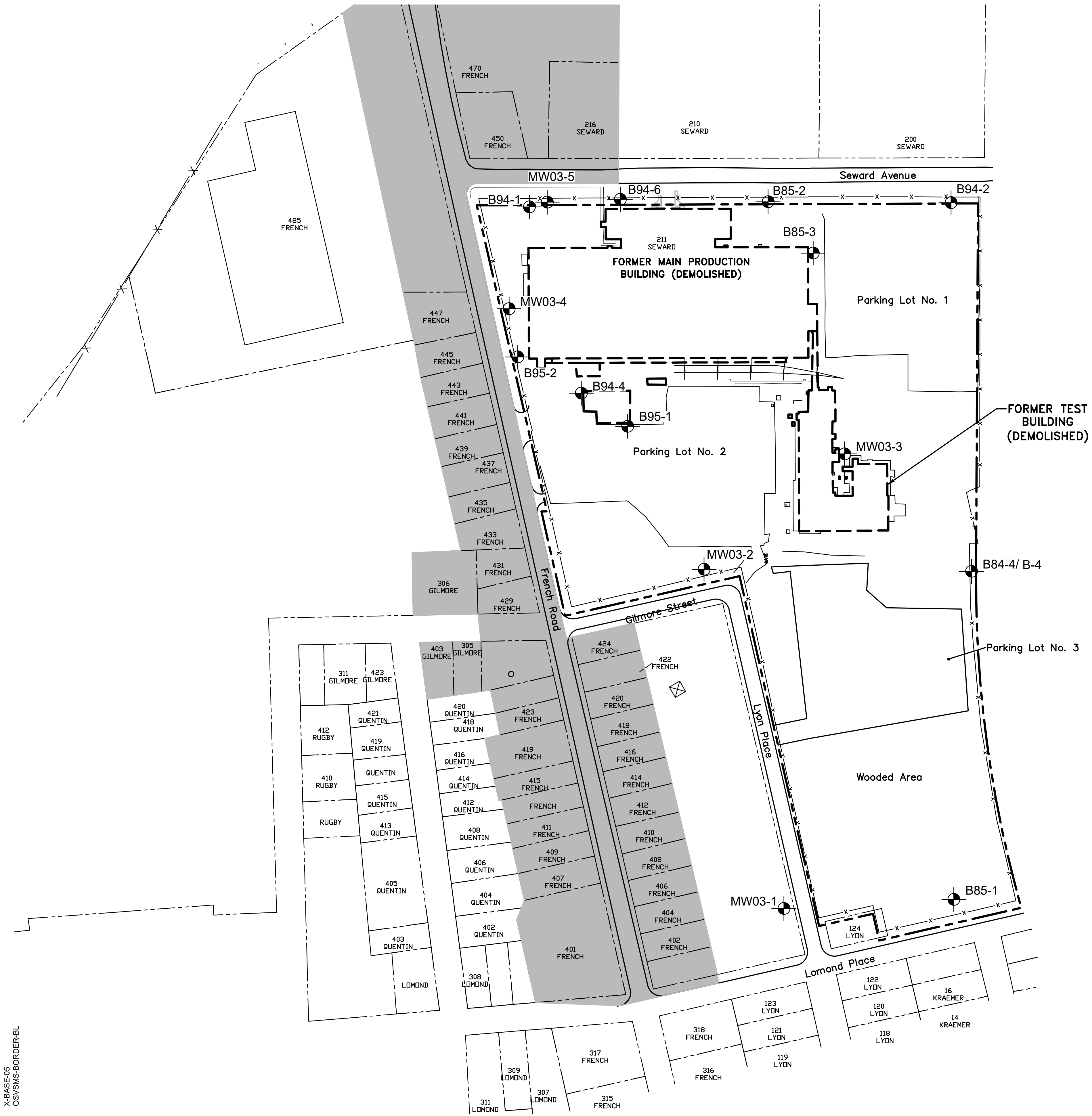
FORMER TRW AERONAUTICAL SYSTEM FACILITY
211 SEWARD AVENUE
UTICA, NEW YORK
OFFSITE SOIL VAPOR CMS REPORT

SITE LOCATION MAP

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

CITY:(Reqd) DIV/GROUP:(Reqd) DB:(Reqd) LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
C:\Users\jmeyer\BIM 360\Arcadis\ANA - Northrop Grumman\Project Files\TRW AERO SYS - SEWARD AVE UTICA\2020\30044433\01-DWG\DWG-FIG1-SITE LOCATION MAP.dwg LAYOUT: 1 SAVED: 10/13/2020 6:09 AM ACADVER: 23.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB
PLOTTED: 10/13/2020 6:47 AM BY: MEYER, JULIE
XREFS: IMAGES: PROJECTNAME: ----
NY_Utica_West_20160825_TM_geo.jpg



LEGEND:

- CMS EVALUATION AREA
- FENCE
- PROPERTY BOUNDARY
- SITE BOUNDARY
- PERMANENT MONITORING WELL

NOTES:

1. UNLESS OTHERWISE INDICATED, MAPPING IS BASED ON SURVEYS PERFORMED BY BLASLAND, BOUCK & LEE, INC. (NOW ARCADIS), MARCH 19, 2003 TO FEBRUARY 17, 2004.
2. PROPERTY LINES AND ROADWAYS ARE ADAPTED FROM A DRAWING ENTITLED "SITE LAYOUT MAP SHOWING AREAS OF CONCERN", FIGURE 1-1, BY ENVIRONMENTAL RESOURCES MANAGEMENT (ERM), EXTON, PA., AT A SCALE OF 1"=40', DATED 08/27/02.

0 200' 400'

GRAPHIC SCALE

FORMER TRW AERONAUTICAL SYSTEMS FACILITY
211 SEWARD AVENUE
UTICA, NEW YORK
OFFSITE SOIL VAPOR CMS REPORT

OFFSITE CORRECTIVE MEASURES STUDY EVALUATION AREA

ARCADIS Design & Consultancy for natural and built assets

FIGURE **2**

LEGEND:

- SUB-SLAB DEPRESSURIZATION SYSTEMS HAVE BEEN INSTALLED
- SUB-SLAB DEPRESSURIZATION SYSTEM NOT INSTALLED PER NYSDEC CONCURRENCE
- SOIL VAPOR INTRUSION INVESTIGATION RESULTS RESULTED IN A NO FURTHER ACTION DETERMINATION
- CMS EVALUATION AREA
- SOIL GAS PROBE INCLUDED IN SVE MONITORING
- MULTI-LEVEL SOIL GAS PROBES INCLUDED IN SVE MONITORING (ONLY THE DEEP ["B"] PROBES ARE INCLUDED IN SVE MONITORING)
- VAPOR EXTRACTION WELL INCLUDED IN SOIL VAPOR EXTRACTION (SVE) MONITORING
- SOIL GAS PROBE NOT INCLUDED IN SVE MONITORING
- MULTI-LEVEL SOIL GAS PROBES NOT INCLUDED IN SVE MONITORING
- VAPOR EXTRACTION WELL NOT INCLUDED IN SVE MONITORING
- TEMPORARY SOIL GAS PROBE (NOT INCLUDED IN SVE MONITORING)
- TEMPORARY SUB-SLAB VAPOR SAMPLE LOCATION (NOT INCLUDED IN SVE MONITORING)
- PERMANENT MONITORING WELL
- FENCE
- PROPERTY BOUNDARY
- SITE BOUNDARY

NOTES:

1. UNLESS OTHERWISE INDICATED, MAPPING IS BASED ON SURVEYS PERFORMED BY BLASLAND, BOUCK & LEE, INC. (NOW ARCADIS), MARCH 19, 2003 TO FEBRUARY 17, 2004.
2. PROPERTY LINES, ROADWAYS, AND WELL LOCATION B85-1 ARE ADAPTED FROM A DRAWING ENTITLED "SITE LAYOUT MAP SHOWING AREAS OF CONCERN", FIGURE 1-1, BY ENVIRONMENTAL RESOURCES MANAGEMENT (ERM), EXTON, PA., AT A SCALE OF 1"=40', DATED 08/27/02.
3. LOCATIONS OF OCTOBER 2015 TEMPORARY GROUNDWATER MONITORING POINTS ARE APPROXIMATE.
4. LOCATIONS OF PERMANENT SOIL GAS PROBES SG-28, THROUGH SG-41 AND VAPOR EXTRACTION WELLS P-VEW-7, P-VEW-8 AND P-VEW-9 AND SUB-SLAB VAPOR SAMPLING POINT ARE APPROXIMATE. ALL OTHER SAMPLING POINTS SHOWN ON FIGURE ARE BASED ON SURVEY.
5. VOCs = VOLATILE ORGANIC COMPOUNDS.

0 200' 400'

GRAPHIC SCALE

FORMER TRW AERONAUTICAL SYSTEMS FACILITY
211 SEWARD AVENUE
UTICA, NEW YORK
OFFSITE SOIL VAPOR CMS REPORT

SOIL VAPOR SAMPLING LOCATIONS AND PROPERTIES WITH SUB-SLAB DEPRESSURIZATION SYSTEMS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

TABLES

Table 1
Preliminary Evaluation of Corrective Measure Technologies for Offsite Soil Vapor
Former TRW Aeronautical Systems Facility
Utica, New York

Response Actions	Remedial Technologies	Process Options	Description	Retained: Yes or No	Decision Rationale
No Further Action	Not Applicable	Not Applicable	Shut down the current SVE and SSD systems and discontinue environmental and system monitoring.	Yes	Use as a baseline for comparison to other alternatives and regulations.
Institutional Control	Not Applicable	Deed Restrictions	Deed restrictions to limit the property use and implementation of a Site Management Plan.	No	The properties are under the control/management of others. Not feasible to expect every property owner would agree to deed restrictions.
	Not Applicable	Work Restrictions	Restrict work within areas with elevated indoor air concentrations	No	The properties are under the control/management of others. Not feasible to expect property owner/operators would enforce to worker restrictions.
Monitoring	Soil Gas Monitoring	Monitoring Program	Monitor soil gas at vapor points.	Yes	Assess potential for exposure to residual concentrations.
Containment	Building Sealing	Caulking/Sealing	Seal pathways for vapor to enter building (slab, walls, etc.) through caulking, epoxy/polymer coatings, and minor concrete repair, as necessary.	Yes	Minimize potential for exposure to residual concentrations.
		Concrete	Thicken the existing concrete pad.	Yes	Minimize potential for exposure to residual concentrations.
	Passive Barrier	Passive Barrier	Install a spray applied, polyvinyl chloride, or rubber liner during new building construction. Liner to be sealed to perimeter footings, post footings, piping and other protrusions. May be installed in existing buildings with a crawl space.	No	Minimize potential for exposure to residual concentrations where able to install for new construction and in the crawl spaces of existing buildings. Area of concern is already built up with existing buildings predominantly built on grade for commercial properties or with basements for residential properties.
Mitigation	Building Pressurization	HVAC Adjustments	Keep doors closed and adjust HVAC systems to maintain a higher pressure within the building than under the slab to prevent vapors from entering.	No	Most buildings do not have HVAC with fresh air make up capabilities. While these could be replaced, the properties are under the control/management of others and doors are often left open. Maintaining a closed system would not be achievable due to lack of control.
	Air Cleaning	Filtering of Indoor Air	Install carbon filter on HVAC systems or as stand alone units to remove volatile organic compounds from the indoor air.	No	Ineffective because of variety of buildings and building sizes with the large volume of indoor air to filter. Does not prevent vapors from entering the buildings. Also, the properties are under the control/management of others, which means there is uncertainty in whether the air filters would be continuously operated if installed as stand-alone units.
	Passive Venting	Passive Venting	Install vent pipes from the sub slab to the atmosphere.	No	Effective for new construction because of the ability to design the system to maximize influence. However would not be effective for the existing structures within the area of concern because of the inability to feasibility install the required network of sub-slab piping to achieve the necessary influence on sub-slab vapors.
	SSD	Individual Fans	Depressurize the sub slab using inline fans to prevent vapors from entering the buildings.	Yes	Minimize potential for exposure to residual concentrations.
		Centralized Systems	Depressurize the sub slab using a centralized blower to prevent vapors from entering the buildings.	Yes	Minimize potential for exposure to residual concentrations.
	SSV	Individual Fans	Dilute the sub-slab vapors by introducing fresh air into the sub slab using inlet pipes.	No	Best suited for very porous soils. Requires significant infrastructure. May increase potential for vapor intrusion.
		Centralized Systems	Dilute the sub-slab vapors by introducing fresh air into the sub slab using inlet pipes.	No	Best suited for very porous soils. Requires significant infrastructure. May increase potential for vapor intrusion.
	SSP	Individual Fans or Centralized System	Force fresh air beneath the slab to push vapors away from the sub slab.	No	Best suited for very porous soils. Requires significant infrastructure. May increase potential for vapor intrusion.
Removal	Extraction	SVE	Operate the existing SVE system.	Yes	Used as a method to remove VOC mass from the subsurface and minimize soil vapor migration.
	Demolition	Building Demolition	Demolish a building to remove the potential for vapor intrusion into indoor air.	No	Highly effective but has implementability challenges and high costs.

Notes:

HVAC	Heating ventilation and air conditioning
SSD	Sub-slab depressurization
SSV	Sub-slab ventilation
SSP	Sub-slab pressurization
SVE	Soil vapor extraction

Table 2
Process Options Screening for Offsite Soil Vapor
Former TRW Aeronautical Systems Facility
Utica, New York

ARCADIS Design & Consultancy for natural and built assets

Remedial Technologies	Process Options	Effectiveness Evaluation		Implementability Evaluation		Relative Cost Evaluation		Retained for Consideration	
Not Applicable	No Further Action	Low	No effect on soil vapor or air concentrations.	High	Requires no effort to implement.	Low	No additional costs.	Yes	Use as a baseline for comparison to other alternatives.
Soil Gas Monitoring	Monitoring Program	Low	Effectiveness, if any, is attributed to naturally occurring processes.	High	Easily implemented.	Low	Low capital cost because of existing vapor point network. Limited long term O&M costs.	No	Will not be considered as a standalone remedial technology. May be considered in conjunction with other process options.
Building Sealing	Caulking/Sealing	Low	Limits the migration of sub slab air into the building.	Moderate/ High	Relatively easy to seal cracks; more difficult to seal entire slab. Access issues possible.	Low	Uses standard caulking or sealing methods.	No	Can be incorporated into SSD system applications but would not be considered as a standalone technology.
	Concrete	Moderate	Increased concrete thickness would seal any existing seems/cracks and create a barrier to vapor entering through slabs or basements.	Low	Requires building modification (raise the floor and limited access during construction). Buildings are owned by others and construction specifications would have to be negotiated with multiple owners.	High	High installation cost.	No	High capital cost and difficult to implement in comparison to other process options.
Soil Vapor Extraction	Soil Vapor Extraction	Low	Limited radius of influence. Minimal VOC mass removal rates or impact on off-site soil vapor concentrations.	High	Soil vapor extraction system is already operating.	Moderate	Long-term O&M. Moderate electrical costs.	Yes	Has been implemented at this site for over a decade.
SSD	Individual Fans	High	Limits the migration of sub slab air into the building. Removes mass and prevents future accumulation of mass below the slab.	High	SSD systems are already installed at properties near the site. Systems can be easily installed but requires access to be granted by property owner.	Moderate	Moderate installation cost. Low operating cost. Long-term O&M.	Yes	May be used in conjunction with other process options.
	Centralized Systems	High	Limits the migration of sub slab air into the building. Removes mass present and prevents future accumulation of mass below the slab.	Moderate	Existing systems can be easily modified but requires access to be granted by property owner.	Moderate	Moderate installation cost. Use multiple low horse power blowers to keep operating costs comparable to sub-slab depressurization with individual fans.	Yes	May be used in conjunction with other process options.

Notes:
SSD Sub-slab depressurization
SVE Soil Vapor Extraction
O&M Operations & Maintenance

Corrective Measure Technologies	Process Options	Retained for Off-Site Soil Vapor
NA	No Further Action	Yes
Soil Vapor Extraction	Soil Vapor Extraction	Yes
Depressurization/Venting of Sub Slab	Sub-slab depressurization using in-line fans	Yes
	Sub-slab depressurization using centralized system	Yes

Notes:
NA - Not Applicable

Table 4
Summary of Corrective Measure Alternatives Conceptual Design Assumptions
Former TRW Aeronautical Systems Facility
Utica, New York

ARCADIS Design & Consultancy for natural and built assets

Alternative A	Alternative B	Alternative C
No Further Action	Sub-Slab Depressurization	Sub-Slab Depressurization and Soil Vapor Extraction
Discontinue SVE and SSD activities Discontinue monitoring activities	Sub-slab Depressurization (10 Years) - Maintain operation of systems that provide sub-slab depressurization. - Periodic inspections and maintenance of systems that provide sub-slab depressurization to confirm they are operating as designed. - Discontinue SVE system operation.	Soil Vapor Extraction System (5 Years) - Maintain operation of the currently operating SVE system. - Periodic inspections and maintenance of the SVE system to confirm it is operating as designed. Sub-slab Depressurization (10 Years) - Maintain operation of systems that provide sub-slab depressurization. - Periodic inspections and maintenance of systems that provide sub-slab depressurization to confirm they are operating as designed.

Notes:

SSD	Sub slab depressurization
SVE	Soil Vapor Extraction

Table 5
Summary of Alternatives for Offsite Soil Vapor
Former TRW Aeronautical Systems Facility
Utica, New York

Alternative	Description	Balancing Criteria					
		Long - Term Effectiveness	Reduction in TMV of Wastes	Short - Term Impact and Effectiveness	Implementability	Green Remediation	Cost
A	No Further Action	Not an effective alternative.	Does not reduce the TMV of wastes.	Not an effective alternative.	Requires no implementation other than removal of existing vapor sampling points and SSD and SVE systems.	Limited resources used.	Capital Cost = $115,000 Annual O&M Cost = $0 Periodic Cost = $0 Total Cost (30 years) = $115,000
B	Sub-Slab Depressurization	- An effective alternative - Residual risk remains until soil vapor achieves SCGs.	- An active alternative. - Reduces mobility of volatilized mass into the buildings during SSD system operating period. - Reduces the volume of volatile organic compound mass in indoor air. - Reduces toxicity of indoor air by reducing the potential for soil vapor intrusion.	- Effective at mitigating soil vapor intrusion. - No short-term impacts or site activity disruption. - Minimal exposure risks to the community, workers, and the environment.	- Sub-slab depressurization systems are already in place so no additional administrative activity needed. - No construction is necessary.	- Sub-slab depressurization systems are already in place so no additional administrative activity needed other than system inspections and maintenance. - No construction is necessary. - Requires consumption of electricity to run the systems and consumption of fuel for site visits.	Capital Cost = $104,000 Total O&M Cost = $127,800 Periodic Costs = $85,000 Total Cost (30 years) = $316,800
C	Sub-Slab Depressurization and Soil Vapor Extraction	- An effective alternative. - Residual risk remains until soil vapor achieves SCGs.	- An active alternative. - Reduces mobility of volatilized mass into the buildings during SSD and/or SVE system operating period. - Reduces the volume of volatile organic compound mass in indoor air. - Reduces toxicity of indoor air by reducing the potential for soil vapor intrusion.	- Effective at mitigating soil vapor intrusion. - No short-term impacts or site activity disruption. - Minimal exposure risks to the community, workers, and the environment.	- Sub-slab depressurization and soil vapor extraction systems are already in place so no additional administrative activity needed. - No construction is necessary.	- Sub-slab depressurization and soil vapor extraction systems are already in place so no additional administrative activity needed other than system inspections and maintenance. - No construction is necessary. - Requires consumption of electricity to run the systems and consumption of fuel for site visits.	Capital Cost = $54,000 Total O&M Cost = $287,500 Periodic Costs = $178,300 Total Cost (30 years) = $519,800

Notes:

TMV	Toxicity, mobility and volume
SCG	Standards, Criteria, and Guidance
SVE	Soil Vapor Extraction
SSD	Sub-Slab Depressurization

Table 6
Summary of Costs
Offsite Soil Vapor Alternatives
Former TRW Aeronautical Systems Facility
Utica, New York

Corrective Measure Alternative	Description	Capital Cost ($)	Total O&M Cost ($)	Length of Remedy (Years)	Periodic Costs ($)	Total Cost ($)	Present Worth Cost ($)
Alternative A	No Further Action	$ 115,000	$ -	0	$ -	$ 115,000	$ 115,000
Alternative B	SSD System Operation	$ 104,000	$ 127,800	10	$ 85,000	$ 316,800	$ 300,000
Alternative C	SSD and SVE System Operation	$ 54,000	$ 287,500	10	$ 178,300	$ 519,800	$ 491,000

Notes:

O&M Operation and Maintenance

SSD Sub-Slab Depressurization

USEPA United States Environmental Protection Agency

Present worth costs are calculated using 1.0% 30-year discount rate.

Total costs are rounded to the nearest $100.

Costs are based on an accuracy of +50/-30% (USEPA 2000).

This cost estimate represents the first opportunity to create a preliminary evaluation of probable alternative implementation costs, based on site-specific information collected to date. The intended use is to provide early-stage “order of magnitude” costs to allow for management decisions regarding further courses of action. Utilization of this cost estimate information beyond the stated purpose is not recommended. Arcadis is not licensed to provide financial or legal consulting services; as such, this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability reserves.

Cost estimates are based on Arcadis' past experience and vendor estimates or costs for current site activiites. Arcadis prepared these estimates using current and generally accepted cost estimation methods. These estimates are based on assumptions concerning future events, and actual costs may be affected by known and unknown risks, including, but not limited to, changes in general economic and business conditions, site conditions which were unknown to Arcadis at the time the cost esimate was prepared, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates, and such variations may be material. Arcadis is not licensed as accountants or securities attorneys, and therefore make no representations that these cost estimates form an appropriate basis for complying with financial reporting requirements for such costs.

In providing opinions of probable construction costs, it is understood that Arcadis has no control over costs; the price of labor, equipment, or materials; or the construction contractor’s methods of pricing. The opinions of probable construction costs provided herein are to be made on the basis of Arcadis qualifications and experience. Arcadis makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs. Utilization of this cost estimate information beyond the stated purpose is not recommended.

This cost estimate assumes that all work is done during normal business hours (7:00AM-5:00PM, Monday-Friday). If night or weekend work is necessary, the costs described above may need to be revised.

Costs for on-site monitoring and other tasks not related to off-site soil vapor are not included in the above table.

APPENDIX A

Volatile Organic Compound Analytical Data

Table 7

Historical Trichloroethene (TCE) Concentrations
2020 Annual Groundwater Monitoring Event
Former TRW Aeronautical Systems Facility
Utica, New York

		1984			1985		1986	1992	1994		1995			1996				1997		1998	1999		2000	2001	
Well ID	**Units**	6/14	7/26	9/28	8/1	10/24	2/7	10/5-7	6/7	11/21	3/6	7/20	10/13	1/4	4/3	7/29	11/14	1/31	4/29	9/30	4/30	10/14	7/18	1/15-17	7/16-18
Upgradient On-Site Wells																									
B85-1	µg/L				ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
MW03-1	µg/L																								
Other On-Site Wells																									
B84-1	µg/L	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B84-2	µg/L	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B84-3	µg/L	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B84-4	µg/L	ND	ND	ND	ND	ND	ND	ND (ND)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B85-2	µg/L				ND	ND	ND	ND	--	ND	ND	--	--	--	--	--	--	--	--	ND	ND	ND	ND	ND	ND
B85-3	µg/L				ND	ND	--	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	1.8	ND	ND
B85-4	µg/L				ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND
B85-5	µg/L				ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B85-6	µg/L				ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B94-1	µg/L								**26**	**23**	**24**	**20**	**19**	**15**	**25**	**24**	**25**	**26**	**25**	**27**	**23**	**19**	**21**	**20**	**15**
B94-2	µg/L								ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B94-4	µg/L								**17**	**20**	**17**	**22**	**20**	**17**	**11**	**14**	**11**	**11**	**7.6**	**17**	**9.8**	**12**	**7**	5	4 J
B94-6	µg/L								--	**9**	ND	**8.6**	**7.3**	**8.5**	**9.8**	**8.5**	**10**	**8.9**	**9.4**	**9.6**	**8.6**	**8.2**	**7.2**	**10**	**7 J**
B95-1	µg/L										**18**	**12**	**13**	**14**	**16**	**17**	**17**	**14**	**14**	**16**	**15**	**22**	**16**	**10**	**13**
B95-2	µg/L										5	ND	**6**	**7.5**	**6**	**6.1**	**7.8**	**6.8**	**6.8**	**7.4**	**5.3**	**6.2**	**5.2**	4	3 J
MW03-2	µg/L																								
MW03-3	µg/L																								
MW03-4	µg/L																								
MW03-5	µg/L																								
Downgradient Off-Site Wells																									
MW03-6	µg/L																								
MW03-7	µg/L																								
MW03-8	µg/L																								

		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Well ID	**Units**	5/12-16	6/14-16	6/7-8	6/12-13	6/13-14	9/10-12	6/24-25	6/21-25	6/28	6/14-15	6/17-18	6/23-24	6/29-30	6/13-16	6/28-29	6/19-6/21	6/5-6/6	4/7-4/8
Upgradient On-Site Wells																			
B85-1	µg/L	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW03-1	µg/L	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 (<1.0)	<1.0 (<1.0)	<1.0 (<1.0)	<1.0 (<1.0)	<1.0	<1.0
Other On-Site Wells																			
B84-1	µg/L	<1	--	--															
B84-2	µg/L	<1	--	--	Abandoned														
B84-3	µg/L	<1	--	--															
B84-4	µg/L	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B85-2	µg/L	<1	<1	<1	<1	<1	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 (<1.0)	<1.0 (<1.0)
B85-3	µg/L	<1 (<1)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B85-4	µg/L	<1	--	--															
B85-5	µg/L	<1	--	--	Abandoned														
B85-6	µg/L	<1	--	--															
B94-1	µg/L	**13**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B94-2	µg/L	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B94-4	µg/L	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B94-6	µg/L	**6.8**	**6.3**	4.8	**5.2**	4.8	4.8	4.5	4.1	4.9	4.9	4.8	3.3	4.0	3.6	3.1	3.0	3.2	4.7
B95-1	µg/L	**14**	**15**	**5.6**	**7.8 (7.1)**	**7.3**	**11 (10)**	**7.3 (7.1)**	**6.5 (6.8)**	**6.2 (6.6)**	3.8 (3.5)	2.7 (2.6)	3.3	3.1	2.2	2.5	2.8	2.6	2.1
B95-2	µg/L	4.2	5	3.4	4	3.1	**5.5**	**5.1**	3.5	4.6	3.8	3.2	2.9	2.5	1.4	1.8	1.3	1.7 (1.6)	2.0 (2.1)
MW03-2	µg/L	0.68 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW03-3	µg/L	1.6 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW03-4	µg/L	5	4.8 (4.1)	3.5 (3.5)	3.9	3.4	**6.4**	**9.5**	3.7	3.3	2.3	2.6	2.1 (2.2)	2.3	2.1	1.2	1.7 (1.6)	1.7	--
MW03-5	µg/L	**12**	**11 (11)**	**8.6 (9.2)**	**9.4**	**8.8**	**9.8**	3.9 J	**7.9**	**7.4**	**7.8**	**8**	**6.4**	**6.9**	**6.4**	**5.7**	**5.3**	**5.4**	4.3
Downgradient Off-Site Wells																			
MW03-6	µg/L	0.82 J	2	2.2	2	2	--	1.8	1.3	1.2	0.86 J	1.2	1.8	1.7	1.5	1.3	1.1	1.2	1.1
MW03-7	µg/L	**7.8 (6.8)**	**8.7**	**8.8**	**6.8**	**5.6**	**7.1**	**7.6**	**6.2**	**5.1**	**5.3**	**3.1**	**3.7**	**4.3**	4.3	2.4 (2.4)	2.2	1.7	3.2
MW03-8	µg/L	3	5	**8.2**	**6.8**	**6.9**	4.9	4.8	3	2.6	1.1	1.1	0.98 J	2.2	2.8	3.6	3.4	3.6	4.4

Notes:

ND - Constituent was not detected at a concentration above the laboratory detection limit (detection limit unknown)
< - Constituent was not detected at a concentration above the indicated laboratory detection limit
-- -- Analysis was not conducted
J - Estimated result
() - Values in parentheticals represent duplicate sample results
- NYSDEC Groundwater Quality Standard for Trichloroethene is 5 micrograms per liter (µg/L) (Division of Water Technical and
- **Bolded** values exceed the NYSDEC Groundwater Quality Standards
[shaded box] - Monitoring well had not been installed by indicated date

Table 8

Historical 1,1,1-Trichloroethane (1,1,1-TCA) Concentrations
2020 Annual Groundwater Monitoring Event
Former TRW Aeronautical Systems Facility
Utica, New York

	Units	1984			1985		1986	1992	1994				1996				1997		1998	1999		2000	2001	
Well ID	**µg/L**	6/14	7/26	9/28	8/1	10/24	2/7	10/5-7	6/7	11/21	7/20	10/13	1/4	4/3	7/29	11/14	1/31	4/29	9/30	4/30	10/14	7/18	1/15-17	7/16-18
Upgradient On-Site Wells																								
B85-1	µg/L				**6**	ND	ND	--	ND	ND	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
MW03-1	µg/L																							
Other On-Site Wells																								
B84-1	µg/L	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B84-2	µg/L	ND	ND	ND	1	2	1.9	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B84-3	µg/L	ND	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	0.2 J	ND
B84-4	µg/L	ND	ND	ND	ND	ND	ND	ND (ND)	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	0.1 J	ND
B85-2	µg/L				**10**	**17.1**	**15**	4	--	ND	--	--	--	--	--	--	--	--	ND	ND	ND	1.7	2	1 J
B85-3	µg/L				**14**	**19.9**	--	3	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	--	ND	1	1 J
B85-4	µg/L				5	**8.8**	**13**	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4 J	ND
B85-5	µg/L				3	**6.8**	4.7	ND	--	--	--	--	--	--	--	--	--	--	--	--	--	ND	0.2 J	ND
B85-6	µg/L				ND	2.6	2	ND	ND	ND	--	--	--	--	--	--	--	--	--	--	--	ND	ND	ND
B94-1	µg/L								**47**	**22**	**15**	**12**	**15**	**23**	ND	**17**	**21**	**20**	**17**	**14**	**12**	**15**	**12**	**9 J**
B94-2	µg/L								ND	ND	--	--	--	--	--	--	--	--	--	--	--	ND	0.2 J	ND
B94-4	µg/L								**99**	**190**	**260**	**130**	**83**	**53**	ND	**44**	**55**	**25**	**94**	**41**	**40**	**26**	**9**	**6 J**
B94-6	µg/L								--	**13**	**12**	**9.2**	**10**	**13**	**12**	ND	**12**	**12**	**12**	**9.5**	**10**	**11**	**11**	**7 J**
B95-1	µg/L										**10**	**9.8**	**7.8**	**9**	**11**	**13**	**9.3**	**9.2**	**14**	**8.5**	**15**	**10**	**7**	**8 J**
B95-2	µg/L										**16**	**22**	**25**	**21**	**17**	**21**	**17**	**14**	**23**	**13**	**21**	**12**	**9**	5 J
MW03-2	µg/L																							
MW03-3	µg/L																							
MW03-4	µg/L																							
MW03-5	µg/L																							
Downgradient Off-Site Wells																								
MW03-6	µg/L																							
MW03-7	µg/L																							
MW03-8	µg/L																							

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Well ID	5/12-16	6/14-16	6/7-8	6/12-13	6/13-14	9/10-12	6/24-25	6/21-25	6/28	6/14-15	6/17-18	6/23-24	6/29-30	6/13-16	6/28-29	6/19-6/21	6/5-6/6	4/7-4/8
Upgradient On-Site Wells																		
B85-1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW03-1	<1	<1	<1	<1	<1	<1	<1	<1	<1.0 J	<1.0	<1.0	<1.0	<1.0 (<1.0)	<1.0 (<1.0)	<1.0 (<1.0)	<1.0 (<1.0)	<1.0	<1.0
Other On-Site Wells																		
B84-1	<1	--	--															
B84-2	<1	--	--								Abandoned							
B84-3	<1	--	--															
B84-4	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B85-2	1.2	1.4	1.2	0.99 J	0.72 J	0.65 J	0.8 J	0.68 J	0.41 J	0.66 J	0.65 J	0.47 J	0.64 J	0.52 J	0.46 J	0.44 J	0.52 J (0.51 J)	<1.0 (<1.0)
B85-3	1.0 (1.0)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B85-4	<1	--	--															
B85-5	<1	--	--								Abandoned							
B85-6	<1	--	--															
B94-1	**9.5**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B94-2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B94-4	4.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B94-6	**8.2**	**7.1 J**	**6.7**	**5.5**	4.3	4.2	3.8	2.8	2.6 J	3.5	3.5	2.8	3.2	3.0	2.4	2.4	2.5	3.0
B95-1	**6.3**	5 J	3.1	3.7 (3.8)	3.4	**6.2 (5.8)**	2.8 (2.7)	2.5 (2.6)	1.9 J (1.9 J)	1.8 (1.8)	0.81 J (0.76 J)	1.5	1.8	1.6	1.4	2.1	1.5	1.5
B95-2	**6.2**	**5.6 J**	3.7	3.8	2.6	**5.6**	3.7	2.9	2.4 J	2.5	2.2	1.6	1.8	1.4	1.3	1.1	1.3 (1.3)	1.5 (1.4)
MW03-2	2.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW03-3	1.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW03-4	4.9	**5.5 J (4.9)**	4.6 (4.7)	4	3.3	4.8	4.9	3.2	1.8 J	1.7	1.8	1.4	1.8	1.9	0.92 J	1.6 (1.5)	1.7	--
MW03-5	**9.5**	**12 J (13)**	**6 (6.2)**	**5.1**	4.7	**5.4**	3.8	3.9	2.8 J	3.9	3.7	3.5	3.3	3.6	2.8	2.7	2.8	2.8
Downgradient Off-Site Wells																		
MW03-6	0.34 J	1.2	1.3	1.2	0.96 J	--	0.84 J	0.53 J	0.34 J	0.38 J	0.39 J	0.55 J	0.71 J	0.74 J	0.47 J	0.43 J	0.47 J	0.42 J
MW03-7	**6.1 (5.4)**	**7.6**	**7.5**	**5.8**	4	4.9	4.5	3.2	1.9 J	2.4	1.3	1.4	1.6	3.5	0.91 J (0.88 J)	0.98 J	0.73 J	1.8
MW03-8	1.8	4.2	**6.9**	**5.8**	4.5	3.5	3	2	0.94 J	0.41 J	0.43 J	<1.0	0.86 J	1.4	1.3	1.4	1.5	2.2

Notes:

ND - Constituent was not detected at a concentration above the laboratory detection limit (detection limit unknown)
< - Constituent was not detected at a concentration above the indicated laboratory detection limit
-- - Analysis was not conducted
J - Estimated result
() - Values in parentheticals represent duplicate sample results
micrograms per liter (µg/L) (Division of Water Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance
- **Bolded** values exceed the Table 1 Standards
- Monitoring well had not been installed by indicated date

Table 1
Groundwater Analytical Results
Former TRW Aeronautical Systems Facility, Utica, New York

Well Number	TCE ug/L	1,1,1-TCA ug/L	Ethylbenzene ug/L	Isopropylbenzene ug/L	Xylenes ug/L	1,1,2,2-TetClEhane ug/L	1,1,2-TCA ug/L	1,1-DCA ug/L	1,1-DCE ug/L	1,2,4-Trichlorobenzene ug/L	1,2-Dibromo-3-chloropropane (DBCP) ug/L	1,2-Dibromoethane (Ethylene dibromide) ug/L	1,2-Dichlorobenzene ug/L	1,2-DCA ug/L	1,2-Dichloropropane ug/L	1,3-Dichlorobenzene ug/L	1,4-Dichlorobenzene ug/L	2-Butanone (Methyl ethyl ketone) ug/L	2-Hexanone ug/L	4-Methyl-2-Pent ug/L	Acetone ug/L	Benzene ug/L	Bromodichloromethane ug/L	Bromoform ug/L
B85-1																								
May-03	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10 J	<1	<1	<1
Oct-15	<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	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Aug-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B85-2																								
May-03	<1	1.2	<1	<1	<1	<1	<1	<1	<1	<1 J	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-04	<1	1.4 J	<1	<1	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	<1	1.2	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-06	<1	0.99 J	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-07	<1	0.7224 J	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-08	<1	0.65 J	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-09	<1.0	0.80 J	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	<1.0	0.68 J	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	<1.0	0.41 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	<1.0	0.66 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	0.65 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	1.1 J	<1.0	<1.0	<1.0
Jun-14	<1.0	0.47 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	<1.0	0.64 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-15	<1.0	0.77 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-16	<1.0	0.52 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	<1.0	0.46 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	<1.0	0.44 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	<1.0	0.52 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19 Dup	<1.0	0.51 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20 Dup	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B94-6																								
May-03	6.8	8.2	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-04	6.3	7.1 J	<1	<1	<2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	4.8	6.7	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-06	5.2	5.5	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-07	4.837	4.325	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-08	4.8	4.2	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-09	4.5	3.8	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	4.1	2.8	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	4.9	2.6 J	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	4.9	3.5	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	4.8	3.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-14	3.3	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.47 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	4.0	3.2	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	3.6	3.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	3.1	2.4	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	3.0	2.4	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	3.2	2.5	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	4.7	3.0	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B95-1																								
May-03	14	6.3	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-04	15	5 J	<1	<1	<1	<1	<1	<1	<1	<1 J	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1 J
Jun-05	5.6	3.1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-06	7.8	3.7	<1	<1	<1	<1	<1	<1	<1	<1 J	<2	<1	<1	<1	<1	<1	<1	<10	<10 J	<10	<10 J	<1	<1	<1
Jun-06 Dup	7.1	3.8	<1	<1	<1	<1	<1	<1	<1	<1 J	<2 J	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10 J	<1	<1	<1
Jun-07	7.277	3.395	<1	<1	<1	<1	<1	<1	<1	<1	<2 J	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1 J
Jun-07 Dup	7.248	3.265	<1	<1	<1	<1	<1	<1	0.1806 J	<1	<2 J	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1 J
Sep-08	11	6.2	<1	<1	<1	<1	<1	<1	<1	<1	<2 J	<1	<1	<1	<1	<1	<1	<10	<10	<10	2.4 J	<1	<1	<1 J
Sep-08 Dup	10	5.8	<1	<1	<1	<1	<1	<1	<1	<1	<2 J	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1 J
Jun-09	7.3	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-09 Dup	7.1	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-10	6.5	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0 J	<1.0 J
Jun-10 Dup	6.8	2.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0 J	<1.0 J
Jun-11	6.2	1.9 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0 J
Jun-11 Dup	6.6	1.9 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0 J
Jun-12	3.8	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10 J	<1.0	<1.0	<1.0
Jun-12 Dup	3.5	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10 J	<1.0	<1.0	<1.0
Jun-13	2.7	0.81 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	1.2 J	<1.0	<1.0	<1.0
Jun-13 Dup	2.6	0.76 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-14	3.3	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.34 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	3.1	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Oct-15	4.0	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-16	2.2	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-17	2.5	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	13	<1.0	<1.0	<1.0
Jun-18	2.8	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-19	2.6	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 J	<2.0 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Apr-20	2.1	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0

Table 1
Groundwater Analytical Results
Former TRW Aeronautical Systems Facility, Utica, New York

Well Number	TCE ug/L	1,1,1-TCA ug/L	Ethylbenzene ug/L	Isopropylbenzene ug/L	Xylenes ug/L	1,1,2,2-TetClEhane ug/L	1,1,2-TCA ug/L	1,1-DCA ug/L	1,1-DCE ug/L	1,2,4-Trichlorobenzene ug/L	1,2-Dibromo-3-chloropropane (DBCP) ug/L	1,2-Dibromoethane (Ethylene dibromide) ug/L	1,2-Dichlorobenzene ug/L	1,2-DCA ug/L	1,2-Dichloropropane ug/L	1,3-Dichlorobenzene ug/L	1,4-Dichlorobenzene ug/L	2-Butanone (Methyl ethyl ketone) ug/L	2-Hexanone ug/L	4-Methyl-2-Pent ug/L	Acetone ug/L	Benzene ug/L	Bromodichloromethane ug/L	Bromoform ug/L
B95-2																								
May-03	4.2	6.2	<1	<1	<1	<1	<1	0.49 J	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-04	5	5.6 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	3.4	3.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-06	4	3.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-07	3.093	2.624	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-08	5.5	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-09	5.1	3.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	3.5	2.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	4.6	2.4 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	3.8	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	3.2	2.2	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	8.4 J	1.8 J	<1.0	<1.0	<1.0
Jun-14	2.9	1.6	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	0.27 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	2.5	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-15	2.5	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Oct-15 Dup	2.6	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-16	1.4	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	1.8	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	1.3	1.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	1.7	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	1.6	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	2.0	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20 Dup	2.1	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03-1																								
May-03	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10 J	<1	<1	<1
Jun-04	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-06	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-07	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-08	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-09	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	<1.0	<1.0 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-14	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-15 Dup	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16 Dup	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17 Dup	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18 Dup	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-19	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10	<1.0	<1.0	<1.0
Apr-20	<1.0	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03-3																								
May-03	1.6 J	1.1 J	11	7	130	<2	<2	1 J	<2	<2 J	<4 J	<2	<2	<2	<2	<2	<2	<20	<20 J	<20 J	<20	<2	<2	<2 J
Jun-04	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-04 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05 Dup	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-06	NA	NA	8.7	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-07	NA	NA	8.318	5.46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-08	NA	NA	9.8	9.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-09	NA	NA	4.6	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	6.5	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	2.9	5.4	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aug-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	4.7 J	10	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	1.0	<1.0	2.6	7.6	26	<1.0	<1.0	1.2	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	NA	2.6 J	<1.0	<1.0	<1.0
Jun-14	1.0	<1.0	2.0	8.3	21	<1.0	<1.0	1.2	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	0.64 J	<10	<10	<1.0	<1.0	<1.0
Jun-15	NA	NA	1.5	4.8	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	NA	NA	2.9	15	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	0.39 J	2.9	2.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	0.55 J	4.8	4.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	0.37 J	5.3	3.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aug-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	NA	NA	0.35 J	5.6	3.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03-4																								
May-03	5	4.9	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-04	4.8	5.5 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-04 Dup	4.1	4.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	3.5	4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05 Dup	3.5	4.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-06	3.9	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-07	3.375	3.295	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-08	4.8	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-09	9.5	4.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	3.7	3.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	3.3	1.8 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	2.6	1.8	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-14	2.1	1.4	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	0.31 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-14 Dup	2.2	1.5	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	0.24 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	2.3	1.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	2.1	1.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	1.2	0.92 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	1.7	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18 Dup	1.6	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	1.7	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Groundwater Analytical Results
Former TRW Aeronautical Systems Facility, Utica, New York

Well Number	TCE ug/L	1,1,1-TCA ug/L	Ethylbenzene ug/L	Isopropylbenzene ug/L	Xylenes ug/L	1,1,2,2-TetClEhane ug/L	1,1,2-TCA ug/L	1,1-DCA ug/L	1,1-DCE ug/L	1,2,4-Trichlorobenzene ug/L	1,2-Dibromo-3-chloropropane (DBCP) ug/L	1,2-Dibromoethane (Ethylene dibromide) ug/L	1,2-Dichlorobenzene ug/L	1,2-DCA ug/L	1,2-Dichloropropane ug/L	1,3-Dichlorobenzene ug/L	1,4-Dichlorobenzene ug/L	2-Butanone (Methyl ethyl ketone) ug/L	2-Hexanone ug/L	4-Methyl-2-Pent ug/L	Acetone ug/L	Benzene ug/L	Bromodichloromethane ug/L	Bromoform ug/L
MW03-5																								
May-03	12	9.5	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	7.8 J	<10	<10	<10 J	<1	<1	<1
Jun-04	11	12 J	<1	<1	<1	<1	<1	0.81 J	<1	0.38 J	<2	<1	0.15 J	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1 J
Jun-04 Dup	11	13	<1	<1	<1	<1	<1	0.99 J	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10 J	<1	<1	<1
Jun-05	8.6	6	<1	<1	<1	<1	<1	0.4 J	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-05 Dup	9.2	6.2	<1	<1	<1	<1	<1	0.43 J	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-06	9.4	5.1	<1	<1	<1	<1	<1	0.22 J	<1	<1 J	<2	<1	<1	<1	<1	<1	<1	<10	<10 J	<10	<10 J	<1	<1	<1
Jun-07	8.834	4.662	<1	<1	<1	<1	<1	0.2146 J	0.2801 J	<1	<2 J	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1 J
Sep-08	9.8	5.4	<1	<1	<1	<1	<1	<1	0.19 J	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	1.6 J	<1	<1	<1
Jun-09	3.9 J	3.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-10	7.9	3.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0 J	<1.0 J
Jun-11	7.4	2.8 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0 J
Jun-12	2.3	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	7.8	3.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10 J	<1.0	<1.0	<1.0
Jun-13	8.0	3.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	1.5 J	<1.0	<1.0	<1.0
Jun-14	6.4	3.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.49 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	1.7 J	<1.0	<1.0	<1.0
Jun-15	6.9	3.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-16	6.4	3.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-17	5.7	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	13	<1.0	<1.0	<1.0
Jun-18	5.3	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-19	5.4	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 J	<2.0 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Aug-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aug-19 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	4.3	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
MW03-6																								
Aug-03	0.82 J	0.34 J	<1	<1	<1	<1	<1	<1	<1	0.24 J B	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	1.1 J	<1	<1	<1
Jun-04	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	2.2	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-06	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-07	2.027	0.9628 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-09	1.8	0.84 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	1.3	0.53 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	1.2	0.34 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	0.86 J	0.38 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	1.2	0.39 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	1.3 J	<1.0	<1.0	<1.0
Jun-14	1.8	0.55 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	1.7	0.71 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	1.5	0.74 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	1.3	0.47 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	1.1	0.43 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	1.2	0.47 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	1.1	0.42 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03-7																								
Aug-03	7.8	6.1	<1	<1	<1	<1	<1	0.95 J	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Aug-03 Dup	6.8	5.4	<1	<1	<1	<1	<1	0.79 J	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-04	8.7	7.6	<1	<1	<1	<1	<1	0.85 J	0.25 J	<1	<2	<1	<1	<1	<1	<1	<1	<10 J	<10	<10	<10 J	<1	<1	<1
Jun-05	8.8	7.5	<1	<1	<1	<1	<1	0.89 J	0.28 J	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-06	6.8	5.8	<1	<1	<1	<1	<1	0.88 J	<1	<1 J	<2 J	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10 J	<1	<1	<1
Jun-07	5.632	3.972	<1	<1	<1	<1	<1	0.5602 J	0.2368 J	<1	<2 J	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1 J
Sep-08	7.1	4.9	<1	<1	<1	<1	<1	0.69 J	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	1.4 J	<1	<1	<1
Jun-09	7.6	4.5	<1.0	<1.0	<1.0	<1.0	<1.0	0.48 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-10	6.2	3.2	<1.0	<1.0	<1.0	<1.0	<1.0	0.45 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0 J	<1.0 J
Jun-11	5.1	1.9 J	<1.0	<1.0	<1.0	<1.0	<1.0	0.30 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0 J
Jun-12	5.3	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	0.46 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10 J	<1.0	<1.0	<1.0
Jun-13	3.1	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	0.24 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	1.1 J	<1.0	<1.0	<1.0
Jun-14	3.7	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.32 J	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	4.3	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-16	3.5	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-17	2.4	0.91 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	13	<1.0	<1.0	<1.0
Jun-17 Dup	2.4	0.88 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	15	<1.0	<1.0	<1.0
Jun-18	2.2	0.98 J	<1.0	<1.0	0.23 J	<1.0	<1.0	0.24 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-19	1.7	0.73 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 J	<2.0 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Apr-20	3.2	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	0.21 J	<1.0	<1.0 J	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
MW03-8																								
Aug-03	3	1.8	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<10	<10	<10	<10	<1	<1	<1
Jun-04	5	4.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	8.2	6.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-06	6.8	5.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-07	6.851	4.53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep-08	4.9	3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-09	4.8	3.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	3.9	2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	2.6	0.94 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	1.1	0.41 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	1.1	0.43 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	2.0 J	<1.0	<1.0	<1.0
Jun-14	0.98 J	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	0.60 J	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<10	<10	<10	<1.0	<1.0	<1.0
Jun-15	2.2	0.86 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	2.8	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	3.6	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	3.4	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	3.6	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	4.4	2.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Groundwater Analytical Results
Former TRW Aeronautical Systems Facility, Utica, New York

Well Number	Bromomethane ug/L	Carbon disulfide ug/L	Carbon tetrachloride ug/L	Chlorobenzene ug/L	Chloroethane ug/L	Chloroform ug/L	Chloromethane ug/L	C-1,2-DCE ug/L	cis-1,3-DCP ug/L	Cyclohexane ug/L	Dibromochloromethane ug/L	DFM ug/L	m/p-Xylene ug/L	Methyl acetate ug/L	M Cyclohexane ug/L	MTBE ug/L	Methylene CL2 ug/L	o-Xylene ug/L	Styrene ug/L	PCE ug/L	Toluene ug/L	T-1,2-DCE ug/L	trans-1,3-DCPe ug/L	TriChloroFluoroM ug/L	Trifluorotrichloroethane (CFC-113) ug/L	VC ug/L	Total TICS ug/L	Total VOCS ug/L
B85-1																												
May-03	<1	<1	<1	<1	<1	4.3	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	0.84 J	0.79 J	NA	<1	<1	<1	<0.5	<1	<1	<1	<1	NA	5.93 J
Oct-15	<1.0 J	<1.0	<1.0	<1.0	<1.0 J	2.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
Aug-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B85-2																												
May-03	<1	<1	<1	<1	<1	16	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	1.4 J	<1	NA	<1	<1	<1	<0.5	<1	<1	1.2	<1	NA	19.8 J
Jun-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.4
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.99 J
Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.722 J
Sep-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.65 J
Jun-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.77 J	<1.0	NA	NA
Jun-14	<1.0	<1.0	<1.0	<1.0	<1.0	9.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.77 J	<1.0	NA	NA
Jun-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-15	<1.0 J	<1.0	<1.0	<1.0	<1.0 J	9.9	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0 J	0.88 J	<1.0	NA	NA
Jun-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B94-6																												
May-03	<1	<1	<1	<1	<1	8.4	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	<5	0.57 J	NA	<1	0.49 J	<1	<0.5	<1	<1	<1	<1	NA	24.5 J
Jun-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.4
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.5
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.7
Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.16
Sep-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	9
Jun-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	4.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	0.32 J	<1.0	<1.0	<1.0	0.21 J	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	0.43 J	<1.0	<1.0	3.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	0.64 JB	NA	<1.0	0.40 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B95-1																												
May-03	<1	<1	<1	<1	<1	5.4	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	0.36 J	<1.2	NA	<1	1.4	<1	<0.5	<1	<1	<1	<1	NA	27.5 J
Jun-04	<1	<1	<1 J	<1	<1 J	3.2	<1 J	0.76	<1	<1	<1	<1 J	NA	<10	<1	<5	<1 J	NA	<1	1.2	<1	<0.5	<1	<1 J	<1	<1	NA	25.6 J
Jun-05	<1	<1	<1	<1	<1	4.9	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	0.6 J	0.25 J	<0.5	<1	<1	<1	<1	NA	14.5 J
Jun-06	<1	<1	<1	<1	<1	3.2	0.14 J	<0.5	<1	<1	<1	<1 J	NA	<10	<1	<5	<1	NA	<1	0.71 J	0.52 J	<0.5	<1	<1	<1	<1	NA	16.1 J
Jun-06 Dup	<1	<1	<1	<1	<1	2.8	<1	<0.5	<1	<1	<1	<1	NA	<10 J	<1	<5	<1 J	NA	<1	0.68 J	0.66 J	<0.5	<1	<1	<1	<1	NA	15 J
Jun-07	<1 J	<1	<1	<1	<1	4.281	<1	<0.5	<1	<1	<1	<1 J	NA	<10	<1	<5	<1	NA	<1	0.7271 J	0.176 J	<0.5	<1 J	<1	<1	<1	NA	15.9 J
Jun-07 Dup	<1 J	<1	<1	<1	<1	4.233	<1	<0.5	<1	<1	<1	<1 J	NA	<10	<1	<5	<1	NA	<1	0.78 J	<1	<0.5	<1 J	<1	<1	<1	NA	15.7 J
Sep-08	<1	<1	<1	<1	<1	3.7	<1	<0.5	<1 J	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	1.3	<1	<0.5	<1 J	0.56 J	<1	<1	NA	25.2 J
Sep-08 Dup	<1	<1	<1	<1	<1	3.5	<1	<0.5	<1 J	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	1.3	<1	<0.5	<1 J	0.58 J	<1	<1	NA	21.2 J
Jun-09	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0 J	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.76 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
Jun-09 Dup	<1.0 J	<1.0 J	<1.0	<1.0	<1.0	2.3	<1.0 J	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.76 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
Jun-10	<1.0 J	<1.0	<1.0 J	<1.0	<1.0	2.2	<1.0	<0.50	<1.0	<1.0	<1.0 J	<1.0	NA	<10	<1.0	<5.0 J	<1.0	NA	<1.0	0.74 J	<1.0	<0.50	<1.0 J	<1.0	<1.0	<1.0	NA	NA
Jun-10 Dup	<1.0 J	<1.0	<1.0 J	<1.0	<1.0	2.2	<1.0	<0.50	<1.0	<1.0	<1.0 J	<1.0	NA	<10	<1.0	<5.0 J	<1.0	NA	<1.0	0.74 J	<1.0	<0.50	<1.0 J	<1.0	<1.0	<1.0	NA	NA
Jun-11	<1.0	<1.0 J	<1.0 J	<1.0	<1.0	3.5	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.74 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-11 Dup	<1.0	<1.0 J	<1.0 J	<1.0	<1.0	3.4	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.76 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-12	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0 J	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.48 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-12 Dup	<1.0	<1.0	<1.0	<1.0	<1.0	2.5	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0 J	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.43 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	0.45 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.54 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-13 Dup	<1.0	<1.0	<1.0	<1.0	<1.0	0.46 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.63 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	<1.0	<1.0	<1.0	3.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	0.40 JB	NA	<1.0	0.79 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-15	<1.0	<1.0	<1.0	<1.0	<1.0	2.5	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.70 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Oct-15	<1.0 J	<1.0	<1.0	<1.0	<1.0 J	3.2	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.75 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
Jun-16	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.34 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-17	<1.0	<1.0	<1.0	<1.0	<1.0	2.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.47 J	0.31 J	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-18	<1.0	<1.0	<1.0	<1.0	<1.0	3.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.52 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-19	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.37 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Apr-20	<1.0	<1.0 J	<1.0	<1.0	<1.0	3.5	<1.0 J	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.28 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA

Table 1
Groundwater Analytical Results
Former TRW Aeronautical Systems Facility, Utica, New York

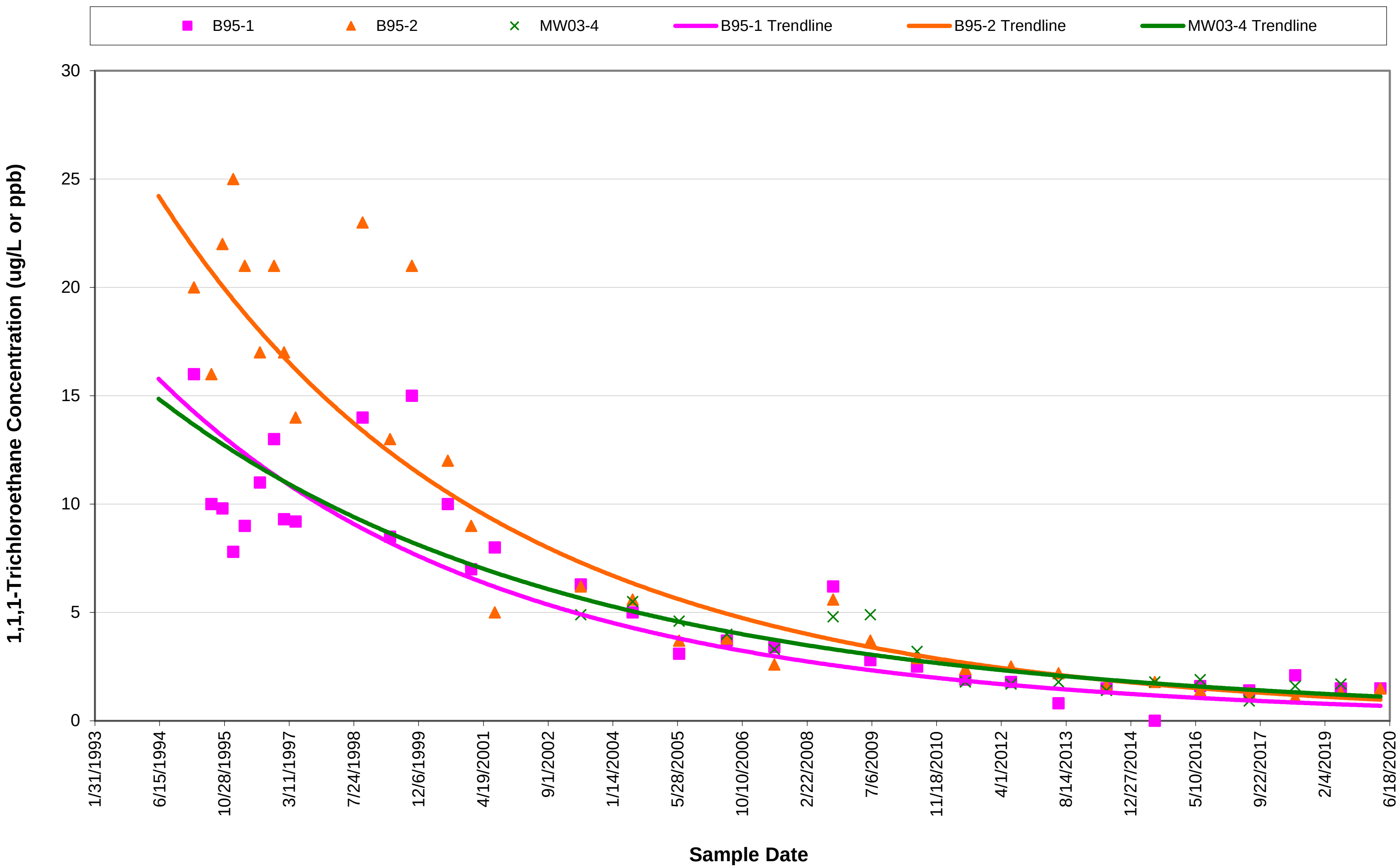
Well Number	Bromomethane ug/L	Carbon disulfide ug/L	Carbon tetrachloride ug/L	Chlorobenzene ug/L	Chloroethane ug/L	Chloroform ug/L	Chloromethane ug/L	C-1,2-DCE ug/L	cis-1,3-DCP ug/L	Cyclohexane ug/L	Dibromochloromethane ug/L	DFM ug/L	m/p-Xylene ug/L	Methyl acetate ug/L	M Cyclohexane ug/L	MTBE ug/L	Methylene CL2 ug/L	o-Xylene ug/L	Styrene ug/L	PCE ug/L	Toluene ug/L	T-1,2-DCE ug/L	trans-1,3-DCPe ug/L	TriChloroFluoroM ug/L	Trifluorotrichloroethane (CFC-113) ug/L	VC ug/L	Total TICS ug/L	Total VOCS ug/L
B95-2																												
May-03	<1	<1	<1	<1	<1	6.9	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	0.46 J	<1	NA	<1	0.84 J	<1	<0.5	<1	<1	<1	<1	NA	19.1 J
Jun-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.6
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.8
Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.72
Sep-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.1
Jun-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	5.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	0.73 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	0.39 J	<1.0	<1.0	5.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	0.61 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-15	<1.0 J	<1.0	<1.0	<1.0	<1.0 J	5.7	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.79 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
Oct-15 Dup	<1.0 J	<1.0	<1.0	<1.0	<1.0 J	6.2	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.84 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
Jun-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03-1																												
May-03	<1	<1	<1	<1	<1	10	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	<5	0.68 J	NA	<1	<1	<1	<0.5	<1	<1	<1	<1	NA	10.7 J
Jun-04	NA	NA	NA	NA	NA	9.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.3
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Sep-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Jun-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	5.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	<1.0	<1.0	<1.0	5.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	0.37 JB	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-15 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct-19	<1.0	<1.0	<1.0	<1.0	<1.0	5.6	<1.0 J	<1.0	<1.0	<1.0	<1.0	<1.0 J	NA	<2.5	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Apr-20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03-3																												
May-03	<2 J	<2	<2	<2	<2	1.3 J	<2	3	<2	11	<2	<2	NA	<20	50	<10	<2	NA	<2	<2	<2	<1	<2	<2	<2	<2	NA	217 J
Jun-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Jun-04 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Jun-05 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	NA	NA	NA	NA	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	48	NA	NA	NA	NA	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.7
Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.346	NA	NA	NA	NA	33.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.8
Sep-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	NA	NA	NA	NA	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.1
Jun-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34	NA	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	42	NA	NA	NA	NA	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aug-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	0.40 J	<1.0	2.2	<1.0	5.0	<1.0	<1.0	NA	<10	10	<1.0	<1.0	NA	0.31 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	<1.0	6.2	<1.0	<1.0	NA	<10	19	<1.0	<1.0	NA	0.26 J	<1.0	0.15 J	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aug-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03-4																												
May-03	<1	<1	<1	<1	<1	4.6	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	0.3 J	<1	NA	<1	1.3	<1	<0.5	<1	<1	<1	<1	NA	16.1 J
Jun-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.3
Jun-04 Dup	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA	16.2
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.1
Jun-05 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.2
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.9
Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.67
Sep-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2
Jun-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	4.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	0.90 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	0.40 J	<1.0	<1.0	4.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	0.62 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14 Dup	<1.0	<1.0	<1.0	<1.0	<1.0	4.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	0.75 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 1
Groundwater Analytical Results
Former TRW Aeronautical Systems Facility, Utica, New York

Well Number	Bromomethane ug/L	Carbon disulfide ug/L	Carbon tetrachloride ug/L	Chlorobenzene ug/L	Chloroethane ug/L	Chloroform ug/L	Chloromethane ug/L	C-1,2-DCE ug/L	cis-1,3-DCP ug/L	Cyclohexane ug/L	Dibromochloromethane ug/L	DFM ug/L	m/p-Xylene ug/L	Methyl acetate ug/L	M Cyclohexane ug/L	MTBE ug/L	Methylene CL2 ug/L	o-Xylene ug/L	Styrene ug/L	PCE ug/L	Toluene ug/L	T-1,2-DCE ug/L	trans-1,3-DCPe ug/L	TriChloroFluoroM ug/L	Trifluorotrichloroethane (CFC-113) ug/L	VC ug/L	Total TICS ug/L	Total VOCS ug/L
MW03-5																												
May-03	<1	<1	<1	<1	<1	6.8	<1	0.94	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	1.6	<1	<0.5	<1	<1	<1	<1	NA	38.6 J
Jun-04	<1	<1	<1 J	<1	<1 J	5.9	<1 J	1.4	<1	<1	<1	<1 J	NA	<10	<1	<5	<1 J	NA	<1	1.5	<1	<0.5	<1	0.31 J	<1	<1	NA	34 J
Jun-04 Dup	<1	<1	<1	<1	<1	6.7	<1	1.5	<1	<1	<1	<1	NA	<10	<1	<5	<1 J	NA	<1	1.2	<1	<0.5	<1	<1	<1	<1	NA	34.4 J
Jun-05	<1	<1	<1	<1	<1	5.3	<1	0.77	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	1.2	0.44 J	<0.5	<1	0.17 J	<1	<1	NA	22.9 J
Jun-05 Dup	<1	<1	<1	<1	<1	5.6	<1	0.76	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	1.2	0.4 J	<0.5	<1	0.17 J	<1	<1	NA	24 J
Jun-06	<1	<1	<1	<1	<1	5.5	<1	0.45 J	<1	<1	<1	<1 J	NA	<10	<1	<5	<1	NA	<1	1.2	1.2 J	<0.5	<1	0.2 J	<1	<1	NA	23.3 J
Jun-07	<1 J	<1	<1	<1	<1	4.465	<1	0.3641 J	<1	<1	<1	<1 J	NA	<10	<1	<5	<1	NA	<1	1.218	<1	<0.5	<1 J	0.2353 J	<1	<1	NA	20.3 J
Sep-08	<1	<1	<1	<1	<1	5.2	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	1.5	<1 B	<0.5	<1	0.7 J	<1	<1	NA	24.4 J
Jun-09	<1.0	<1.0	<1.0	<1.0	<1.0	5.6	<1.0 J	<0.50	<1.0 J	<1.0	<1.0	<1.0	NA	<10	<1.0 J	<5.0	<1.0	NA	<1.0	1.2	<1.0	<0.50	<1.0	0.29 J	<1.0	<1.0 J	NA	NA
Jun-10	<1.0 J	<1.0	<1.0 J	<1.0	<1.0	4.1	<1.0	<0.50	<1.0	<1.0	<1.0 J	<1.0	NA	<10	<1.0	<5.0 J	<1.0	NA	<1.0	1.2	<1.0	<0.50	<1.0 J	<1.0	<1.0	<1.0	NA	NA
Jun-11	<1.0	<1.0 J	<1.0 J	<1.0	<1.0	3.4	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	<1.0	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0 J	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	3.9	<1.0	0.17 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	1.2	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	<1.0	<1.0	<1.0	3.6	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	0.35 JB	NA	<1.0	1.2	<1.0	<0.50	<1.0 *	<1.0	<1.0	<1.0	NA	NA
Jun-15	<1.0	<1.0	<1.0	<1.0	<1.0	3.5	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	1.2	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-16	<1.0	<1.0	<1.0	<1.0	<1.0	3.9	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-17	<1.0	<1.0	<1.0	<1.0	<1.0	3.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	1.1	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-18	<1.0	<1.0	<1.0	<1.0	<1.0	2.9	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.92 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-19	<1.0	<1.0	<1.0	<1.0	<1.0	3.4	<1.0 J	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.88 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Aug-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aug-19 Dup	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	<1.0	<1.0 J	<1.0	<1.0	<1.0	3.8	<1.0 J	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.67 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
MW03-6																												
Aug-03	<1	<1	<1	<1	<1	3.2	<1	<0.5	<1	<1	<1	<1	NA	<10	<1	0.33 J	0.49 J	NA	<1	<1	<1	<0.5	<1	<1	<1	<1	NA	6.52 J
Jun-04	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.2
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.2
Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.99 J
Jun-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	4.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	<1.0	<1.0	<1.0	8.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0 *	<1.0	<1.0	<1.0	NA	NA
Jun-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03-7																												
Aug-03	<1	<1	<1	<1	<1	4.6	<1	1.4	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	0.49 J	<1	<0.5	<1	<1	<1	<1	NA	21.3 J
Aug-03 Dup	<1	<1	<1	<1	<1	4.2	<1	1.2	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	0.46 J	<1	<0.5	<1	<1	<1	<1	NA	18.9 J
Jun-04	<1 J	<1	<1	<1	<1	4.6	<1	0.77	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	0.48 J	<1	<0.5	<1	<1	<1	<1	NA	25.3 J
Jun-05	<1	<1	<1	<1	<1	3.9	<1	0.79	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	0.53 J	<1	<0.5	<1	<1	<1	<1	NA	22.7 J
Jun-06	<1	<1	<1	<1	<1	2.8	<1	0.92	<1	<1	<1	<1	NA	<10 J	<1	<5	<1 J	NA	<1	0.34 J	2.8	<0.5	<1	<1	<1	<1	NA	20.3 J
Jun-07	<1 J	<1	<1	<1	<1	2.625	<1	0.754	<1	<1	<1	<1 J	NA	<10	<1	<5	<1	NA	<1	0.8626 J	<1	<0.5	<1 J	<1	<1	<1	NA	14.6 J
Sep-08	<1	<1	<1	<1	<1	2.8	<1	0.79	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	0.62 J	<1	<0.5	<1	0.61 J	<1	<1	NA	18.9 J
Jun-09	<1.0	<1.0	<1.0	<1.0	<1.0	2.8	<1.0 J	0.54	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.53 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
Jun-10	<1.0 J	<1.0	<1.0 J	<1.0	<1.0	2.2	<1.0	0.59	<1.0	<1.0	<1.0 J	<1.0	NA	<10	<1.0	<5.0 J	<1.0	NA	<1.0	0.37 J	<1.0	<0.50	<1.0 J	<1.0	<1.0	<1.0	NA	NA
Jun-11	<1.0	<1.0 J	<1.0 J	<1.0	<1.0	2.1	<1.0	0.48 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.95 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-12	<1.0	<1.0	<1.0	<1.0	<1.0	3.2	<1.0	0.74 J	<1.0	<1.0	<1.0	<1.0 J	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.58 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	0.84 J	<1.0	0.35 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.34 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	0.34 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.46 J	<1.0	<0.50	<1.0 *	<1.0	<1.0	<1.0	NA	NA
Jun-15	<1.0	<1.0	<1.0	<1.0	<1.0	3.3	<1.0	0.47 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.43 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-16	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	0.49 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.41 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-17	<1.0	<1.0	<1.0	<1.0	<1.0	0.84 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.43 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-17 Dup	<1.0	<1.0	<1.0	<1.0	<1.0	0.82 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<1.0	NA	<1.0	0.50 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-18	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	0.41 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.42 J	0.42 J	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-19	<1.0	<1.0	<1.0	<1.0	<1.0	0.52 J	<1.0 J	0.21 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.28 J	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	NA	NA
Apr-20	<1.0	<1.0 J	<1.0	<1.0	<1.0	1.8	<1.0 J	0.40 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<5.0	<5.0	NA	<1.0	0.50 J	<1.0	<0.50	<1.0	<1.0 J	<1.0	<1.0	NA	NA
MW03-8																												
Aug-03	<1	<1	<1	<1	<1	0.82 J	<1	0.3 J	<1	<1	<1	<1	NA	<10	<1	<5	<1	NA	<1	<1	<1	<0.5	<1	<1	<1	<1	NA	5.92 J
Jun-04	NA	NA	NA	NA	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2
Jun-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.1
Jun-06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.6
Jun-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.4
Sep-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.4
Jun-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-13	<1.0	<1.0	<1.0	<1.0	<1.0	0.29 J	<1.0	0.19 J	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	NA
Jun-14	<1.0	<1.0	0.39 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<10	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0 *	<1.0	<1.0	<1.0	NA	NA
Jun-15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr-20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

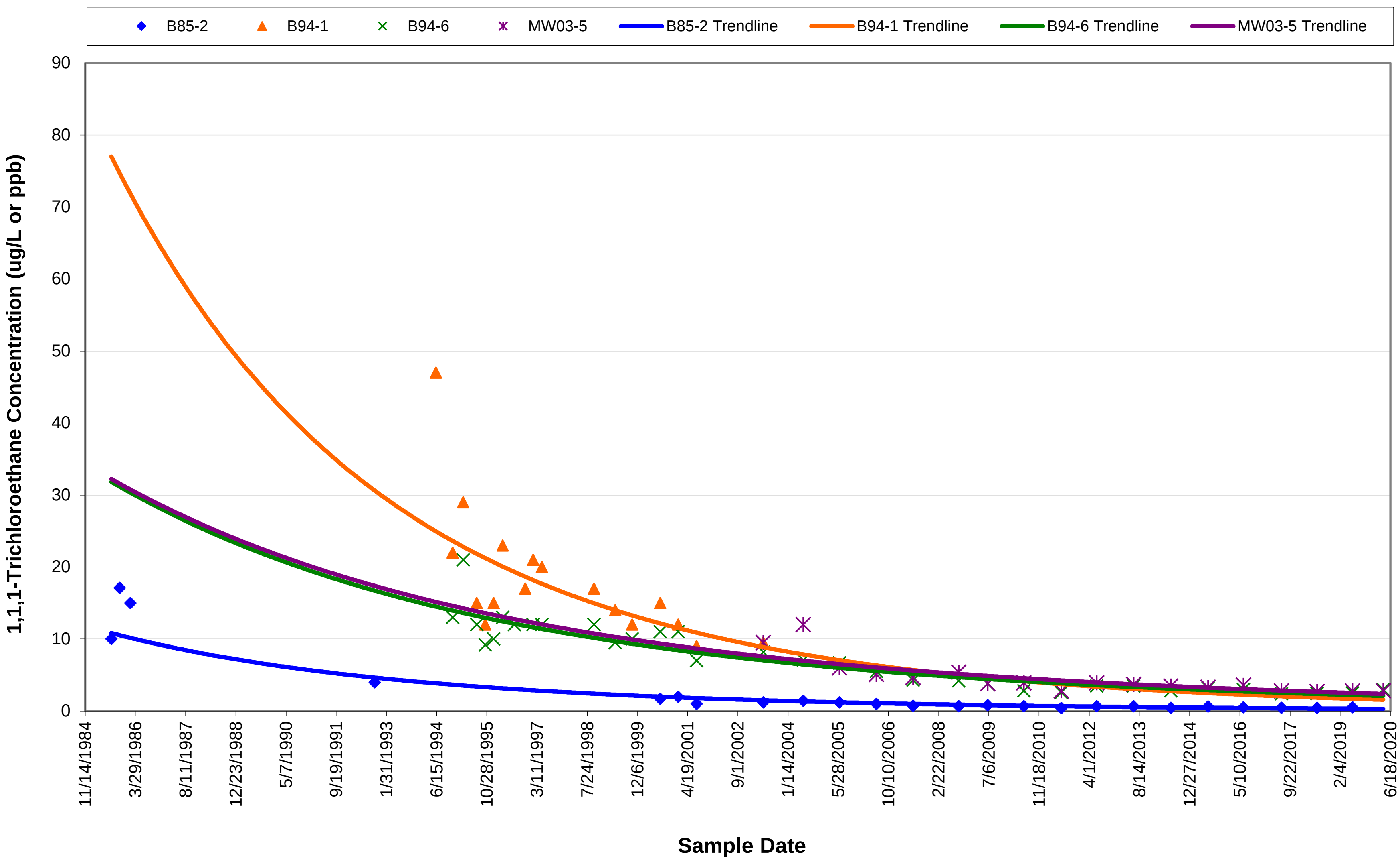
Graph C1.1
Groundwater 1,1,1-TCA Concentration Trends
Monitoring Wells Near the Former VOC-Impacted Soil Area

2020 Annual Groundwater Monitoring Event
Former TRW Aeronautical Systems Facility
Utica, New York



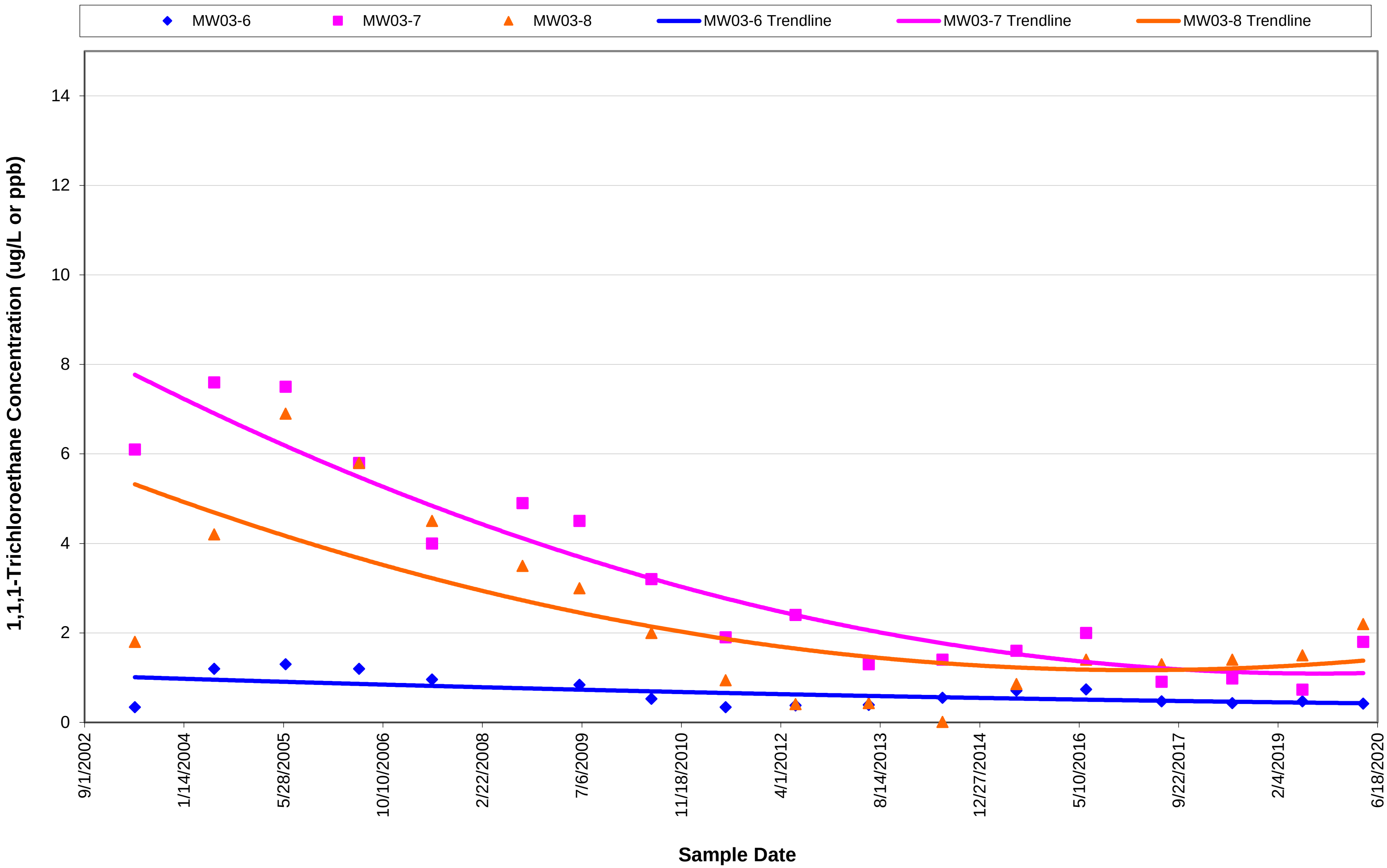
Graph C1.2
Groundwater 1,1,1-TCA Concentration Trends
Monitoring Wells Along the
Northern Property Boundary

2020 Annual Groundwater Monitoring Event
Former TRW Aeronautical Systems Facility
Utica, New York



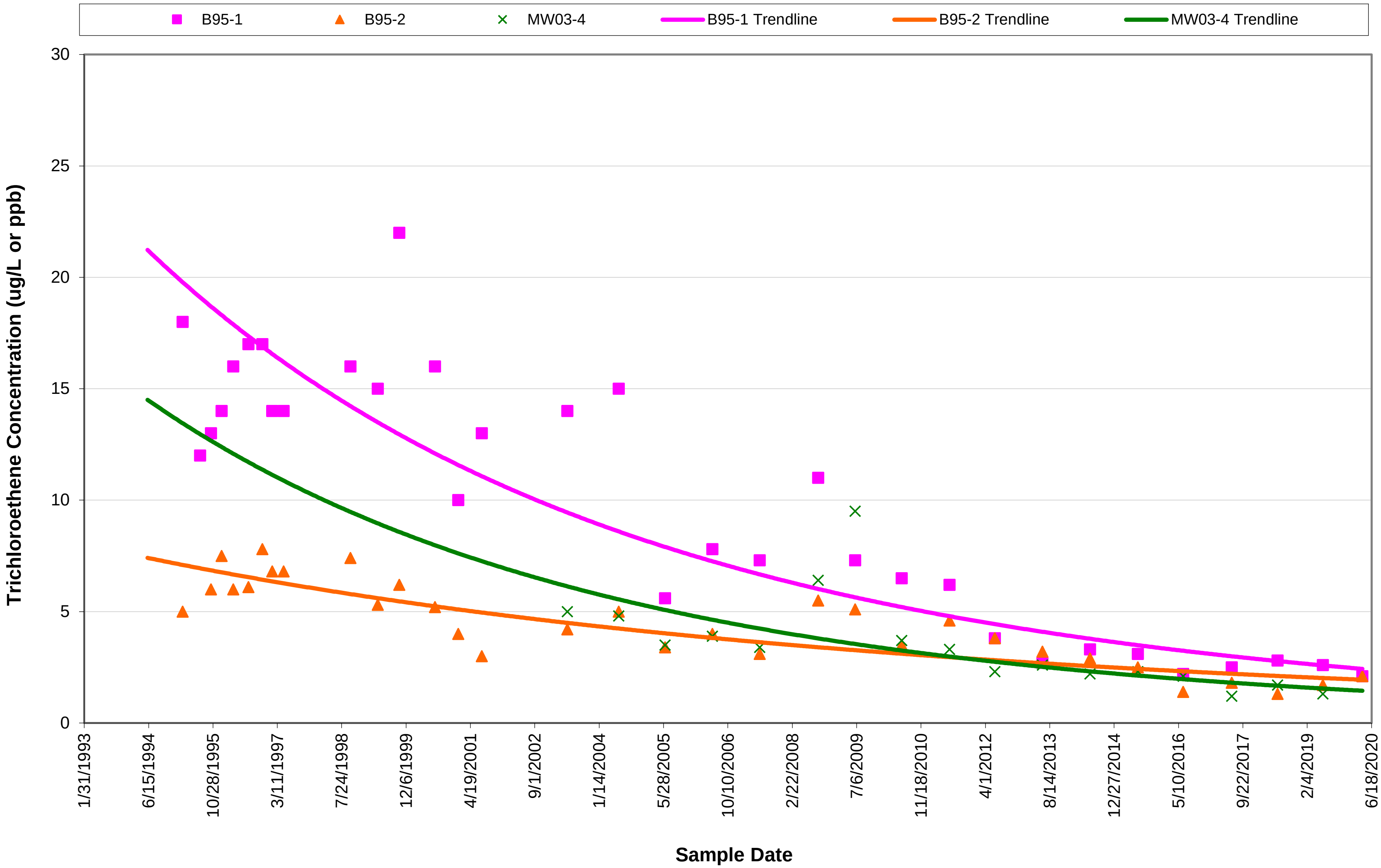
Graph C1.3
Groundwater 1,1,1-TCA Concentration Trends
in Offsite Monitoring Wells

2020 Annual Groundwater Monitoring Event
Former TRW Aeronautical Systems Facility
Utica, New York



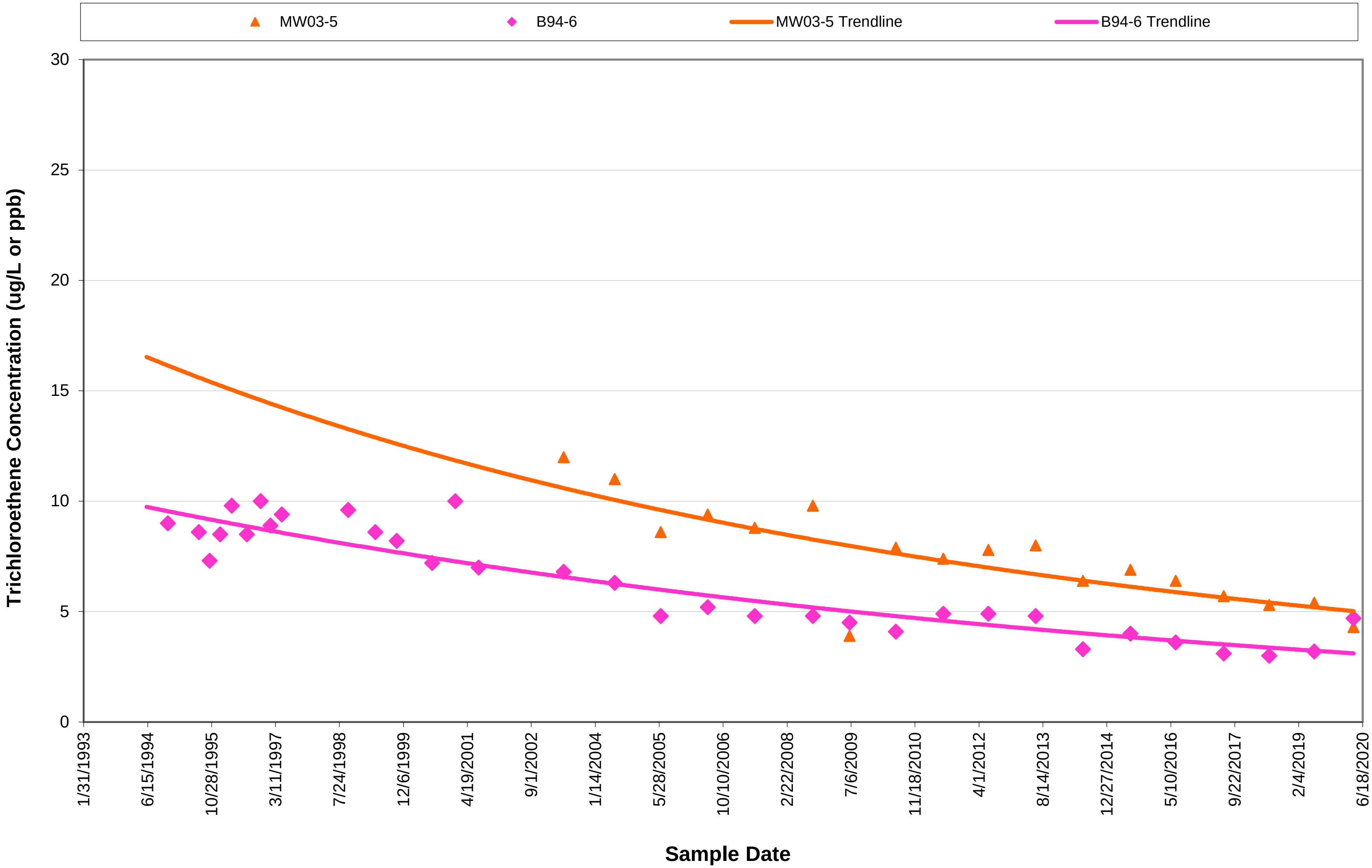
Graph C2.1
Groundwater TCE Concentration Trends
Monitoring Wells Near the Former VOC-Impacted Soil Area

2020 Annual Groundwater Monitoring Event
Former TRW Aeronautical Systems Facility
Utica, New York



Graph C2.2
Groundwater TCE Concentration Trends
Monitoring Wells Along the Northern Property Boundary

2020 Annual Groundwater Monitoring Event
Former TRW Aeronautical Systems Facility
Utica, New York



Graph C2.3
Groundwater TCE Concentration Trends
Offsite Monitoring Wells

2020 Annual Groundwater Monitoring Event
Former TRW Aeronautical Systems Facility
Utica, New York

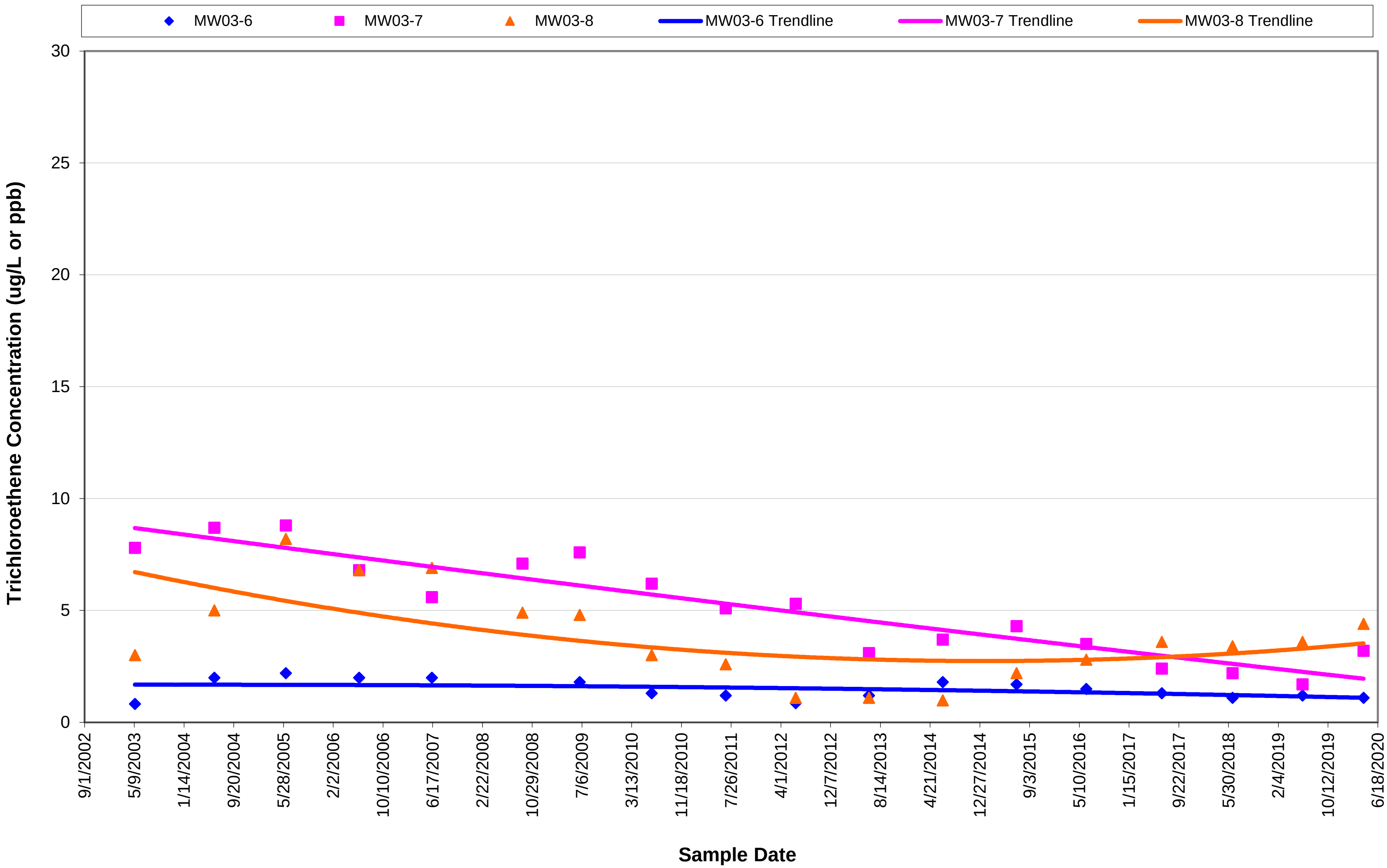


Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m^3)	1,1-Dichloroethane (µg/m^3)	1,1-Dichloroethene (µg/m^3)	1,2-Dichloroethane (µg/m^3)	1,2-Dichloroethene (total) (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	Total VOCs (µg/m^3)
SG-2	1/26/2005	2,184 (819)	57 (21)	<25 (8)	NA	282 (167)	282 (167)	NA	<25 (<7.9)	4,242 (1,987)	<16 (<5.1)	7,047 (3,169)
SG-2R	11/9/2010	2,300	<16	<16	<16	17	17	1,000	<16	3,200	<10	6,534
	2/15/2011	720	<8.1	<7.9	<8.1	<7.9	<7.9	300	<7.9	920	<5.1	1,940
	5/27/2011	250	<3.2	<3.2	<3.2	4.8	4.8	200	<3.2	630	<2.0	1,090
	8/23/2011	940	11	<7.9	<8.1	15	15	980	<7.9	1,600	<5.1	3,561
	11/21/2011	4.2	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	5.3	<0.51	9.5
	2/23/2012	8.8	<0.81	<0.79	<0.81	<0.79	<0.79	7.4	<0.79	16	<0.51	32.2
	5/4/2012	20	<0.81	<0.79	<0.81	1.1	1.1	11	<0.79	41	<0.51	74.2
	8/23/2012	46	1	<0.79	<0.81	1.8	1.8	27	<0.79	76	<0.51	154
	11/15/2012	4.1	<0.81	<0.79	<0.81	0.89	0.89	3.1	<0.79	15	<0.51	24.0
	2/27/2013	36	1.1	<0.79	<0.81	2.2	2.2	16	<0.79	57	<0.51	115
	5/16/2013	4.4	<0.81	<0.79	<0.81	4.3	4.3	1.9	<0.79	4.8	<0.51	19.7
	8/22/2013	32	<0.81	<0.79	3.8	1.3	1.3	19	<0.79	58	<0.51	115
	11/25/2013	1.3	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.3	<0.51	2.6
	3/27/2014	39	<0.81	<0.79	<0.81	1.1	1.1	16	<0.79	50	<0.51	107
	6/20/2014	5.2	<0.81	<0.79	<0.81	<0.79	<0.79	2	<0.79	5	<0.51	12.2
	8/21/2014	69	<0.81	<0.79	<0.81	1.9	1.9	41	<0.79	130	<0.51	244
	12/1/2014	570	<4.0	<4.0	<4.0	5.6	5.7	180	<4.0	580	<2.6	1,341
	3/23/2015	20	<0.81	<0.79	<0.81	<0.79	<0.79	12	<0.79	30	<0.51	62.0
	5/20/2015	520	<2.5	<2.4	<2.5	5.2	5.3	210	<2.4	560	<1.5	1,301
	8/25/2015	600	<4.9	<4.8	<4.9	<9.6	4.6	420	<4.8	920	<3.1	1,945
	11/27/2015	560	<3.2	<3.2	<3.2	<6.3	4.8	190	<3.2	500	<2.0	1,255
	3/3/2016	140	1.1	<0.86	<0.88	<1.7	1.7	100	<0.86	200	<0.56	443
	5/25/2016	270	2.2	<2.0	<2.0	<4.0	2.9	190	<2.0	360	<1.3	825
	8/22/2016	820	5.7	<5.7	<5.8	<11	10	450	<5.7	1,000	<3.7	2,286
	11/30/2016	700	3.9	<3.5	<3.6	8.3	8.2	200	<3.5	550	<2.3	1,470
	3/23/2017	220	<2.1	2.7	<2.1	<4.0	3.5	4.8	<2.0	110	<1.3	341
	5/31/2017	530	<4.0	<4.0	<4.0	<7.9	7.2	260	<4.0	600	<2.6	1,397
	8/23/2017	470	<8.1	<7.9	<8.1	<16	<7.9	130	<7.9	480	<5.1	1,080
	11/28/2017	670	<4.0	<0.69	<4.0	11	11	270	<4.0	720	<0.45	1,682
	2/5/2018	530	<2.4	0.54	<2.4	5.6	5.7	210	<2.4	530	<0.27	1,282
	5/24/2018	390	<2.4	<0.42	<2.4	<4.8	4.2	140	<2.4	370	<0.27	904
	8/16/2018	960	4.9	0.99	<5.0	15	15	370	<4.9	1,000	<1.2	2,366
	11/8/2018	910	<8.1	<1.4	<8.1	<16	8.4	270	<7.9	810	<2.0	1,998
	2/20/2019	360	0.85 J	<0.28	<1.6	2.7 J	2.7	130	<1.6	390	<0.40	886
	5/22/2019	280	1.9 J	<0.41	<2.4	4.4 J	4.4	160	<2.4	340	<0.60	791

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m^3)	1,1-Dichloroethane (µg/m^3)	1,1-Dichloroethene (µg/m^3)	1,2-Dichloroethane (µg/m^3)	1,2-Dichloroethene (total) (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	Total VOCs (µg/m^3)
SG-2R con't	9/25/2019	650	<3.2	<0.56	<3.2	8.7	8.6	160	<3.2	650	<0.80	1,477
	12/4/2019	600	1.9 J	<0.70	<4.0	4.8 J	4.6	90	<4.0	460	<1.0	1,161
	3/3/2020	160	1.1	0.37	<0.81	2.4	2.4	1.5	<0.79	36	<0.20	204
	4/14/2020	470	2.0 J	<0.42	<2.5	5.9	5.7	160	<2.4	470	<0.61	1,114
	8/12/2020	230	<2.4	<0.42	<2.4	1.4 J	1.4	180	<2.4	360	<0.60	773
	11/4/2020	390	2.1	0.57	<1.6	2.6 J	2.6	84	<1.6	250	<0.40	729
SG-6	10/13/2006	1,400	<8.1	<7.9	NA	<7.9	<7.9	NA	<7.9	1,700	<5.1	3,100
	9/25/2007	550	<6.5	<6.3	<6.5	<6.3	<6.3	410	<6.3	1,000	<4.1	1,960
	11/1/2007	420	<4.0	<4.0	<4.0	<4.0	<4.0	310	<4.0	810	<2.6	1,540
	12/13/2007	98	<1.2	<1.2	<1.2	<1.2	<1.2	120	<1.2	270	<0.77	488
	2/29/2008	9.8	<0.65	<0.63	<0.65	<0.63	<0.63	27	<0.63	41	<0.41	77.8
	4/24/2008	87	<4.0	<4.0	<4.0	<4.0	<4.0	75	<4.0	180	<2.6	342
	6/19/2008	46	<2.4	<2.4	<2.4	<2.4	<2.4	8.8	<2.4	81	<1.5	136
	9/24/2008	290	<3.2	<3.2	<3.2	<3.2	<3.2	280	<3.2	540	<2.0	1,110
	5/19/2009	110	<1.6	<1.6	<1.6	13	13	160	<1.6	310	1.2	607
	8/26/2009	300	<3.2	<3.2	<3.2	<3.2	<3.2	310	<3.2	590	<2.0	1,200
	11/23/2009	140	<2.0	<2.0	<2.0	<2.0	<2.0	240	<2.0	360	<1.3	740
	2/18/2010	71	<1.0	<0.99	<1.0	<0.99	<0.99	150	<0.99	220	<0.64	441
	5/28/2010	3.5	<0.81	<0.79	<0.81	<0.79	<0.79	5.9	<0.79	9.1	<0.51	18.5
	8/23/2010	360	<4.9	<4.8	<4.9	<4.8	<4.8	440	<4.8	780	<3.1	1,580
	11/9/2010	150	<1.6	<1.6	<1.6	<1.6	<1.6	160	<1.6	340	<1.0	650
	2/18/2011	44	<0.81	<0.79	<0.81	<0.79	<0.79	46	<0.79	110	<0.51	200
	5/24/2011	49	<0.81	<0.79	<0.81	<0.79	<0.79	55	<0.79	100	<0.51	204
	8/24/2011	160	<1.6	<1.6	<1.6	14	14	130	<1.6	250	<1.0	568
	11/21/2011	7.8	<0.81	<0.79	<0.81	<0.79	<0.79	6.8	<0.79	23	<0.51	37.6
	2/24/2012	15 (15)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	9.9 (10)	<0.79 (<0.79)	39 (37)	<0.51 (<0.51)	63.9 (62.0)
	5/3/2012	4.7	<0.81	<0.79	<0.81	<0.79	<0.79	1.9	<0.79	8.4	<0.51	15.0
	8/21/2012	28 (52)	<0.81(<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	25 (43)	<0.79 (<0.79)	73 (120)	<0.51 (<0.51)	126 (215)
	11/15/2012	8.8	<0.81	<0.79	<0.81	<0.79	<0.79	1.9	<0.79	16	<0.51	26.7
	2/26/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	0

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
SG-6 con't	5/15/2013	44	<0.81	<0.79	<0.81	5.1	5.1	9.2	<0.79	59	<0.51	122
	8/21/2013	2.7	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	13	<0.51	15.7
	11/25/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	0.0
	3/26/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	0.0
	6/19/2014	4.9	<0.81	<0.79	<0.81	<0.79	<0.79	10	<0.79	20	<0.51	34.9
	8/21/2014	37	<0.81	<0.79	<0.81	<0.79	<0.79	23	<0.79	80	<0.51	140
	12/1/2014	8.3	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	9.2	<0.51	17.5
	3/24/2015	4.2	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.1	<0.51	5.3
	5/19/2015	55	<0.81	<0.79	<0.81	<0.79	<0.79	98	<0.79	130	<0.51	283
	8/25/2015	240 (250)	<2.4 (<2.4)	<2.4 (<2.4)	<2.4 (<2.4)	<4.7 (<4.7)	<2.4 (<2.4)	220 (200)	<2.4 (<2.4)	440 (440)	<1.5 (<1.5)	900 (890)
	11/25/2015	19	<0.81	<0.79	<0.81	<1.6	<0.79	4.9	<0.79	26	<0.51	49.9
	3/3/2016	37	<0.81	<0.79	<0.81	<1.6	<0.79	39	<0.79	99	<0.51	175
	5/24/2016	68	<0.81	<0.79	<0.81	<1.6	<0.79	70	<0.79	140	<0.51	278
	8/22/2016	150	<1.2	<1.2	<1.2	<2.4	<1.2	66	<1.2	250	<0.77	466
	11/30/2016	2.7	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	1.7	<0.51	4.4
	3/23/2017	5.7	<0.81	<0.79	<0.81	<1.6	<0.79	1.5	<0.79	10	<0.51	17.2
	5/30/2017	73	<0.81	<0.79	<0.81	<1.6	<0.79	85	<0.79	170	<0.51	328
	8/23/2017	120	<2.4	<2.4	<2.4	<4.8	<2.4	89	<2.4	210	<1.5	419
	11/28/2017	73	<0.81	<0.14	<0.81	<1.6	1.4	120	<0.79	180	<0.089	374
	2/6/2018	31	<0.81	<0.14	<0.81	<1.6	<0.14	33	<0.79	68	<0.089	132
	5/24/2018	28	<0.81	<0.14	<0.81	<1.6	<0.14	12	<0.79	48	<0.089	88.0
	8/16/2018	130	<0.81	0.36	<0.81	<1.6	<0.20	53	<0.79	190	<0.20	373
	11/8/2018	<1.1	<0.81	0.21 J	<0.81	<1.6	<0.20	<1.4	<0.79	1.1	<0.20	1.3
	2/20/2019	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	<0.19	<0.20	0.0
	5/23/2019	20	<0.81	<0.14	<0.81	<1.6	<0.20	11	<0.79	46	<0.20	77.0
	9/24/2019	120	<1.6	<0.28	<1.6	<3.2	<0.40	43	<1.6	360	<0.40	523
	12/3/2019	61	0.25 J	<0.14	<0.81	<1.6	<0.20	20	<0.79	150	<0.20	231
	3/2/2020	18	<0.81	<0.14	<0.81	<1.6	<0.20	7.4	<0.79	53	<0.20	78.4
	4/13/2020	30	<0.81	<0.14	<0.81	<1.6	<0.20	18	<0.79	100	<0.20	148
	8/11/2020	110	<2.4	<0.42	<2.4	<4.8	<0.60	150	<2.4	410	<0.60	670
	11/3/2020	110	0.61 J	<0.28	<1.6	<3.2	<1.6	47	<1.6	250	<0.40	408

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
SG-8	10/13/2006	6,500	<40	<39	NA	<39	<39	NA	<39	3,300	<25	9,800
	9/25/2007	6,000	<26	<25	<26	<25	<25	460	<25	2,500	<16	8,960
	11/1/2007	3,200 (3,400)	<16 (<16)	<16 (<16)	<16 (<16)	<16 (<16)	<16 (<16)	430 (410)	<16 (<16)	1,500 (1,500)	<10 (<10)	5,130 (5,310)
	12/13/2007	1,300 (2,100)	<4.9 (<8.1)	<4.8 (<7.9)	<4.9 (<8.1)	<4.8 (<7.9)	<4.8 (<7.9)	150 (260)	<4.8 (<7.9)	530 (860)	<3.1 (<5.1)	1,980 (3,220)
	2/29/2008	759 (820)	<5.7 (<4.0)	<5.6 (<4.0)	<5.7 (<4.0)	<5.6 (<4.0)	<5.6 (<4.0)	60 (61)	<5.6 (<4.0)	330 (310)	<3.6 (<2.6)	1,149 (1,191)
	4/24/2008	1,300 (1,100)	<4.9 (<4.9)	<4.8 (<4.8)	<4.9 (<4.9)	<4.8 (<4.8)	<4.8 (<4.8)	140 (120)	<4.8 (<4.8)	420 (370)	<3.1 (<3.1)	1,860 (1,590)
	6/19/2008	2,200 (2,800)	<10 (<16)	<9.9 (<16)	<10 (<16)	<9.9 (<16)	<9.9 (<16)	260 (350)	<9.9 (<16)	860 (1,100)	<6.4 (<10)	3,320 (4,250)
	9/24/2008	<0.87 (<0.87)	<0.65 (<0.65)	<0.63 (<0.63)	<0.65 (<0.65)	<0.63 (<0.63)	<0.63 (<0.63)	<1.1 (<1.1)	<0.63 (<0.63)	<0.86 (<0.86)	<0.41 (<0.41)	<1.1 (<1.1)
	5/19/2009	1,200 (1,300)	<6.5 (<6.5)	<6.3 (<6.3)	<6.5 (<6.5)	<6.3 (<6.3)	<6.3 (<6.3)	220 (240)	<6.3 (<6.3)	540 (590)	<4.1 (<4.1)	1,960 (2,130)
	8/26/2009	110 (1,100)	<0.81 (<6.5)	<0.79 (<6.3)	<0.81 (<6.5)	<0.79 (<6.3)	<0.79 (<6.3)	8.8 (130)	<0.79 (<6.3)	37 (420)	<0.51 (<4.1)	156 (1,650)
	11/23/2009	1,500 (1,600)	<10 (<8.1)	<9.9 (<7.9)	<10 (<8.1)	<9.9 (<7.9)	<9.9 (<7.9)	270 (310)	<9.9 (<7.9)	640 (700)	<6.4 (<5.1)	2,410 (2,610)
	2/18/2010	1,000 (1,000)	<4.9 (<6.5)	<4.8 (<6.3)	<4.9 (<6.5)	<4.8 (<6.3)	<4.8 (<6.3)	160 (180)	<4.8 (<6.3)	410 (420)	<3.1 (<4.1)	1,570 (1,600)
	5/28/2010	1,000 (930)	<6.5 (<4.0)	<6.3 (<4.0)	<6.5 (<4.0)	<6.3 (<4.0)	<6.3 (<4.0)	140 (160)	<6.3 (<4.0)	400 (390)	<4.1 (<2.6)	1,540 (1,480)
	8/23/2010	3,400 (3,600)	<23 (<25)	<22 (<24)	<23 (<25)	<22 (<24)	<22 (<24)	600 (650)	<22 (<24)	1,600 (1,700)	<14 (<16)	5,600 (5,950)
	11/9/2010	130 (100)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	82 (64)	<0.79 (<0.79)	120 (92)	<0.51 (<0.51)	332 (256)
	5/24/2011	1,000 (1,100)	<8.1 (<8.1)	<8.1 (<8.1)	<7.9 (<7.9)	<8.1 (<8.1)	<7.9 (<7.9)	240 (230)	<7.9 (<7.9)	470 (510)	<0.51 (<0.51)	1,710 (1,840)
	8/23/2011	2,200 (3,300)	<10 (<16)	<9.8 (<16)	<10 (<16)	<9.8 (<16)	<9.8 (<16)	530 (820)	<9.8 (<16)	1,100 (1,700)	<6.3 (<10)	3,830 (5,820)
	11/21/2011	230 (210)	<1.2 (<1.4)	<1.2 (<1.3)	<1.2 (<1.4)	<1.2 (<1.3)	<1.2 (<1.3)	96 (100)	<1.2 (<1.3)	190 (170)	<0.77 (<0.86)	516 (480)
	2/24/2012	40	<0.81	<0.79	<0.81	<0.79	<0.79	18	<0.79	19	<0.51	77.0
	5/3/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.1
	8/22/2012	180	<0.81	<0.79	<0.81	<0.79	<0.79	190	<0.79	170	<0.51	540
	11/15/2012	120	<0.81	<0.79	<0.81	<0.79	<0.79	71	<0.79	100	<0.51	291
	2/27/2013	20	<0.81	<0.79	<0.81	<0.79	<0.79	7.7	<0.79	13	<0.51	40.7
	5/15/2013	640	<3.2	<3.2	<3.2	3.8	3.8	82	<3.2	170	<2.0	900
	8/21/2013	10 (5.7)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	13 (8.3)	<0.79 (<0.79)	18 (11)	<0.51 (<0.51)	41.0 (25.0)
	11/26/2013	34	<0.81	<0.79	<0.81	<0.79	<0.79	34	<0.79	30	<0.51	98.0
	3/26/2014	17	<0.81	<0.79	<0.81	<0.79	<0.79	11	<0.79	10	<0.51	38.0
	6/19/2014	16	<0.81	<0.79	0.85	<0.79	<0.79	12	<0.79	13	<0.51	41.9
	8/21/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	12/1/2014	1.7	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	1.7
	3/24/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	5/19/2015	310	<1.3	<1.3	<1.3	<1.3	<1.3	76	<1.3	160	<0.82	546
	8/26/2015	610	<4.0	<4.0	<4.0	<7.9	<4.0	310	<4.0	510	<2.6	1,430
	11/25/2015	220	<1.2	<1.2	<1.2	<2.4	<1.2	79	<1.2	100	<0.77	399
	3/3/2016	150	<0.81	<0.79	<0.81	<1.6	<0.79	21	<0.79	45	<0.51	216
	5/24/2016	130 (120)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	27 (25)	<0.79 (<0.79)	50 (48)	<0.51 (<0.51)	207 (193)

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m³)	1,1-Dichloroethane (µg/m³)	1,1-Dichloroethene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,2-Dichloroethene (total) (µg/m³)	cis-1,2-Dichloroethene (µg/m³)	Tetrachloroethene (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	Trichloroethene (µg/m³)	Vinyl Chloride (µg/m³)	Total VOCs (µg/m³)
SG-8 con't	8/22/2016	650	<4.9	<4.8	<4.9	<9.6	<4.8	140	<4.8	310	<3.1	1,100
	12/1/2016	470	<2.4	<2.4	<2.4	<4.8	<2.4	70	<2.4	180	<1.5	720
	3/21/2017	47 (<1.1)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	1.8 (<1.4)	<0.79 (<0.79)	5.8 (<1.1)	<0.51 (<0.51)	54.6 (<1.6)
	5/30/2017	460	<2.0	<2.0	<2.0	<4.0	<2.0	87	<2.0	190	<1.3	737
	8/23/2017	420	<1.6	<1.6	<1.6	<3.2	<1.6	51	<1.6	130	<1.0	601
	11/28/2017	530	<4.0	<0.69	<4.0	<7.9	<0.69	85	<4.0	190	<0.45	805
	2/5/2018	160	<0.81	<0.14	<0.81	<1.6	<0.14	8.4	<0.79	35	<0.089	203
	5/24/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.14	<1.4	<0.79	<0.19	<0.089	<1.4
	8/16/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	5.8	<0.79	0.26	<0.20	6.06
	11/8/2018	690 (650)	<8.1 (<8.1)	<1.4 (<1.4)	<8.1 (<8.1)	<16 (<16)	<2.0 (<2.0)	150 (150)	<7.9 (<7.9)	280 (260)	<2.0 (<2.0)	1,120 (1,060)
	2/21/2019	330	0.50 J	<0.28	<1.6	<3.2	<0.40	56	<1.6	120	<0.40	507
	5/23/2019	17	<0.81	<0.14	<0.81	<1.6	<0.20	0.70 J	<0.79	1.9	<0.2	19.6
	9/25/2019	550	<3.2	<0.56	<3.2	<6.3	<0.80	110	<3.2	240	<0.80	900
	12/4/2019	120	<0.81	<0.14	<0.81	<1.6	<0.20	13	<0.79	32	<0.20	165
	3/2/2020	0.25 J	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	<0.19	<0.20	0.25
	4/13/2020	30	<0.81	<0.14	<0.81	<1.6	<0.20	5.2	<0.79	13	<0.20	48.2
	8/11/2020	240	0.93 J	<0.28	<1.6	<3.2	<0.40	54	<1.6	85	<0.40	380
	11/3/2020	0.97 J	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	0.27	<0.20	1.24
SG-19	2/13/2007	430	0.81	<0.32	<0.32	<0.32	<0.32	140	<0.32	790	<0.20	1,361
	9/25/2007	650	<13	<12	<13	<12	<12	220	<12	2,100	<7.9	2,970
	11/1/2007	710	<12	<12	<12	<12	<12	350	<12	2,800	<7.7	3,860
	12/13/2007	110	<2.4	<2.4	<2.4	<2.4	<2.4	44	<2.4	440	<1.5	594
	2/29/2008	150	<4.9	<4.8	<4.9	<4.8	<4.8	95	<4.8	1,000	<3.1	1,245
	4/24/2008	130	<4.0	<4.0	<4.0	<4.0	<4.0	66	<4.0	590	<2.6	786
	6/19/2008	160	<6.5	<6.3	<6.5	<6.3	<6.3	56	<6.3	860	<4.1	1,076
	9/24/2008	<0.87	<0.65	<0.63	<0.65	<0.63	<0.63	3	<0.63	2.7	<0.41	5.7
	5/19/2009	210	<6.5	<6.3	<6.5	<6.3	<6.3	200	<6.3	1,500	<4.1	1,910
	8/26/2009	190	<6.5	<6.3	<6.5	<6.3	<6.3	160	<6.3	1,200	<4.1	1,550
	11/23/2009	220	<16	<16	<16	<16	<16	330	<16	2,000	<10	2,550
	2/18/2010	35	<1.6	<1.6	<1.6	<1.6	<1.6	81	<1.6	340	<1.0	456
	5/28/2010	140	<4.0	<4.0	<4.0	<4.0	<4.0	150	<4.0	1,100	<2.6	1,390
	8/23/2010	290	<12	<12	<12	<12	<12	230	<12	1,700	<7.9	2,220
	11/9/2010	150	<4.9	<4.8	<4.9	<4.8	<4.8	81	<4.8	800	<3.1	1,031

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
SG-19 con't	2/15/2011	67	<4.0	<4.0	<4.0	<4.0	<4.0	55	<4.0	500	<2.6	622
	5/24/2011	120	<4.0	<4.0	<4.0	<4.0	<4.0	140	<4.0	970	<2.6	1,230
	8/24/2011	420	<16	<16	<16	<16	<16	420	<16	2,400	<10	3,240
	11/18/2011	22	<0.81	<0.79	<0.81	<0.79	<0.79	23	<0.79	180	<0.51	225
	2/24/2012	26	11	22	<0.81	26	26	2.3	<0.79	80	<0.51	193
	5/3/2012	33	<1.2	<1.2	<1.2	<1.2	<1.2	31	<1.2	270	<0.77	334
	8/21/2012	71	<2.9	<2.8	<2.9	<2.8	<2.8	81	<2.8	540	<1.8	692
	11/15/2012	12	<1.4	<1.3	<1.4	<1.3	<1.3	29	<1.3	260	<0.86	301
	2/26/2013	15	<0.81	<0.79	<0.81	<0.79	<0.79	17	<0.79	140	<0.51	172
	5/15/2013	28	<1.2	<1.2	<1.2	1.3	1.3	16	<1.2	130	<0.77	177
	8/21/2013	14	<0.81	<0.79	<0.81	<0.79	<0.79	26	<0.79	150	<0.51	190
	11/25/2013	14 (16)	<0.81 (<0.81)	<0.79 (<0.79)	3.3 J (<0.81 J)	<0.79 (<0.79)	<0.79 (<0.79)	23 (26)	<0.79 (<0.79)	140 (170)	<0.51 (<0.51)	180 (212)
	3/26/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	6/19/2014	15	<0.81	<0.79	<0.81	<0.79	<0.79	21	<0.79	150	<0.51	186
	8/21/2014	49	<2.0	<2.0	<2.0	<2.0	<2.0	57	<2.0	360	<1.3	466
	12/1/2014	79	<4.0	<4.0	<4.0	<4.0	<4.0	88	<4.0	640	<2.6	807
	3/24/2015	44	<1.3	<1.3	<1.3	<1.3	<1.3	25	<1.3	230	<0.82	299
	5/19/2015	82	<2.5	<2.4	<2.5	<2.4	<2.4	83	<2.4	550	<1.5	715
	8/26/2015	210	<8.1	<7.9	<8.1	<16	<7.9	190	<7.9	1,100	<5.1	1,500
	11/25/2015	100	<4.0	<4.0	<4.0	<7.9	<4.0	60	<4.0	480	<2.6	640
	3/4/2016	44	<2.0	<2.0	<2.0	<4.0	<2.0	47	<2.0	280	<1.3	371
	5/24/2016	97	<3.2	<3.2	<3.2	<6.3	<3.2	100	<3.2	560	<2.0	757
	8/23/2016	280	<11	<10	<11	<21	<10	270	<10	1,600	<6.7	2,150
	12/1/2016	97	<3.2	<3.2	<3.2	<6.3	<3.2	130	<3.2	790	<2.0	1,017
	3/23/2017	27	<0.81	<0.79	<0.81	<1.6	<0.79	15	<0.79	140	<0.51	182
	5/30/2017	110	<4.0	<4.0	<4.0	<7.9	<4.0	130	<4.0	700	<2.6	940
	8/24/2017	85	<0.81	<7.9	<8.1	<16	<7.9	74	<7.9	420	<0.51	579
	11/29/2017	130	<4.9	<0.84	<4.9	<9.6	<0.84	140	<4.8	850	<0.54	1,120
	2/6/2018	58	<1.6	<0.28	<1.6	<3.2	<0.28	64	<1.6	330	<0.18	452
	5/24/2018	59	<2.4	<0.42	<2.4	<4.8	<0.42	47	<2.4	320	<0.27	426
	8/17/2018	220 (220)	<6.5 (<6.5)	<1.1 (<1.1)	<6.5 (<6.5)	<13 (<13)	<1.6 (<1.6)	260 (250)	<6.3 (<6.3)	1,300 (1,300)	<1.6 (<1.6)	1,780 (1,770)
	11/9/2018	150	<8.1	<1.4	<8.1	<16	<2.0	96	<7.9	720	<2.0	966
	2/20/2019	50	0.31 J	<0.28	<1.6	<3.2	<0.40	42	<1.6	310	<0.40	402
	5/23/2019	43	<2.4	<0.41	<2.4	<4.7	<0.60	62	<2.4	300	<0.6	405
	9/24/2019	86	<3.2	<0.56	<3.2	<6.3	<0.80	34	<3.2	410	<0.80	530
	12/3/2019	34	<0.40	<0.28	<1.6	<3.2	<0.40	21	<1.6	190	<0.40	245

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m³)	1,1-Dichloroethane (µg/m³)	1,1-Dichloroethene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,2-Dichloroethene (total) (µg/m³)	cis-1,2-Dichloroethene (µg/m³)	Tetrachloroethene (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	Trichloroethene (µg/m³)	Vinyl Chloride (µg/m³)	Total VOCs (µg/m³)
SG-19 con't	3/2/2020	35	<0.81	<0.14	<0.81	<1.6	<0.20	24	<0.79	170	<0.20	229
	4/13/2020	41	<0.81	<0.14	<0.81	<1.6	<0.20	28	<0.79	190	<0.20	259
	8/11/2020	150	<1.6	<0.28	<1.6	<3.2	<0.40	170	<1.6	740 D	<0.40	1,060
	11/3/2020	140	<4.0	<0.70	<4.0	<7.9	<7.9	120	<4.0	760	<1.0	1,020
SG-20	5/2/2007	140	<0.54	<0.52	<0.54	<0.52	<0.52	<0.90	<0.52	18	<0.34	158
	9/25/2007	220 (220)	<1.2 (<1.2)	<1.2 (<1.2)	<1.2 (<1.2)	<1.2 (<1.2)	<1.2 (<1.2)	3.5 (3.1)	<1.2 (<1.2)	34 (33)	<0.77 (<0.77)	258 (256)
SG-22	2/13/2007	160	0.49	<0.32	<0.33	<0.32	<0.32	110	<0.32	150	<0.21	420
	9/25/2007	230	<1.6	<1.6	<1.6	<1.6	<1.6	140	<1.6	330	<1.0	700
SG-26	5/2/2007	1,200	0.56	4.1	<0.53	<0.52	<0.52	20	<0.52	8.6	<0.34	1,233
	11/9/2010	510	<2.4	<2.4	<2.4	<2.4	<2.4	6.1	<2.4	7	<1.5	523
SG-27	5/2/2007	1,400	14	1.9	0.51	<0.53	<0.53	240	<0.53	510	<0.34	2,166
	4/4/2008	600	<5.7	<5.6	<5.7	<5.6	<5.6	88	<5.6	150	<3.6	838
	9/24/2008	3,300	<13	<13	<13	<13	<13	350	<13	640	<8.4	4,290
	5/28/2010	2,100	<8.1	<7.9	<8.1	<7.9	<7.9	230	<7.9	400	<5.1	2,730
	8/23/2010	4,000	<33	<32	<33	<32	<32	570	<32	930	<21	5,500
	11/9/2010	1,600	<11	<10	<11	<10	<10	99	<10	240	<6.7	1,939
	2/15/2011	410	<2.0	<2.0	<2.0	<2.0	<2.0	64	<2.0	90	<1.3	564
	5/24/2011	1,900	<12	<12	<12	<12	<12	290	<12	380	<7.7	2,570
	8/23/2011	3,600	<16	<16	<16	<16	<16	670	<16	1,000	<10	5,270
	11/21/2011	260	<1.6	<1.6	<1.6	<1.6	<1.6	58	<1.6	110	<1.0	428
	2/23/2012	79	<0.81	<0.79	<0.81	<0.79	<0.79	26	<0.79	41	<0.51	146
	5/4/2012	210	<0.81	<0.79	<0.81	<0.79	<0.79	110	<0.79	110	<0.51	430
	8/23/2012	350	<1.3	<1.3	<1.3	<1.3	<1.3	130	<1.3	200	<0.84	680
	11/15/2012	230	<1.4	<1.3	<1.4	<1.3	<1.3	63	<1.3	130	<0.86	423
	2/26/2013	160	<0.81	<0.79	<0.81	<0.79	<0.79	45	<0.79	71	<0.51	276
	5/16/2013	1,400	<8.1	<7.9	<8.1	<7.9	<7.9	230	<7.9	380	<5.1	2,010
	8/22/2013	15 (2)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (3.7)	<0.79 (<0.79)	<0.79 (<0.79)	<1.4 (<1.4)	<0.79 (<0.79)	2.1 (<1.1)	<0.51 (<0.51)	17.1 (5.7)
	11/25/2013	110	<0.81	<0.79	<0.81	<0.79	<0.79	28	<0.79	55	<0.51	193
	3/27/2014	150	<0.81	<0.79	<0.81	<0.79	<0.79	40	<0.79	70	<0.51	260
	6/19/2014	69	<0.81	<0.79	<0.81	<0.79	<0.79	27	<0.79	40	<0.51	136
	8/22/2014	730	<4.0	<4.0	<4.0	<4.0	<4.0	190	<4.0	240	<2.6	1,160
	12/2/2014	930	<4.0	<4.0	<4.0	<4.0	<4.0	240	<4.0	330	<2.6	1,500

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m3)	1,1-Dichloroethane (µg/m3)	1,1-Dichloroethene (µg/m3)	1,2-Dichloroethane (µg/m3)	1,2-Dichloroethene (total) (µg/m3)	cis-1,2-Dichloroethene (µg/m3)	Tetrachloroethene (µg/m3)	trans-1,2-Dichloroethene (µg/m3)	Trichloroethene (µg/m3)	Vinyl Chloride (µg/m3)	Total VOCs (µg/m3)
SG-27 con't	3/24/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	5/20/2015	920	<4.0	<4.0	<4.0	<4.0	<4.0	160	<4.0	170	<2.6	1,250
	8/25/2015	2,800	<17	<17	<17	<33	<17	440	<17	520	<11	3,760
	11/27/2015	2,200	<16	<16	<16	<32	<16	340	<16	400	<10	2,940
	3/3/2016	66	<1.6	<1.6	<1.6	<3.2	<1.6	12	<1.6	13	<1.0	91.0
	5/25/2016	1,500	<9.0	<8.8	<9.0	<18	<8.8	230	<8.8	270	<5.7	2,000
	8/22/2016	2,300	<15	<14	<15	<29	<14	310	<14	520	<9.3	3,130
	11/30/2016	<1.1	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	<1.1	<0.51	<1.6
	3/30/2017	110	<0.81	<0.79	<0.81	<1.6	<0.79	23	<0.79	6.3	<0.51	139
	5/31/2017	<1.1 (<1.1)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	<1.4 (<1.4)	<0.79 (<0.79)	<1.1 (<1.1)	<0.51 (<0.51)	<1.4 (<1.4)
	8/24/2017	<1.1	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	11/29/2017	15	<0.81	<0.14	<0.81	<1.6	<0.14	6.2	<0.79	1.7	<0.089	22.9
	2/5/2018	5	<0.81	<0.14	<0.81	<1.6	<0.14	<1.4	<0.79	0.44	<0.089	5.44
	5/24/2018	4.6	<0.81	<0.14	<0.81	<1.6	<0.14	2.9	<0.79	4.8	<0.089	12.3
	8/16/2018	200	<0.81	<0.14	<0.81	<1.6	<0.20	51	<0.79	12	<0.20	263
	11/8/2018	9.6	<0.81	<0.14	<0.81	<1.6	<0.20	2.4	<0.79	0.56	<0.20	12.6
	2/20/2019	17	<0.81	<0.14	<0.81	<1.6	<0.20	3.8	<0.79	1.7	<0.20	22.5
	5/22/2019	41	<0.98	<0.17	<0.98	<1.9	<0.24	12	<0.96	2.6	<0.24	55.6
	9/25/2019	900	<4.0	<0.70	<4.0	<7.9	<1.0	9.9	<4.0	83	<1.0	993
	12/4/2019	340	<3.2	<0.56	<3.2	<6.3	<0.80	3.3 J	<3.2	14	<0.80	357
	3/3/2020	160	<0.81	<0.14	<0.81	<1.6	<0.20	1.6	<0.79	9.1	<0.20	171
	4/14/2020	590	<2.5	<0.42	<2.5	<4.8	<0.61	33	<2.4	86	<0.61	709
	8/12/2020	1000	<8.1	<1.4	<8.1	<16	<2.0	100	<7.9	160	<2.0	1260
	11/4/2020	1200	<8.1	<1.4	<8.1	<16	<2.0	97	<7.9	210	<2.0	1507
SG-31B	8/8/2007	99	<0.89	<0.87	<0.89	<0.87	<0.87	120	<0.87	230	<0.56	449
	4/4/2008	5.5	<1.6	<1.6	<1.6	<1.6	<1.6	6.2	<1.6	15	<1.0	26.7
	4/24/2008	14	<6.5	<6.3	<6.5	<6.3	<6.3	13	<6.3	35	<4.1	62.0
	6/19/2008	27	<0.81	<0.79	<0.81	<0.79	<0.79	23	<0.79	70	<0.51	120
	9/24/2008	<0.87	<0.65	<0.63	<0.65	<0.63	<0.63	<1.1	<0.63	<0.86	<0.41	<1.1

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
SG-32B	8/8/2007	400 (430)	0.62 (0.63 J)	<0.83 (<0.85)	4.7 (4.8)	<0.83 (<0.85)	<0.83 (<0.85)	160 (160)	<0.83 (<0.85)	1,300 (1,400)	<0.54 (<0.55)	1,865 (1,995)
	4/4/2008	71 (82)	<1.2 (<1.6)	<1.2 (<1.6)	<1.2 (<1.6)	<1.2 (<1.6)	<1.2 (<1.6)	19 (21)	<1.2 (<1.6)	250 (270)	<0.77 (<1.0)	340 (373)
	4/24/2008	98	<2.4	<2.4	<2.4	<2.4	<2.4	28	<2.4	320	<1.5	446
	6/19/2008	180	<4.0	<4.0	<4.0	<4.0	<4.0	52	<4.0	700	<2.6	932
	9/24/2008	350 (350)	<6.5 (<8.1)	<6.3 (<7.9)	<6.5 (<8.1)	<6.3 (<7.9)	<6.3 (<7.9)	110 (100)	<6.3 (<7.9)	1,100 (1,000)	<4.1 (<5.1)	1,560 (1,450)
	5/19/2009	43 (38)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (1.5)	<0.79 (<0.79)	<0.79 (<0.79)	33 (31)	<0.79 (<0.79)	200 (190)	<0.51 (<0.51)	276 (261)
	8/26/2009	9.8 (10)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	24 (20)	<0.79 (<0.79)	52 (46)	<0.51 (<0.51)	85.8 (76.0)
	11/23/2009	1.7 (1.7)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	3.9 (4.0)	<0.79 (<0.79)	8.1 (7.5)	<0.51 (<0.51)	13.7 (13.2)
	2/18/2010	1.8	<0.81	<0.79	<0.81	<0.79	<0.79	3.5	<0.79	5.9	<0.51	11.2
	5/28/2010	26 (25)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	8.8 (8.8)	<0.79 (<0.79)	32 (30)	<0.51 (<0.51)	66.8 (63.8)
	8/24/2010	130 (75)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	38 (22)	<0.79 (<0.79)	160 (95)	<0.51 (<0.51)	328 (192)
	11/9/2010	21 (27)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	3.8 (5.0)	<0.79 (<0.79)	28 (37)	<0.51 (<0.51)	52.8 (69.0)
	2/15/2011	9.4 (9.5)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	2.6 (2.7)	<0.79 (<0.79)	23 (24)	<0.51 (<0.51)	35.0 (36.2)
	5/24/2011	31 (27)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	15 (19)	<0.79 (<0.79)	72 (66)	<0.51 (<0.51)	118 (112)
	8/24/2011	130 (77)	<1.0 (<1.0)	<0.99 (<0.99)	<1.0 (<1.0)	2.1 (<0.99)	2.1 (<0.99)	180 (24)	<0.99 (<0.99)	200 (120)	<0.64 (<0.64)	514 (221)
	11/21/2011	<11 (<22)	<8.1 (<16)	<7.9 (<16)	<8.1 (<16)	<7.9 (<16)	<7.9 (<16)	<14 (<27)	<7.9 (<16)	25 (29)	<5.1 (<10)	25 (29)
	2/24/2012	2.2	<0.81	<0.79	<0.81	<0.79	<0.79	1.4	<0.79	15	<0.51	18.6
	5/3/2012	4.0 (4.5)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	2.4 (3.3)	<0.79 (<0.79)	13 (18)	<0.51 (<0.51)	19.4 (25.8)
	8/21/2012	7.6	<0.81	<0.79	<0.81	<0.79	<0.79	6.4	<0.79	26	<0.51	40.0
	11/15/2012	6.3	<0.81	<0.79	<0.81	<0.79	<0.79	5	<0.79	14.2	<0.51	25.5
	2/26/2013	1.1	<0.81	<0.79	<0.81	<0.79	<0.79	1.6	<0.79	7.6	<0.51	10.3
	5/15/2013	38 (37)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	3.4 (1.2)	3.4 (1.2)	17 (16)	<0.79 (<0.79)	94 (95)	<0.51 (<0.51)	156 (150)
	8/21/2013	13	<0.81	<0.79	<0.81	<0.79	<0.79	12	<0.79	47	<0.51	72.0
	11/26/2013	7.1	<0.81	<0.79	<0.81	<0.79	<0.79	3.6	<0.79	21	<0.51	31.7
	3/26/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	3.9	<0.51	3.9
	6/19/2014	2.1	<0.81	<0.79	<0.81	<0.79	<0.79	2.3	<0.79	11	0.65	16.1
	8/21/2014	110 (120)	<0.81 (<2.0)	<0.79 (<2.0)	<0.81 (<2.0)	<0.79 (<2.0)	<0.79 (<2.0)	48 (52)	<0.79 (<2.0)	210 J (370 J)	<0.51 (<1.3)	455 (542)
	12/1/2014	24 (24)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	9.7 (9.4)	<0.79 (<0.79)	59 (58)	<0.51 (<0.51)	92.1 (91.4)
	3/24/2015	4.3	<0.81	<0.79	<0.81	<0.79	<0.79	4.7	<0.79	26	<0.51	35.0
	5/19/2015	28	<0.81	<0.79	<0.81	<0.79	<0.79	17	<0.79	91	<0.51	136
	8/26/2015	96	<2.6	<2.5	<2.6	<5.0	<2.5	49	<2.5	200	<1.6	345
	11/25/2015	48	<0.81	<0.79	<0.81	<1.6	<0.79	15	<0.79	82	<0.51	145
	3/4/2016	12	<3.2	<3.2	<3.2	<6.3	<3.2	7.4	<3.2	42	<2.0	61.4
	5/24/2016	33	<0.81	<0.79	<0.81	<1.6	<0.79	19	<0.79	100	<0.51	152
	8/23/2016	110 (110)	<1.2 (<1.6)	<1.2 (<1.6)	<1.2 (<1.6)	<2.4 (<3.2)	<1.2 (<1.6)	52 (52)	<1.2 (<1.6)	270 (270)	<0.77 (<1.0)	432 (432)
	12/1/2016	36	<0.81	<0.79	<0.81	<1.6	<0.79	14	<0.79	79	<0.51	129

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m³)	1,1-Dichloroethane (µg/m³)	1,1-Dichloroethene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,2-Dichloroethene (total) (µg/m³)	cis-1,2-Dichloroethene (µg/m³)	Tetrachloroethene (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	Trichloroethene (µg/m³)	Vinyl Chloride (µg/m³)	Total VOCs (µg/m³)
SG-32B con't	3/23/2017	6.3	<0.81	<0.79	<0.81	<1.6	<0.79	5.1	<0.79	26	<0.51	37.4
	5/30/2017	35.0	<0.81	<0.79	<0.81	<1.6	<0.79	21	<0.79	99	<0.51	155
	8/24/2017	46	<0.81	<0.79	<0.81	<1.6	<0.79	17	<0.79	92	<0.51	155
	11/29/2017	27 (26)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.14 (<0.14)	12 (11)	<0.79 (<0.79)	68 (65)	<0.089 (<0.089)	107 (102)
	2/6/2018	<1.1	<0.81	<0.14	<0.81	<1.6	0.57	6	<0.79	6.7	<0.089	13.3
	5/25/2018	22 (25)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.14 (<0.14)	18 (20)	<0.79 (<0.79)	69 (70)	<0.089 (<0.089)	109 (115)
	8/17/2018	70	<0.81	<0.14	<0.81	<1.6	<0.20	39	<0.79	170	<0.20	279
	11/9/2018	46	<0.81	<0.14	<0.81	<1.6	<0.20	19	<0.79	85	<0.20	150
	2/21/2019	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	0.45 J	<0.79	0.46	<0.20	0.9
	5/23/2019	9.6	<0.81	<0.14	<0.81	<1.6	<0.20	7.9	<0.79	33	<0.20	50.5
	9/24/2019	94	<1.6	<0.28	<1.6	<3.2	<0.40	19	<1.6	210	<0.40	323
	12/3/2019	29	<0.81	<0.14	<0.81	<1.6	<0.20	9.7	<0.79	48	<0.20	87
	3/2/2020	31	<0.81	<0.14	<0.81	<1.6	<0.20	9.1	<0.79	89	<0.20	129
	4/13/2020	23	<0.81	<0.14	<0.81	<1.6	<0.20	5.0	<0.79	32	<0.20	60
	8/11/2020	56	<0.81	<0.14	<0.81	<1.6	<0.20	39	<0.79	130	<0.20	225
	11/3/2020	70	<0.81	<0.14	<0.81	<1.6	<0.20	10	<0.79	73	<0.20	153
SG-33B	8/8/2007	190	<0.82	<0.80	<0.82	<0.80	<0.80	86	<0.80	450	<0.52	726
	4/4/2008	60	<1.6	<1.6	<1.6	<1.6	<1.6	9.5	<1.6	91	<1.0	161
	4/24/2008	40	<0.81	<0.79	<0.81	<0.79	<0.79	13	<0.79	75	<0.51	128
	6/19/2008	87	<2.4	<2.4	<2.4	<2.4	<2.4	24	<2.4	200	<1.5	311
	9/24/2008	150	<2.4	<2.4	<2.4	<2.4	<2.4	37	<2.4	270	<1.5	457
	5/19/2009	14	<0.81	<0.79	<0.81	<0.79	<0.79	5.2	<0.79	20	<0.51	39.2
	8/26/2009	27	<0.81	<0.79	<0.81	<0.79	<0.79	13	<0.79	45	<0.51	85.0
	11/23/2009	18	<0.81	<0.79	<0.81	<0.79	<0.79	5.8	<0.79	24	<0.51	47.8
	2/18/2010	9.3	<0.81	<0.79	<0.81	<0.79	<0.79	2.5	<0.79	11	<0.51	22.8
	5/28/2010	3.8	<0.81	<0.79	<0.81	<0.79	<0.79	3.2	<0.79	14	<0.51	21.0
	8/23/2010	52	<0.81	<0.79	<0.81	<0.79	<0.79	12	<0.79	57	<0.51	121
	11/9/2010	13	<0.81	<0.79	<0.81	<0.79	<0.79	2.6	<0.79	19	<0.51	34.6
	5/24/2011	13	<0.81	<0.79	<0.81	<0.79	<0.79	4.8	<0.79	20	<0.51	37.8
	8/24/2011	26	<0.81	<0.79	<0.81	<0.79	<0.79	15	<0.79	42	<0.51	83.0
	11/21/2011	1.2	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	2.9	<0.51	4.1

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
SG-33B con't	2/24/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	2.2	<0.79	7.4	<0.51	9.6
	5/4/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	3.5	<0.51	3.5
	8/21/2012	1.9	<0.81	<0.79	<0.81	<0.79	<0.79	2	<0.79	5.6	<0.51	9.5
	11/16/2012	3.6	<0.81	<0.79	<0.81	<0.79	<0.79	2.2	<0.79	5.8	<0.51	11.6
	2/26/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	2.6	<0.51	2.6
	5/15/2013	42	<0.81	<0.79	<0.81	2.1	2.1	4.8	<0.79	13	<0.51	64.0
	8/21/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	11/25/2013	1.4	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.5	<0.51	2.9
	4/1/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	4	<0.79	<1.1	<0.51	4.0
	6/19/2014	1.5	<0.81	<0.79	<0.81	<0.79	<0.79	1.5	<0.79	3.4	0.5	6.9
	8/21/2014	16	<0.81	<0.79	<0.81	<0.79	<0.79	3.9	<0.79	12	<0.51	31.9
	12/1/2014	8.7	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	5	<0.51	13.7
	3/24/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.1	<0.51	1.1
	5/19/2015	9.3 (8.4)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	3.9 (3.4)	<0.79 (<0.79)	14 (13)	<0.51 (<0.51)	26.0 (24.8)
	8/26/2015	23	<0.81	<0.79	<0.81	<1.6	<0.79	7.9	<0.79	21	<0.51	51.9
	11/25/2015	11	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	5.2	<0.51	16.2
	3/3/2016	<1.1 (<1.1)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	<1.4 (<1.4)	<0.79 (<0.79)	<1.1 (<1.1)	<0.51 (<0.51)	<1.6 (<1.6)
	5/24/2016	3.3	<0.81	<0.79	<0.81	<1.6	<0.79	2.1	<0.79	7.4	<0.51	12.8
	8/23/2016	22	<0.81	<0.79	<0.81	<1.6	<0.79	7.4	<0.79	22	<0.51	51.4
	12/1/2016	15 (13)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	2.8 (2.2)	<0.79 (<0.79)	9.1 (7.9)	<0.51 (<0.51)	26.9 (23.1)
	3/23/2017	<1.1	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	<1.1	<0.51	<1.6
	5/30/2017	7.1	<0.81	<0.79	<0.81	<1.6	<0.79	2.1	<0.79	7.6	<0.51	16.8
	8/24/2017	8.6	<0.81	<0.79	<0.81	<1.6	<0.79	4.3	<0.79	14	<0.51	26.9
	11/29/2017	<1.1	<0.81	<0.14	<0.81	<1.6	<0.14	<1.4	<0.79	<0.19	<0.089	<1.6
	2/6/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.14	4.5	<0.79	6	<0.089	10.5
	5/24/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.14	18	<0.79	0.46	<0.089	18.5
	8/16/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	0.21	<0.20	0.2
	11/8/2018	<1.1	<0.81	0.25 J	<0.81	<1.6	<0.20	<1.4	<0.79	0.47	<0.20	0.7
	2/21/2019	77	0.15 J	<0.14	<0.81	<1.6	<0.20	13	<0.79	82	<0.20	172
	5/23/2019	<1.1	<0.81	<0.14	<0.81	1.7	1.7	0.28 J	<0.79	0.82	<0.20	4.5
	9/24/2019	3.8	<0.81	<0.14	<0.81	<1.6	<0.20	0.26	<0.79	3.3	<0.20	7.4
	12/3/2019	0.45 J	<0.81	<0.14	<0.81	<1.6	<0.20	0.29 J	<0.79	<0.19	<0.20	0.74

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m³)	1,1-Dichloroethane (µg/m³)	1,1-Dichloroethene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,2-Dichloroethene (total) (µg/m³)	cis-1,2-Dichloroethene (µg/m³)	Tetrachloroethene (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	Trichloroethene (µg/m³)	Vinyl Chloride (µg/m³)	Total VOCs (µg/m³)
SG-33B con't	3/3/2020	0.64 J	<0.81	1.2	<0.81	<1.6	<0.20	<1.4	<0.79	2.3	<0.20	4.14
	4/13/2020	0.48 J	6.8	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	<0.19	<0.20	7.28
	8/11/2020	6.8	<0.81	<0.14	<0.81	<1.6	<0.20	2.2	<0.79	8.5	<0.20	17.50
	11/3/2020	2.3	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	0.79	<0.20	3.09
SG-38	8/9/2007	380	<0.88	<0.86	<0.88	<0.86	<0.86	47	<0.86	520	<0.56	947
	4/4/2008	71	<0.81	<0.79	<0.81	<0.79	<0.79	7.5	<0.79	86	<0.51	165
	4/24/2008	100	<4.0	<4.0	<4.0	<4.0	<4.0	9.5	<4.0	110	<2.6	220
	6/19/2008	140	<4.0	<4.0	<4.0	<4.0	<4.0	17	<4.0	210	<2.6	367
	9/24/2008	310	<4.0	<4.0	<4.0	<4.0	<4.0	35	<4.0	390	<2.6	735
	5/19/2009	100	<0.81	<0.79	<0.81	<0.79	<0.79	16	<0.79	160	<0.51	276
	8/26/2009	150	<0.81	<0.79	<0.81	<0.79	<0.79	16	<0.79	210	<0.51	376
	11/23/2009	240	<2.0	<2.0	<2.0	<2.0	<2.0	29	<2.0	310	<1.3	579
	2/18/2010	35	<0.81	<0.79	<0.81	<0.79	<0.79	7.5	<0.79	51	<0.51	93.5
	5/28/2010	100	<0.81	<0.79	<0.81	<0.79	<0.79	15	<0.79	160	<0.51	275
	8/24/2010	240	<3.1	<3.0	<3.1	<3.0	<3.0	43	<3.0	410	<1.9	693
	11/9/2010	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	2/15/2011	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	3.4	<0.51	3.4
	5/24/2011	75	<1.6	<1.6	<1.6	<1.6	<1.6	13	<1.6	130	<1.0	218
	8/24/2011	300	<3.2	<3.2	<3.2	<3.2	<3.2	49	<3.2	440	<2.0	789
	11/18/2011	15	<0.81	<0.79	<0.81	<0.79	<0.79	5.3	0.79	34	<0.51	55.1
	2/24/2012	59	<0.81	<0.79	<0.81	1.1	1.1	24	<0.79	130	<0.51	215
	5/3/2012	22	<0.81	<0.79	<0.81	<0.79	<0.79	6.6	<0.79	51	<0.51	79.6
	8/22/2012	12	<0.81	<0.79	<0.81	<0.79	<0.79	8.8	<0.79	56	<0.51	76.8
	11/16/2012	3.7	<0.81	<0.79	<0.81	<0.79	<0.79	5.7	<0.79	12	<0.51	21.4
	2/27/2013	1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	3.8	<0.51	4.9
	5/16/2013	18	<0.81	<0.79	<0.81	0.87	0.87	2.4	<0.79	22	<0.51	44.1
	8/21/2013	12	<0.81	<0.79	<0.81	<0.79	<0.79	4.9	<0.79	48	<0.51	64.9
	11/26/2013	49 J (5.5 J)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	<1.4 J (7.7 J)	<0.79 (<0.79)	1.9 J (70 J)	<0.51 (<0.51)	50.9 (83.2)
	3/26/2014	5.5	<0.81	<0.79	<0.81	<0.79	<0.79	1.8	<0.79	12	<0.51	19.3
	6/19/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	8/22/2014	230	<2.0	<2.0	<2.0	<2.0	<2.0	50	<2.0	360	<1.3	640
	12/1/2014	110	<0.81	<0.79	<0.81	<0.79	<0.79	17	<0.79	140	<0.51	267

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m³)	1,1-Dichloroethane (µg/m³)	1,1-Dichloroethene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,2-Dichloroethene (total) (µg/m³)	cis-1,2-Dichloroethene (µg/m³)	Tetrachloroethene (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	Trichloroethene (µg/m³)	Vinyl Chloride (µg/m³)	Total VOCs (µg/m³)
SG-38 con't	3/25/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	12	<0.79	1.5	<0.51	13.5
	5/19/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.3	<0.51	1.3
	8/26/2015	200	<1.6	<1.6	<1.6	<3.2	2.2	42	<1.6	320	<1.0	564
	11/25/2015	91	<1.2	<1.2	<1.2	<2.4	<1.2	14	<1.2	100	<0.77	205
	3/4/2016	91	<0.81	<0.79	<0.81	<1.6	<0.79	12	<0.79	100	<0.51	203
	5/24/2016	96	<0.90	<0.88	<0.90	<1.8	<0.88	16	<0.88	120	<0.57	232
	8/23/2016	130	<1.6	<1.6	<1.6	<3.2	<1.6	27	<1.6	210	<1.0	367
	11/30/2016	140	<0.81	<0.79	<0.81	<1.6	<0.79	20	<0.79	150	<0.51	310
	3/23/2017	54	<0.81	<0.79	<0.81	<1.6	<0.79	9.3	<0.79	70	<0.51	133
	5/30/2017	75 (74)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	14 (14)	<0.79 (<0.79)	110 (110)	<0.51 (<0.51)	199 (198)
	8/24/2017	130 J (200 J)	<1.2 (<1.6)	<1.2 (1.7)	<1.2 (<1.6)	<2.4 (<3.2)	<1.2 (<1.6)	32 J (50 J)	<1.2 (<1.6)	190 J (300 J)	<0.77 (<1.0)	352 (552)
	11/29/2017	140	<1.6	<0.28	<1.6	<3.2	<0.28	24	<1.6	190	<0.18	354
	2/6/2018	77	<0.81	<0.14	<0.81	<1.6	<0.14	12	<0.79	84	<0.089	173
	5/25/2018	31	<0.81	<0.14	<0.81	<1.6	<0.14	6.5	<0.79	42	<0.089	79.5
	8/16/2018	140	<1.2	<0.21	<1.2	<2.4	<0.30	34	<1.2	240	<0.30	414
	11/9/2018	160	<8.1	<1.4	<8.1	<16	<2.0	30	<7.9	200	<2.0	390
	2/21/2019	39	<0.81	<0.14	<0.81	<1.6	<0.20	5.1	<0.79	46	<0.20	90.1
	5/23/2019	20	0.74 J	<0.25	<1.4	150	150	4.9	<1.4	29	2.6	357
	9/24/2019	60	<0.81	<0.14	<0.81	<1.6	<0.20	1.5	<0.79	42	<0.20	104
	3/2/2020	26	<0.81	<0.14	<0.81	<1.6	<0.20	2.7	<0.79	26	<0.20	54.7
	4/13/2020	48	<0.81	<0.14	<0.81	<1.6	<0.20	6.9	<0.79	53	<0.20	107.9
	8/11/2020	120	<1.6	<0.28	<1.6	<3.2	<0.40	31	<1.6	170	<0.40	321
	11/3/2020	170	<0.81	<0.14	<0.81	<1.6	<0.20	18	<0.79	180	<0.20	368
SG-39	8/9/2007	180	<0.81	<0.79	<0.81	<0.79	<0.79	29	<0.79	360	<0.51	569
	4/4/2008	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	4/24/2008	32	<4.0	<4.0	<4.0	<0.79	<0.79	8.8	<0.80	70	<2.6	111
	6/19/2008	60	<2.4	<2.4	<2.4	<2.4	<2.4	9.5	<2.4	130	<1.5	200
	9/24/2008	87	<0.81	<0.79	<0.81	<0.79	<0.79	14	<0.79	160	<0.51	261
SG-40	8/9/2007	37	<0.82	<0.80	<0.82	NA	<0.80	5.2	<0.80	38	<0.52	80.2
	9/24/2008	17	<0.65	<0.63	<0.65	<0.63	<0.63	1.3	<0.63	16	<0.41	34.3
	5/19/2009	22	<0.81	<0.79	<0.81	<0.79	<0.79	2.2	<0.79	22	<0.51	46.2
	8/26/2009	23	<0.81	<0.79	<0.81	<0.79	<0.79	4.6	<0.79	24	<0.51	51.6

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
SG-40 con't	11/23/2009	31	<0.81	<0.79	<0.81	<0.79	<0.79	2.7	<0.79	27	<0.51	60.7
	2/18/2010	15	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	11	<0.51	26.0
	5/28/2010	13	<1.6	<1.6	<1.6	<1.6	<1.6	<2.7	<1.6	11	<1.0	24.0
	8/24/2010	37	<0.81	<0.79	<0.81	<0.79	<0.79	4.8	<0.79	46	<0.51	87.8
	11/9/2010	24	<0.81	<0.79	<0.81	<0.79	<0.79	2.1	<0.79	25	<0.51	51.1
	2/18/2011	10	<0.81	<0.79	<0.81	<0.79	<0.79	5.9	<0.79	8.8	<0.51	24.7
	5/24/2011	17	<4.0	<4.0	<4.0	<4.0	<4.0	<6.8	<4.0	14	<2.6	31.0
	8/23/2011	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	5	<0.51	5.0
	11/18/2011	3.6	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	6.7	<0.51	10.3
	2/23/2012	6.4	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	5.7	<0.51	12.1
	5/3/2012	5.3	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	9.5	<0.51	14.8
	8/22/2012	7.2	<0.81	<0.79	<0.81	<0.79	<0.79	4	<0.79	20	<0.51	31.2
	11/16/2012	7.9	<0.81	<0.79	<0.81	<0.79	<0.79	2.2	<0.79	17	<0.51	27.1
	2/27/2013	<1.1 (2)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	<1.4 (<1.4)	<0.79 (<0.79)	<1.1 (3.3)	<0.51 (<0.51)	<1.4 (<1.4)
	5/16/2013	18	<0.81	<0.79	<0.81	1.9	1.9	1.4	<0.79	14	<0.51	37.2
	8/21/2013	38	<0.81	<0.79	<0.81	<0.79	<0.79	4.4	<0.79	42	<0.51	84.4
	11/25/2013	1.7	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	4.4	<0.51	6.1
	3/26/2014	2.2	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	3.1	<0.51	5.3
	6/19/2014	3.2	<0.81	<0.79	<0.81	<0.79	<0.79	1.7	<0.79	7.5	<0.51	12.4
	8/22/2014	33	<0.81	<0.79	<0.81	<0.79	<0.79	5.1	<0.79	46	<0.51	84.1
	12/1/2014	24	<0.81	<0.79	<0.81	<0.79	<0.79	2.8	<0.79	25	<0.51	51.8
	3/25/2015	9	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	7.5	<0.51	16.5
	5/19/2015	16	<0.81	<0.79	<0.81	<0.79	<0.79	2	<0.79	14	<0.51	32.0
	8/26/2015	30	<0.81	<0.79	<0.81	<1.6	<0.79	6	<0.79	39	<0.51	75.0
	11/25/2015	13	<0.81	<0.79	<0.81	<1.6	<0.79	1.7	<0.79	13	<0.51	27.7
	3/4/2016	9.4 (8.3)	<0.81 (<2.6)	<0.79 (<2.5)	<0.81 (<2.6)	<1.6 (<5.0)	<0.79 (<2.5)	1.7 (<4.3)	<0.79 (<2.5)	12 J (7.9 J)	<0.51 (<1.6)	23.1 (16.2)
	5/24/2016	17	<1.1	<1.0	<1.1	<2.1	<1.0	2.0	<1.0	16	<0.67	35.0
	8/22/2016	31 (28)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	4.8 (4.2)	<0.79 (<0.79)	39 (35)	<0.51 (<0.51)	74.8 (67.2)
	11/30/2016	22	<0.81	<0.79	<0.81	<1.6	<0.79	2.8	<0.79	21	<0.51	45.8
	3/23/2017	9.7	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	8.6	<0.51	18.3
	5/31/2017	15	<0.81	<0.79	<0.81	<1.6	<0.79	2.1	<0.79	15	<0.51	32.1
	8/24/2017	18	<0.81	<0.79	<0.81	<1.6	<0.79	2.5	<0.79	18	<0.51	38.5
	11/28/2017	10	<0.81	<0.14	<0.81	<1.6	<0.14	1.4	<0.79	11	<0.089	22.4
	2/6/2018	11	<0.81	<0.14	<0.81	<1.6	<0.14	3.4	<0.79	9.9	<0.089	24.3
	5/25/2018	7.9	<0.81	<0.14	<0.81	<1.6	<0.14	1.4	<0.79	6.6	<0.089	15.9
	8/16/2018	24	<0.81	<0.14	<0.81	<1.6	<0.20	4.5	<0.79	30	<0.20	58.5

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m^3)	1,1-Dichloroethane (µg/m^3)	1,1-Dichloroethene (µg/m^3)	1,2-Dichloroethane (µg/m^3)	1,2-Dichloroethene (total) (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	Total VOCs (µg/m^3)
SG-40 con't	11/8/2018	19	<0.81	<0.14	<0.81	<1.6	<0.20	3.5	<0.79	20	<0.20	42.5
	2/21/2019	7.3	<0.81	<0.14	<0.81	<1.6	<0.20	0.80 J	<0.79	6.5	<0.20	14.6
	5/22/2019	8.9	<0.81	<0.14	<0.81	<1.6	<0.20	1.6	<0.79	9.5	<0.20	20.0
	9/24/2019	9.5	<0.81	<0.14	<0.81	<1.6	<0.20	0.21	<0.79	5.3	<0.20	15.0
	12/3/2019	5.3	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	1.5	<0.20	6.8
	3/2/2020	2.5	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	1.3	<0.20	3.8
	4/13/2020	5.8	<0.81	<0.14	<0.81	<1.6	<0.20	0.44 J	<0.79	3.7	<0.20	9.94
	8/11/2020	13	<0.81	<0.14	<0.81	<1.6	<0.20	2.3	<0.79	13	<0.20	28.30
	11/3/2020	8.5	<0.81	<0.14	<0.81	<1.6	<0.20	0.86 J	<0.79	2.8	<0.20	12.16
SG-41	8/9/2007	54	<0.83	<0.81	<0.83	NA	<0.81	30	<0.81	22	<0.52	106
	9/24/2008	32	<0.65	<0.63	<0.65	<0.63	<0.63	12	<0.63	10	<0.41	54.0
VEW-1	10/2/2007	390	3.5	<3.2	<3.2	4.4	4.4	140	<3.2	540	<2	1,082
	11/1/2007	120	<0.81	<0.79	<0.81	<0.79	<0.79	20	<0.79	59	<0.51	199
	12/13/2007	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	2/29/2008	55	<0.65	<0.63	<0.65	<0.63	<0.63	3.9	<0.63	20	<0.41	78.9
	4/24/2008	32	<2.4	<2.4	<2.4	<2.4	<2.4	<4.1	<2.4	16	<1.5	48.0
	6/19/2008	16	<2.4	<2.4	<2.4	<2.4	<2.4	<4.1	<2.4	21	<1.5	37.0
	9/24/2008	<0.87	<0.65	<0.63	<0.65	<0.63	<0.63	<1.1	<0.63	<0.86	<0.41	<1.1
	5/19/2009	150	<8.1	<7.9	<8.1	<7.9	<7.9	17	<7.9	240	<5.1	407
	8/26/2009	60	<1.6	<1.6	<1.6	<1.6	<1.6	8.8	<1.6	37	<1.0	106
	11/23/2009	38	<0.81	<0.79	<0.81	<0.79	<0.79	3.6	<0.79	23	<0.51	64.6
	2/18/2010	31	<0.81	<0.79	<0.81	<0.79	<0.79	2.6	<0.79	20	<0.51	53.6
	5/28/2010	51	<3.2	<3.2	<3.2	<3.2	<3.2	<5.4	<3.2	44	<4.0	95.0
	8/23/2010	130	1.1	<0.79	<0.81	<0.79	<0.79	16	<0.79	200	<0.51	347
	11/9/2010	45	<0.81	<0.79	<0.81	<0.79	<0.79	6.1	<0.79	58	<0.51	109
	2/15/2011	16	<0.81	<0.79	<0.81	<0.79	<0.79	3.8	<0.79	15	<0.51	34.8
	5/24/2011	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	8/23/2011	41	<0.81	<0.79	<0.81	<0.79	<0.79	20	<0.79	94	<0.51	155
	11/21/2011	9	<0.81	<0.79	<0.81	<0.79	<0.79	3.1	<0.79	14	<0.51	26.1
	2/23/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	5/4/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	14	<0.79	<1.1	<0.51	14.0

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
VEW-1 con't	8/22/2012	<1.1 (<1.1)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	<1.4 (<1.4)	<0.79 (<0.79)	<1.1 (<1.1)	<0.51 (<0.51)	<1.4 (<1.4)
	11/15/2012	8	<0.81	<0.79	<0.81	<0.79	<0.79	6.3	<0.79	20	<0.51	34.3
	2/26/2013	1.7	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	3.4	<0.51	5.1
	5/16/2013	8.5	<0.81	<0.79	<0.81	1.5	1.5	4.8	<0.79	8.2	<0.51	24.5
	8/22/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	11/25/2013	8.2	<0.81	<0.79	<0.81	<0.79	<0.79	3.2	<0.79	11	<0.51	22.4
	3/27/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	6/20/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	8/21/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	5.3	<0.51	5.3
	12/1/2014	13	<0.81	<0.79	<0.81	<0.79	<0.79	5.1	<0.79	18	<0.51	36.1
	3/23/2015	8.9	<0.81	<0.79	<0.81	<0.79	<0.79	1.8	<0.79	4.8	<0.51	15.5
	5/20/2015	3.5	<0.81	<0.79	<0.81	<0.79	<0.79	1.8	<0.79	5.3	<0.51	10.6
	8/25/2015	23	<1.1	<1.1	<1.1	<2.2	<1.1	19	<1.1	45	<0.70	87.0
	11/27/2015	5.4	<0.81	<0.79	<0.81	<1.6	<0.79	3.2	<0.79	9.5	<0.51	18.1
	3/3/2016	2.4	<1.6	<1.6	<1.6	<3.1	<1.6	<2.7	<1.6	5.9	<1.0	8.3
	5/24/2016	4.8	<0.81	<0.79	<0.81	<1.6	<0.79	4.1	<0.79	11	<0.51	19.9
	8/22/2016	11	<0.81	<0.79	<0.81	<1.6	<0.79	8.3	<0.79	25	<0.51	44.3
	11/30/2016	<1.1	<0.81	<0.79	<0.81	<1.6	<0.79	2.6	<0.79	3.8	<0.51	6.4
	3/21/2017	5.9	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	3.7	<0.51	9.6
	5/31/2017	10	<0.81	<0.79	<0.81	<1.6	<0.79	4.4	<0.79	11	<0.51	25.4
	8/23/2017	5.8	<0.81	<0.79	<0.81	<1.6	<0.79	1.8	<0.79	4.4	<0.51	12.0
	11/28/2017	12	<0.81	<0.14	<0.81	<1.6	<0.14	2.5	<0.79	7.5	<0.089	22.0
	2/5/2018	6.8	<0.81	<0.14	<0.81	<1.6	<0.14	2.3	<0.79	7	<0.089	16.1
	5/24/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.14	<1.4	<0.79	0.36	<0.089	0.4
	8/16/2018	3.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	2.7	<0.20	5.8
	11/8/2018	3.1	<0.81	<0.14	5.5	<1.6	<0.20	3.2	<0.79	5.9	<0.20	17.7
	2/20/2019	5.6	<0.81	<0.14	<0.81	<1.6	<0.20	2.0	<0.79	6.4	<0.20	14.0
	5/22/2019	6.3	<0.81	<0.14	<0.81	<1.6	<0.20	3.9	<0.79	3.7	<0.20	13.9
	9/25/2019	4.9	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	1.7	<0.20	6.6
	12/4/2019	6.3 (6.8)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	1.3 J (0.55 J)	<0.79 (<0.79)	4.3 (2.8)	<0.20 (<0.20)	11.9 (10.2)
	3/3/2020	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	<0.19	<0.20	ND
	4/13/2020	2.3	<0.81	<0.14	<0.81	<1.6	<0.20	0.86 J	<0.79	1.2	<0.20	4.36
	8/12/2020	0.79 J	<0.81	<0.14	0.28 J	<1.6	<0.20	0.83 J	<0.79	1.2	<0.20	3.10
	11/4/2020	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	0.19	<0.20	0.19

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
VEW-2	10/2/2007	100	<0.65	<0.63	<0.65	<0.63	<0.63	1.5	<0.63	7	<0.41	109
	4/24/2008	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	6/19/2008	<3.3	<2.4	<2.4	<2.4	<2.4	<2.4	<4.1	<2.4	12	<1.5	12.0
	9/24/2008	<0.87	<0.65	<0.63	<0.65	0.67	0.67	<1.1	<0.63	1.6	<0.41	2.9
VEW-3	10/2/2007	170	<1.3	<1.3	<1.3	<1.3	<1.3	21	<1.3	59	<0.82	250
	4/24/2008	3.1	<0.81	<0.79	<0.81	<0.79	<0.79	1.4	<0.79	3.5	<0.51	8.0
	6/19/2008	12	<4.0	<4.0	<4.0	<4.0	<4.0	8.1	<4.0	25	<2.6	45.1
	9/24/2008	<0.87	<0.65	<0.63	<0.65	<0.63	<0.63	<1.1	<0.63	1.7	<0.41	1.7
	5/19/2009	260	<1.6	<1.6	<1.6	<1.6	<1.6	23	<1.6	110	<1.0	393
	8/26/2009	7.1	<0.81	<0.79	<0.81	<0.79	<0.79	4.2	<0.79	9.7	<0.51	21.0
	11/23/2009	18	<0.81	<0.79	<0.81	0.95	<0.79	4.2	0.95	21	<0.51	45.1
	2/18/2010	16	<0.81	<0.79	<0.81	<0.79	<0.79	4.1	<0.79	15	<0.51	35.1
	5/28/2010	31	<4.0	<4.0	<4.0	<4.0	<4.0	<6.8	<4.0	27	<2.6	58.0
	8/23/2010	29	<0.81	<0.79	<0.81	<0.79	<0.79	11	<0.79	45	<0.51	85.0
	11/9/2010	20	<0.81	<0.79	<0.81	<0.79	<0.79	4.2	<0.79	47	<0.51	71.2
	2/15/2011	12	<0.81	<0.79	<0.81	<0.79	<0.79	3	<0.79	9.8	<0.51	24.8
	5/24/2011	5.1	<0.81	<0.79	<0.81	<0.79	<0.79	3.2	<0.79	7.4	<0.51	15.7
	8/23/2011	44	<0.81	<0.79	<0.81	<0.79	<0.79	27	<0.79	71	<0.51	142
	11/21/2011	16	<0.81	<0.79	<0.81	<0.79	<0.79	8.9	<0.79	24	<0.51	48.9
	2/23/2012	1.4	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.6	<0.51	3.0
	5/4/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	8/22/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	11/15/2012	16	<0.81	<0.79	<0.81	<0.79	<0.79	9.3	<0.79	23	<0.51	48.3
	2/26/2013	5.4	<0.81	<0.79	<0.81	<0.79	<0.79	3	<0.79	7.4	<0.51	15.8
	5/16/2013	14	<0.81	<0.79	<0.81	1.7	1.7	6.5	<0.79	17	<0.51	40.9
	8/22/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	11/25/2013	16	<0.81	<0.79	<0.81	<0.79	<0.79	8.1	<0.79	19	<0.51	43.1
	3/27/2014	<1.1 (8.2)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	<1.4 (1.9)	<0.79 (<0.79)	<1.1 (4.6)	<0.51 (<0.51)	<1.4 (4.6)
	6/20/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	8/21/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.2	<0.51	1.2
	12/2/2014	34 (30)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	16 (14)	<0.79 (<0.79)	44 (40)	<0.51 (<0.51)	94.0 (84.0)
	3/23/2015	23	<0.81	<0.79	<0.81	<0.79	<0.79	3.8	<0.79	10	<0.51	36.8
	5/20/2015	13	<0.81	<0.79	<0.81	<0.79	<0.79	4.5	<0.79	13	<0.51	30.5
	8/26/2015	22 (21)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	44 (12)	<0.79 (<0.79)	30 (29)	<0.51 (<0.51)	96.0 (62.0)
	11/25/2015	16	<0.81	<0.79	<0.81	<1.6	<0.79	7.6	<0.79	18	<0.51	41.6
	3/3/2016	13	<0.81	<0.79	<0.81	<1.6	<0.79	5	<0.79	14	<0.51	32

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
VEW-3 con't	5/24/2016	9.9	<0.81	<0.79	<0.81	<1.6	<0.79	3.6	<0.79	7.5	<0.51	21
	8/22/2016	14	<0.81	<0.79	<0.81	<1.6	<0.79	9.4	<0.79	22	<0.51	45.4
	11/30/2016	25	<0.81	<0.79	<0.81	<1.6	<0.79	11	<0.79	24	<0.51	60
	3/21/2017	18	<0.81	<0.79	<0.81	<1.6	<0.79	3.2	<0.79	7.9	<0.51	29.1
	5/31/2017	19	<0.81	<0.79	<0.81	<1.6	<0.79	7.7	<0.79	19	<0.51	45.7
	8/23/2017	<1.1 (<1.1)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	<1.4 (<1.4)	<0.79 (<0.79)	<1.1 (<1.1)	<0.51 (<0.51)	<1.6 (<1.6)
	11/28/2017	69 (81)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.14 (<0.14)	9.8 (12)	<0.79 (<0.79)	35 (38)	<0.089	114 (131)
	2/5/2018	24	<0.81	<0.14	<0.81	<1.6	0.22	9.2	<0.79	25	<0.089	58.4
	5/24/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.14	<1.4	<0.79	<0.19	<0.089	<1.4
	8/16/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	0.37	<0.20	0.4
	11/8/2018	10	<0.81	<0.14	<0.81	<1.6	<0.20	8.2	<0.79	16	<0.20	34.2
	2/20/2019	11 (11)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	4.3 (4.3)	<0.79 (<0.79)	13 (13)	<0.20 (<0.20)	28.3 (28.3)
	5/22/2019	30	<0.81	<0.14	<0.81	<1.6	<0.20	4.7	<0.79	8.3	<0.20	45.4
	9/25/2019	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	0.54	<0.20	0.5
	12/4/2019	11	<0.81	<0.14	<0.81	<1.6	<0.20	2	<0.79	7.2	<0.20	20.2
	3/3/2020	0.60 J	<0.81	<0.14	<0.81	<1.6	<0.20	0.91 J	<0.79	1.5	<0.20	3.01
	4/14/2020	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	<0.19	<0.20	<1.6
	8/12/2020	3.9 (3.3)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	2.6 (2.1)	<0.79 (<0.79)	5.8 (5.3)	<0.20 (<0.20)	12.30 (10.70)
	11/4/2020	16 (11)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	4.6 (3.8)	<0.79 (<0.79)	13 (9.9)	<0.20 (<0.20)	33.6 (24.7)
P-VEW-5	5/19/2009	280	<8.1	<7.9	<8.1	<7.9	<7.9	95	<7.9	260	<5.1	635
	8/26/2009	53	<1.6	<1.6	<1.6	<1.6	<1.6	22	<1.6	75	<1.0	150
	12/17/2009	14	<0.81	<0.79	<0.81	<0.79	<0.79	3.5	<0.79	14	<0.51	31.5
	2/18/2010	60	1.1	<0.79	<0.81	<0.79	<0.79	22	<0.79	70	<0.51	153.1
	5/28/2010	41	<3.2	<3.2	<3.2	<3.2	<3.2	9.5	<3.2	59	<2.0	110
	8/23/2010	21	<0.81	<0.79	<0.81	0.91	<0.79	5.8	<0.79	35	<0.51	62.7
	11/9/2010	59	1.3	<0.79	<0.81	1.6	1.4	12	<0.79	110	<0.51	185
	2/15/2011	34	<0.81	<0.79	<0.81	<0.79	<0.79	5.9	<0.79	31	<0.51	70.9
	5/24/2011	9.9	<0.81	<0.79	<0.81	0.79	0.79	15	<0.79	44	<0.51	70.5
	8/23/2011	2.5	<0.81	<0.79	<0.81	<0.79	<0.79	4.9	<0.79	9.3	<0.51	16.7
	11/21/2011	3.9	<0.81	<0.79	<0.81	<0.79	<0.79	1.6	<0.79	2.8	<0.51	8.3
	2/23/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.4	<0.51	1.4
	5/4/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	8/22/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
P-VEW-5 con't	11/15/2012	21	<0.81	<0.79	<0.81	<0.79	<0.79	18	<0.79	41	<0.51	80.0
	2/26/2013	2.3	<0.81	<0.79	<0.81	<0.79	<0.79	1.9	<0.79	5.3	<0.51	9.5
	5/16/2013	18	<0.81	<0.79	<0.81	1.4	1.4	9	<0.79	16	<0.51	45.8
	8/22/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	11/25/2013	31	<0.81	<0.79	<0.81	<0.79	<0.79	17	<0.79	45	<0.51	93.0
	3/27/2014	2.8	<0.81	<0.79	<0.81	<0.79	<0.79	1.4	<0.79	3.3	<0.51	7.5
	6/20/2014	3.7 J (5.6 J)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	2.2 J (3.1 J)	<0.79 (<0.79)	7.9 J (12 J)	<0.51 (<0.51)	17.3 (20.7)
	8/21/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	2.1	<0.51	2.1
	12/2/2014	23	<0.81	<0.79	<0.81	<0.79	<0.79	32	<0.79	91	<0.51	146
	3/23/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	5/20/2015	27 (26)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	0.79 (<0.79)	0.79 (<0.79)	16 (16)	<0.79 (<0.79)	56 (57)	<0.51 (<0.51)	101 (99)
	8/26/2015	64	1.4	<0.79	<0.81	1.8	1.8	53	<0.79	160	<0.51	282
	11/25/2015	14	<0.81	<0.79	<0.81	<1.6	<0.79	9.7	<0.79	24	<0.51	47.7
	3/3/2016	19	<1.2	<1.2	<1.2	<2.4	<1.2	13	<1.2	42	<0.77	74
	5/25/2016	19 (22)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	0.79 (<0.79)	15 (17)	<0.79 (<0.79)	39 (43)	<0.51 (<0.51)	73 (82)
	8/22/2016	<1.1	<0.81	<0.79	<0.81	<1.6	<0.79	6.4	<0.79	<1.1	<0.51	6.4
	11/30/2016	59	0.91	<0.79	<0.81	<1.6	0.92	33	<0.79	77	<0.51	171
	3/21/2017	20	<0.81	<0.79	<0.81	<1.6	<0.79	13	<0.79	30	<0.51	63
	5/31/2017	21	<0.81	<0.79	<0.81	<1.6	<0.79	18	<0.79	57	<0.51	96
	8/23/2017	36	<0.81	<0.79	<0.81	<1.6	<0.79	20	<0.79	64	<0.51	120
	11/28/2017	89	<0.81	<0.14	<0.81	<1.6	0.46	31	<0.79	100	<0.089	220
	2/5/2018	28	<0.81	<0.14	<0.81	<1.6	0.28	16	<0.79	44	<0.089	88.3
	5/24/2018	3.2 (1.5)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.14 (<0.14)	2.8 (1.3)	<0.79 (<0.79)	8.3 J (3.9 J)	<0.089 (<0.089)	14.3 (6.7)
	8/16/2018	8.0	<0.81	<0.14	<0.81	<1.6	<0.20	4.7	<0.79	13	<0.20	25.7
	11/8/2018	22	<0.81	0.14 J	<0.81	<1.6	0.24	14	<0.79	31	<0.20	67
	2/20/2019	13	0.32 J	<0.14	<0.81	<1.6	0.22	4.7	<0.79	19	<0.20	37.2
	5/22/2019	14	<0.81	<0.14	<0.81	<1.6	<0.20	7.9	<0.79	19	<0.20	40.9
	9/25/2019	1.8	<0.81	<0.14	<0.81	<1.6	<0.20	1.4	<0.79	2.7	<0.20	5.9
	12/4/2019	14.0	0.18 J	<0.14	<0.81	<1.6	<0.20	3.8	<0.79	20	<0.2	38.0
	3/3/2020	2.3	<0.81	<0.14	<0.81	<1.6	<0.20	2.9	<0.79	12	<0.20	17.2
	4/14/2020	57	<0.81	<0.14	<0.81	<1.6	<0.20	8.7	<0.79	25	<0.20	90.7
	8/12/2020	18	<0.81	<0.14	<0.81	<1.6	<0.20	12	<0.79	20	<0.20	50.0
	11/4/2020	4.2	<0.81	<0.14	<0.81	<1.6	<0.20	1.7	<0.79	3.8	<0.20	9.7

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m^3)	1,1-Dichloroethane (µg/m^3)	1,1-Dichloroethene (µg/m^3)	1,2-Dichloroethane (µg/m^3)	1,2-Dichloroethene (total) (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	Total VOCs (µg/m^3)
P-VEW-7	5/19/2009	220	<16	<16	<16	<16	<16	95	<16	910	<10	1,225
	8/26/2009	260	<8.1	<7.9	<8.1	<7.9	<7.9	37	<7.9	540	<5.1	837
	11/23/2009	2.2	<0.81	<0.79	<0.81	0.79	<0.79	1.8	0.79	12	<0.51	17.6
	2/18/2010	29	<0.81	<0.79	<0.81	<0.79	<0.79	14	<0.79	150	<0.51	193
	5/28/2010	<2.2	<1.6	<1.6	<1.6	<1.6	<1.6	<2.7	<1.6	<2.1	<1.0	<2.7
	8/23/2010	26	<0.81	<0.79	<0.81	<0.79	<0.79	7.4	<0.79	100	<0.51	133
	11/9/2010	2.7	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	38	<0.51	40.7
P-VEW-9	5/19/2009	290	<16	<16	<16	<16	<16	88	<16	490	<10	868
	8/26/2009	76	<3.2	<3.2	<3.2	<3.2	<3.2	43	<3.2	370	<2.0	489
	11/23/2009	45	<0.81	<0.79	<0.81	3	1.7	10	1.3	120	<0.51	181
	2/18/2010	2.6	<0.81	<0.79	<0.81	<0.79	<0.79	2.9	<0.79	19	<0.51	24.5
	5/28/2010	22	<8.1	<7.9	<8.1	<7.9	<7.9	<14	<7.9	52	<5.1	74.0
	8/23/2010	180	<18	<18	<18	<18	<18	32	<18	260	<12	472
	11/9/2010	130	<8.1	<7.9	<8.1	<7.9	<7.9	<14	<7.9	120	<5.1	250
	2/15/2011	6.5	<0.81	<0.79	<0.81	<0.79	<0.79	2.6	<0.79	16	<0.51	25.1
	5/24/2011	19	<0.81	<0.79	<0.81	<0.79	<0.79	28	<0.79	140	<0.51	187
	8/23/2011	100	<1.6	<1.6	<1.6	<1.6	<1.6	52	<1.6	220	<1.0	372
	11/18/2011	2.7	<0.81	<0.79	<0.81	<0.79	<0.79	4.5	<0.79	10	<0.51	17.2
	2/24/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	160	<0.51	160
	5/3/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	1.3	<0.79	1.4	<0.51	2.7
	8/22/2012	1.9	<0.81	<0.79	<0.81	<0.79	<0.79	1.8	<0.79	6.4	<0.51	10.1
	11/16/2012	10	<0.81	<0.79	<0.81	<0.79	<0.79	4.8	<0.79	18	<0.51	32.8
	2/26/2013	1.7	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	5.2	<0.51	6.9
	5/15/2013	46	<8.1	<7.9	<8.1	<7.9	<7.9	28	<7.9	130	<5.1	204
	8/21/2013	4.6	<0.81	<0.79	<0.81	<0.79	<0.79	2	<0.79	10	<0.51	16.6
	11/26/2013	10	<0.81	<0.79	<0.81	<0.79	<0.79	2.6	<0.79	14	<0.51	26.6
	3/26/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	6/19/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	1.1	<0.51	1.1
	8/22/2014	79	<2.0	<2.0	<2.0	4	4.1	30	<2.0	340	<1.3	457
	12/1/2014	73	<0.81	<0.79	<0.81	<0.79	<0.79	21	<0.79	110	<0.51	204
	3/25/2015	4.3 (4.7)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	4.4 (5.1)	<0.79 (<0.79)	21 (24)	<0.51 (<0.51)	31.8 (33.8)
	5/19/2015	80	<8.1	<7.9	<8.1	<7.9	<7.9	32	<7.9	140	<5.1	252
	8/26/2015	170	<16	<16	<16	<32	<16	61	<16	280	<10	511
	11/25/2015	160	<1.6	<1.6	<1.6	<3.2	<1.6	39	<1.6	180	<1.0	379
	3/4/2016	98	<0.81	<0.79	<0.81	<1.6	<0.79	26	<0.79	140	<0.51	264
	5/24/2016	130	<1.0	<0.98	<1.0	<2.0	<0.98	39	<0.98	170	<0.63	339

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
P-VEW-9 con't	8/23/2016	260	<1.6	<1.6	<1.6	<3.2	<1.6	76	<1.6	390	<1.0	726
	11/30/2016	140	<2.5	<2.4	<2.5	<4.9	<2.4	35	<2.4	160	<1.6	335
	3/23/2017	47 (50)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	18 (19)	<0.79 (<0.79)	76 (83)	<0.51 (<0.51)	141 (152)
	5/30/2017	120	<0.81	<0.79	<0.81	2.5	2.5	250	<0.79	170	<0.51	545
	8/24/2017	200	<1.6	<1.6	<1.6	<3.2	<1.6	87	<1.6	300	<1.0	587
	11/29/2017	86	<1.6	<0.28	<1.6	<3.2	<0.28	28	<1.6	140	<0.18	254
	2/6/2018	92	<0.81	<0.14	<0.81	<1.6	<0.14	30	<0.79	130	<0.089	252
	5/25/2018	60	<0.81	<0.14	<0.81	<1.6	<0.14	31	<0.79	120	0.41	211
	8/17/2018	220	<1.6	<0.28	<1.6	<3.2	<0.40	82	<1.6	340	<0.40	642
	11/9/2018	150	<0.81	<0.14	<0.81	<1.6	<0.20	43	<0.79	200	<0.20	393
	2/21/2019	36 (45)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	1.1 J (12 J)	<0.79 (<0.79)	7.8 J (68 J)	<0.20 (<0.20)	44.9 (125)
	5/22/2019	51 (58)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	21 (26)	<0.79 (<0.79)	78 (93)	<0.20 (<0.20)	150 (177)
	9/24/2019	58 (94)	<0.81 (<0.81)	<0.14 (0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	19 (38)	<0.79 (<0.79)	91 (150)	<0.22 (0.28)	168 (282)
	3/2/2020	35 (38)	<0.81	<0.14	<0.81	<1.6	<0.20	9.0 (9.7)	<0.79	47 (51)	<0.20	91.0 (98.7)
	4/13/2020	59 (60)	<0.81	<0.14 (0.33)	<0.81	<1.6 (0.64 J)	<0.20 (0.29)	15 (12)	<0.79 (0.35 J)	66 (64)	<0.20	140 (137.61)
	8/11/2020	100 (110)	<1.2 (<0.81)	<0.21 (<0.14)	<1.2 (<0.81)	<2.4 (<1.6)	<0.30 (<0.20)	49 (52)	<1.2	170 (170)	0.53 (0.54)	319 (323)
	11/3/2020	31 (31)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	6.1 (7.4)	<0.79 (<0.79)	34 (35)	<0.20 (<0.20)	71.0 (73.4)
P-VEW-10	11/21/2011	4.6	<0.81	<0.79	<0.81	<0.79	<0.79	4.6	<0.79	17	<0.51	26.2
	2/23/2012	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	3.3	<0.51	3.3
	5/4/2012	<11 (<5.5)	<8.1 (<4.0)	<7.9 (<4.0)	<8.1 (<4.0)	<7.9 (<4.0)	<7.9 (<4.0)	<14 (<6.8)	<7.9 (<4.0)	21 (6.0)	<5.1 (<2.6)	21.0 (6.0)
	8/23/2012	190	<2.9	<2.8	<2.9	4.1	4.1	120	<2.8	440	<1.8	758
	11/16/2012	67	<0.81	<0.79	<0.81	1.3	1.3	35	<0.79	120	<0.51	225
	2/26/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	6.4	<0.51	6.4
	5/16/2013	29	<2.4	<2.4	<2.4	4.4	4.4	97	<2.4	130	<1.5	265
	8/22/2013	27	<0.81	<0.79	<0.81	<0.79	<0.79	6.8	<0.79	18	<0.51	51.8
	11/25/2013	150	1.3	<0.79	<0.81	2.3	2.3	40	<0.79	140	<0.51	336
	3/27/2014	5.4	<0.81	<0.79	<0.81	<0.79	<0.79	2.1	<0.79	5.7	<0.51	13.2
	6/20/2014	44	<0.81	<0.79	<0.81	1.1	1.1	21	<0.79	67	<0.51	90.2
	8/21/2014	2.1	<0.81	<0.79	<0.81	<0.79	<0.79	1.5	<0.79	3.1	<0.51	6.7
	12/1/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	3/23/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
P-VEW-10 con't	5/20/2015	23	<0.81	<0.79	<0.81	<0.79	<0.79	10	<0.79	38	<0.51	48.0
	8/25/2015	160	<1.6	<1.6	<1.6	<3.2	2.9	87	<1.6	320	<1.0	570
	11/27/2015	40 (45)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (0.81)	29 (32)	<0.79 (<0.79)	99 (110)	<0.51 (<0.51)	168 (188)
	3/3/2016	1.4	<0.81	<0.79	<0.81	<1.6	<0.79	1.4	<0.79	3.8	<0.51	6.6
	5/24/2016	11	<0.81	<0.79	<0.81	<1.6	<0.79	8.0	<0.79	26	<0.51	45.00
	8/22/2016	<1.1	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	<1.1	<0.51	<1.6
	11/30/2016	35	<0.81	<0.79	<0.81	<1.6	<0.79	3.5	<0.79	9.9	<0.51	48.4
	3/23/2017	<1.1	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	<1.1	<0.51	<1.6
	5/31/2017	3.7	<0.81	<0.79	<0.81	<1.6	<0.79	<1.4	<0.79	2.6	<0.51	6.3
	8/23/2017	63	<0.81	<0.79	<0.81	<1.6	<0.79	12	<0.79	52	<0.51	127
	11/28/2017	3.4	<0.81	<0.14	<0.81	<1.6	<0.14	1.8	<0.79	7.9	<0.089	13.1
	2/5/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.14	<1.4	<0.79	0.54	<0.089	0.5
	5/24/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.14	<1.4	<0.79	1.4	<0.089	1.4
	8/16/2018	290	<1.6	<0.28	<1.6	<3.2	2.0	67	<1.6	230	<0.40	589
	11/8/2018	<1.1	<0.81	<0.14	<0.81	<1.6	<0.20	<1.4	<0.79	0.54 J	<0.20	0.5
	2/20/2019	0.41 J	<0.81	<0.14	<0.81	<1.6	<0.20	0.27 J	<0.79	0.89	<0.20	1.57
	5/22/2019	5.7	<0.81	<0.14	<0.81	<1.6	<0.20	4.2	<0.79	15	<0.20	24.9
	9/25/2019	180	<1.6	<0.28	<1.6	1.0	1.0	17	<1.6	130	<0.40	329
	12/4/2019	7.3	<0.81	<0.14	<0.81	<1.6	<0.20	1.5	<0.79	4.9	<0.20	13.7
	3/3/2020	29	<0.81	<0.14	<0.81	<1.6	<0.20	2.5	<0.79	13	<0.20	44.5
	4/14/2020	0.25 J	<0.81	<0.14	<0.81	<1.6	<0.20	0.24 J	<0.79	0.29	<0.20	0.78
	8/12/2020	22	<0.81	<0.14	<0.81	<1.6	<0.20	23	<0.79	72	<0.20	117.00
	11/4/2020	20	0.17 J	<0.14	<0.81	0.83 J	0.84	12	<0.79	65	0.21	99.05
P-VEW-11	5/27/2011	360	6.3	<1.6	<1.6	6.7	6.7	100	<1.6	95	<1.0	575
	8/23/2011	790	<3.2	<3.2	<3.2	<3.2	<3.2	260	<3.2	190	<2	1,240
	11/21/2011	36	<4.0	<4.0	<4.0	<4.0	<4.0	11	<4.0	6.6	<2.6	53.6
	2/23/2012	15	<0.81	<0.79	<0.81	<0.79	<0.79	2.7	<0.79	2.6	<0.51	20.3
	5/4/2012	7	<0.81	<0.79	<0.81	<0.79	<0.79	2.2	<0.79	1.3	<0.51	10.5
	8/23/2012	250	<1.5	<1.5	<1.5	<1.5	<1.5	70	<1.5	52	<0.94	372
	11/15/2012	510	<3.2	<3.2	<3.2	<3.2	<3.2	140	<3.2	100	<2.0	750
	2/26/2013	37	<0.81	<0.79	<0.81	<0.79	<0.79	8.5	<0.79	5.1	<0.51	50.6
	5/16/2013	360 (280)	<1.6 (<1.6)	<1.6 (<1.6)	<1.6 (<1.6)	4.3 (3.9)	4.3 (3.9)	83 (62)	<1.6 (<1.6)	50 (39)	<1.0 (<1.0)	502 (389)

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
P-VEW-11 con't	8/22/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	11/25/2013	8.5	<0.81	<0.79	<0.81	<0.79	<0.79	3	<0.79	2.4	<0.51	13.9
	3/27/2014	41	<0.81	<0.79	<0.81	<0.79	<0.79	6.4	<0.79	5.7	<0.51	53.1
	6/19/2014	9.5	<0.81	<0.79	<0.81	<0.79	<0.79	2.6	<0.79	1.8	<0.51	13.9
	8/22/2014	28 (30)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	28 (28)	<0.79 (<0.79)	8.3 (7.6)	<0.51 (<0.51)	65.0 (65.6)
	12/2/2014	780	<4.0	<4.0	<4.0	<4.0	<4.0	130	<4.0	65	<2.6	975
	3/24/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	<1.4
	5/20/2015	350	<1.6	<1.6	<1.6	<1.6	<1.6	56	<1.6	25	<1.0	431
	8/25/2015	1,200	<6.5	<6.3	<6.5	<13	<6.3	200	<6.3	69	<4.1	1,469
	11/27/2015	270	<2.4	<2.4	<2.4	<4.7	<2.4	51	<2.4	24	<1.5	345
	3/3/2016	1.9	<0.81	<0.79	<0.81	<1.6	<0.79	6.5	<0.79	1.2	<0.51	9.6
	5/25/2016	110	<0.81	<0.79	<0.81	<1.6	<0.79	31	<0.79	8.6	<0.51	150
	8/22/2016	760	<4.0	<4.0	<4.0	<7.9	<4.0	170	<4.0	54	<2.6	984
	11/30/2016	150 (120)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	34 (28)	<0.79 (<0.79)	11 (8.7)	<0.51 (<0.51)	195 (157)
	3/21/2017	280	<1.6	<1.6	<1.6	<3.2	<1.6	40	<1.6	12	<1.0	332
	5/31/2017	180	<0.81	<0.79	<0.81	<1.6	<0.79	44	<0.79	9.9	<0.51	234
	8/24/2017	4.7	<0.81	<0.79	<0.81	<1.6	<0.79	1.9	<0.79	1.6	<0.51	8.2
	11/29/2017	40	<0.81	<0.14	<0.81	<1.6	<0.14	12	<0.79	3.8	<0.089	55.8
	2/5/2018	14	<0.81	0.18	<0.81	<1.6	<0.14	3.1	<0.79	1.2	<0.089	18.5
	5/24/2018	130	<1.6	<0.28	<1.6	<3.2	<0.28	24	<1.6	5.6	<0.18	160
	8/16/2018	1,400	<8.1	<1.4	<8.1	<16	<2.0	320	<7.9	77	<2.0	1,797
	11/8/2018	430	<8.1	<1.4	<8.1	<16	<2.0	94	<7.9	22	<2.0	546
	2/20/2019	52	<0.81	<0.14	<0.81	<1.6	<0.20	14	<0.79	5.5	<0.20	71.5
	5/22/2019	140	<1.1	<0.18	<1.1	<2.1	<0.26	43	<1.0	8.7	<0.26	192
	9/25/2019	860	<4.0	<0.70	<4.0	<7.9	<1.0	140	<4.0	39	<1.0	1,039
	12/4/2019	330	<0.81	<0.14	<0.81	<1.6	<0.20	20	<0.79	13	<0.20	363
	3/3/2020	160	<0.81	<0.14	<0.81	<1.6	<0.20	14	<0.79	5.6	<0.20	180
	4/14/2020	32	<0.81	<0.14	<0.81	0.34 J	0.35	13	<0.79	23	<0.20	68.69
	8/12/2020	680 E	<0.81	<0.14	<0.81	<1.6	<0.20	100	<0.79	32	1.3	812
	11/4/2020	61	<0.81	<0.14	<0.81	<1.6	<0.20	5.1	<0.79	2.8	0.11 J	69.01

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m^3)	1,1-Dichloroethane (µg/m^3)	1,1-Dichloroethene (µg/m^3)	1,2-Dichloroethane (µg/m^3)	1,2-Dichloroethene (total) (µg/m^3)	cis-1,2-Dichloroethene (µg/m^3)	Tetrachloroethene (µg/m^3)	trans-1,2-Dichloroethene (µg/m^3)	Trichloroethene (µg/m^3)	Vinyl Chloride (µg/m^3)	Total VOCs (µg/m^3)
P-VEW-12	11/21/2011	1.7	<0.81	<0.79	<0.81	<0.79	<0.79	1.5	<0.79	8.1	<0.51	11.3
	2/24/2012	3.5	<0.81	<0.79	<0.81	<0.79	<0.79	2.5	<0.79	16	<0.51	22.0
	5/3/2012	2	<0.81	<0.79	<0.81	<0.79	<0.79	1.9	<0.79	10	<0.51	13.9
	8/21/2012	38	<0.81	<0.79	<0.81	<0.79	<0.79	22	<0.79	130	<0.51	190
	11/16/2012	1.7	<0.81	<0.79	<0.81	<0.79	<0.79	10	<0.79	40	<0.51	51.7
	2/26/2013	1.6	<0.81	<0.79	<0.81	<0.79	<0.79	2	<0.79	14	<0.51	17.6
	5/15/2013	57	<1.6	<1.6	<1.6	3.6	3.6	58	<1.6	250	<1.0	372
	8/21/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	0.0
	11/26/2013	3.6	<0.81	<0.79	<0.81	<0.79	<0.79	2.9	<0.79	12	<0.51	18.5
	3/26/2014	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	<1.1	<0.51	0.0
	6/19/2014	<1.1 (<1.1)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	13 J (<0.79 J)	13 J (<0.79 J)	2.1 (<1.4)	<0.79 (<0.79)	3.5 (2.7)	24 J (<0.51 J)	55.2 (2.7)
	8/21/2014	2	<0.81	<0.79	<0.81	<0.79	<0.79	2.1	<0.79	8	<0.51	12.1
	12/1/2014	29	<0.81	<0.79	<0.81	<0.79	<0.79	28	<0.79	130	<0.51	187
	3/24/2015	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	2	<0.51	2.0
	5/19/2015	60	<0.81	<0.79	<0.81	<0.79	<0.79	44	<0.79	210	<0.51	314
	8/26/2015	120	<2.4	<2.4	<2.4	<4.7	<2.4	110	<2.4	470	<1.5	700
	11/25/2015	83	<1.6	<1.6	<1.6	<3.2	<1.6	44	<1.6	210	<1.0	337
	3/4/2016	17	<0.81	<0.79	<0.81	<1.6	<0.79	22	<0.79	120	<0.51	159
	5/24/2016	27	<0.81	<0.79	<0.81	<1.6	<0.79	38	<0.79	190	<0.51	255
	8/23/2016	35	<1.2	<1.2	<1.2	<2.4	<1.2	43	<1.2	180	<0.77	258
	12/1/2016	43	<1.6	<1.6	<1.6	<3.2	<1.6	32	<1.6	140	<1.0	215
	3/23/2017	6.8	<0.81	<0.79	<0.81	<1.6	<0.79	8.2	<0.79	42	<0.51	57
	5/31/2017	40	<0.81	<0.79	<0.81	<1.6	<0.79	36	<0.79	170	<0.51	246
	8/24/2017	38	<1.6	<1.6	<1.6	<3.2	<1.6	48	<1.6	170	<1.0	256
	11/29/2017	44	<1.6	<0.28	<1.6	<3.2	<0.28	30	<1.6	160	<0.18	234
	2/6/2018	28 (30)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (0.88)	<1.6 (<1.6)	<0.14 (<0.14)	21 (23)	<0.79 (<0.79)	98 (100)	<0.089 (<0.089)	147 (154)
	5/24/2018	7.8	<0.81	0.15	<0.81	<1.6	<0.14	11	<0.79	34	<0.089	53.0
	8/17/2018	49	<1.2	<0.21	<1.2	<2.4	<0.30	58	<1.2	230	<0.30	337
	11/9/2018	110 (100)	<8.1 (<8.1)	<1.4 (<1.4)	<8.1 (<8.1)	<16 (<16)	<2.0 (<2.0)	56 (56)	<7.9 (<7.9)	250 (240)	<2.0 (<2.0)	416 (396)
	2/20/2019	48	0.19 J	<0.14	<0.81	<1.6	<0.20	20	<0.79	130	<0.20	198
	5/23/2019	16	<0.81	<0.14	<0.81	<1.6	<0.20	27	<0.79	110	<0.20	153
	9/24/2019	25	<0.81	<0.14	<0.81	<1.6	<0.20	2.9	<0.79	45	<0.20	72.9
	12/3/2019	3.6	<0.81	<0.14	<0.81	<1.6	<0.20	1.7	<0.79	9	<0.20	14.3
	3/2/2020	3.8	<0.81	<0.14	<0.81	<1.6	<0.20	2.0	<0.79	16	<0.20	21.8

Table 3

Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

Sample Location:	Sample Date:	1,1,1-Trichloroethane ($\mu g/m^3$)	1,1-Dichloroethane ($\mu g/m^3$)	1,1-Dichloroethene ($\mu g/m^3$)	1,2-Dichloroethane ($\mu g/m^3$)	1,2-Dichloroethene (total) ($\mu g/m^3$)	cis-1,2-Dichloroethene ($\mu g/m^3$)	Tetrachloroethene ($\mu g/m^3$)	trans-1,2-Dichloroethene ($\mu g/m^3$)	Trichloroethene ($\mu g/m^3$)	Vinyl Chloride ($\mu g/m^3$)	Total VOCs ($\mu g/m^3$)
P-VEW-12 con't	4/13/2020	5.8	<0.81	<0.14	<0.81	<1.6	<0.20	2.1	<0.79	7.9	<0.20	15.8
	8/11/2020	54	<0.81	<0.14	<0.81	<1.6	<0.20	39	<0.79	150	<0.20	243
	11/3/2020	41	<0.81	<0.14	<0.81	<1.6	<0.20	14	<0.79	100	<0.20	155
P-VEW-13	11/29/2011	110	<32	<31	<32	<31	<31	<54	<31	98	<20	208
	2/23/2012	8.9 (8.1)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	3.7 (3.8)	<0.79 (<0.79)	7.4 (6.6)	<0.51 (<0.51)	20.0 (18.5)
	5/3/2012	6.5	<0.81	<0.79	<0.81	<0.79	<0.79	2	<0.79	4	<0.51	12.5
	8/22/2012	9.7	<0.81	<0.79	<0.81	<0.79	<0.79	3.2	<0.79	5.9	<0.51	18.8
	11/15/2012	73	<0.81	<0.79	<0.81	<0.79	<0.79	15	<0.79	32	<0.51	120
	2/26/2013	24 (1.7)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	8.2 (1.4)	<0.79(<0.79)	15 (1.3)	<0.51 (<0.51)	47.2 (16.1)
	5/15/2013	230	<1.2	<1.2	<1.2	3.8	3.3	67	<1.2	120	<0.77	424
	8/22/2013	<1.1	<0.81	<0.79	<0.81	<0.79	<0.79	<1.4	<0.79	2.4	<0.51	2.4
	11/26/2013	3.9	<0.81	<0.79	<0.81	<0.79	<0.79	2.7	<0.79	4.6	<0.51	11.2
	3/26/2014	<1.1 (<1.1)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	<1.4 (<1.4)	<0.79 (<0.79)	<1.1 (<1.1)	<0.51 (<0.51)	<1.4 (<1.4)
	6/19/2014	8	<0.81	<0.79	<0.81	<0.79	<0.79	4	<0.79	4.8	<0.51	16.8
	8/21/2014	7.2	<0.81	<0.79	<0.81	<0.79	<0.79	2.3	<0.79	4	<0.51	13.5
	12/1/2014	52	<0.81	<0.79	<0.81	<0.79	<0.79	44	<0.79	85	<0.51	181
	3/24/2015	14 (14)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<0.79 (<0.79)	<0.79 (<0.79)	3.9 (4.2)	<0.79 (<0.79)	6.4 (6.6)	<0.51 (<0.51)	24.6 (24.8)
	5/19/2015	190	<0.81	<0.79	<0.81	<0.79	<0.79	90	<0.79	200	<0.51	480
	8/26/2015	1.1	<0.81	<0.79	<0.81	<1.6	<0.79	2.4	<0.79	2.4	<0.51	5.9
	11/25/2015	37 (35)	<0.81 (<0.81)	<0.79 (<0.79)	<0.81 (<0.81)	<1.6 (<1.6)	<0.79 (<0.79)	25 (23)	<0.79 (<0.79)	45 (40)	<0.51 (<0.51)	107 (98)
	3/3/2016	72	<1.2	<1.2	<1.2	<2.4	<1.2	20	<1.2	45	<0.77	137
	5/24/2016	220	0.90	<0.79	<0.81	<1.6	<0.79	69	<0.79	130	<0.51	420
	8/22/2016	160	<0.81	<0.79	<0.81	<1.6	<0.79	35	<0.79	72	<0.51	267
	12/1/2016	190	<1.2	<1.2	<1.2	<2.4	<1.2	41	<1.2	87	<0.78	318
	3/23/2017	170	<0.81	<0.79	<0.81	<1.6	<0.79	36	<0.79	76	<0.51	282
	5/31/2017	310	<2.0	<2.0	<2.0	<4.0	<2.0	72	<2.0	120	<1.3	502
	8/23/2017	250	<2.4	<2.4	<2.4	<4.8	<2.4	62	<2.4	91	<1.5	403
	11/28/2017	130	<0.81	<0.14	<0.81	<1.6	<0.14	23	<0.79	52	<0.089	205
	2/20/2018	16 (18)	<8.1 (<8.1)	<1.4 (<1.4)	<8.1 (<8.1)	<16 (<16)	<1.4 (<1.4)	<14 (<14)	<7.9 (<7.9)	8.2 (7.3)	<0.89 (<0.89)	24.2 (25.3)

Table 3

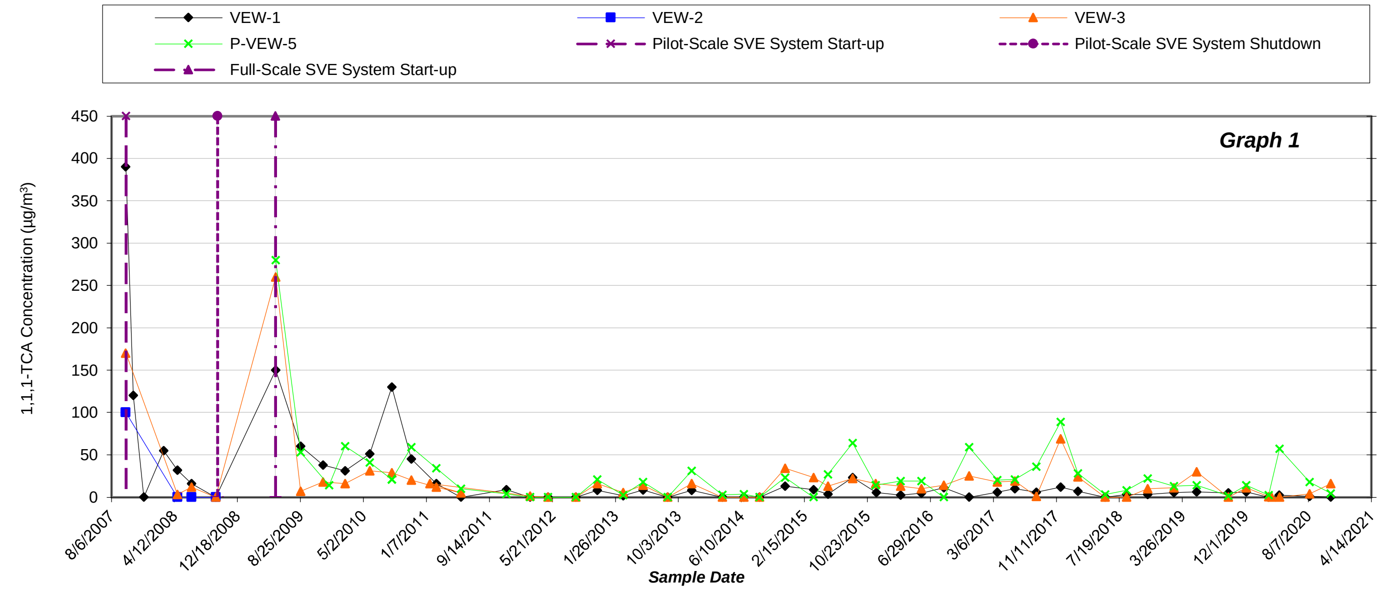
Soil Gas Analytical Results
Former TRW Aeronautical Systems Facility
Utica, New York

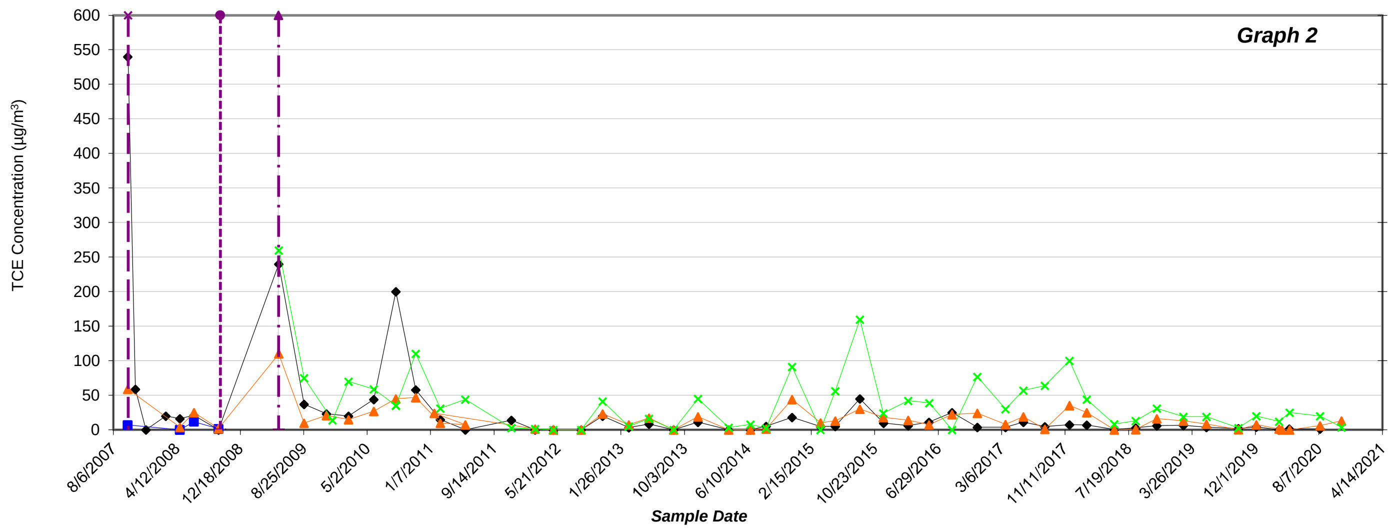
Sample Location:	Sample Date:	1,1,1-Trichloroethane (µg/m³)	1,1-Dichloroethane (µg/m³)	1,1-Dichloroethene (µg/m³)	1,2-Dichloroethane (µg/m³)	1,2-Dichloroethene (total) (µg/m³)	cis-1,2-Dichloroethene (µg/m³)	Tetrachloroethene (µg/m³)	trans-1,2-Dichloroethene (µg/m³)	Trichloroethene (µg/m³)	Vinyl Chloride (µg/m³)	Total VOCs (µg/m³)
P-VEW-13 con't	5/24/2018	56	<0.81	<0.14	<0.81	<1.6	<0.14	21	<0.79	24	<0.089	101
	8/16/2018	530 (530)	<2.4 (<2.4)	<0.41 (0.66)	<2.4	<4.7 (<4.7)	<0.60 (<0.60)	150 (150)	<2.4 (<2.4)	260 (260)	<0.60 (<0.60)	940 (941)
	11/8/2018	470	<8.1	<1.4	<8.1	<16	<2.0	76	<7.9	120	<2.0	666
	2/21/2019	190	0.34 J	<0.14	<0.81	<1.6	0.18 J	31	<0.79	80	<0.20	302
	5/23/2019	190 (210)	<0.20 (<0.20)	<0.35 (<0.35)	<2.0 (<2.0)	<4.0 (<4.0)	<0.50 (<0.50)	51 (54)	<2.0 (<2.0)	67 (76)	<0.50 (<0.50)	308 (340)
	9/25/2019	260 (280)	<4.0 (<4.0)	<0.70 (<0.70)	<4.0 (<4.0)	<7.9 (<7.9)	<1.0 (<1.0)	26 (26)	<4.0 (<4.0)	85 (87)	<1.0 (<1.0)	371 (393)
	12/3/2019	0.97 J (0.61 J)	<0.81 (<0.81)	<0.14 (<0.14)	<0.81 (<0.81)	<1.6 (<1.6)	<0.20 (<0.20)	<1.4 (<1.4)	<0.79 (<0.79)	<0.19 (0.20)	<0.20 (<0.20)	1.0 (0.8)
	3/2/2020	75 (79)	<0.81	<0.14	<0.81	<1.6	<0.20	11 (12)	<0.79	20 (20)	<0.20	106 (111)
	4/14/2020	120 (120)	0.18 J (<0.81)	<0.14	<0.81	<1.6	<0.20	9.0 (8.9)	<0.79	29 (30)	<0.20	158 (158)
	8/11/2020	340 D	<1.6	<0.28	<1.6	2.1 J	2.1	100	<1.6	190	<0.40	634
	11/3/2020	19	<0.81	<0.14	<0.81	<1.6	<0.20	2.8	<0.79	5.3	<0.20	27.1

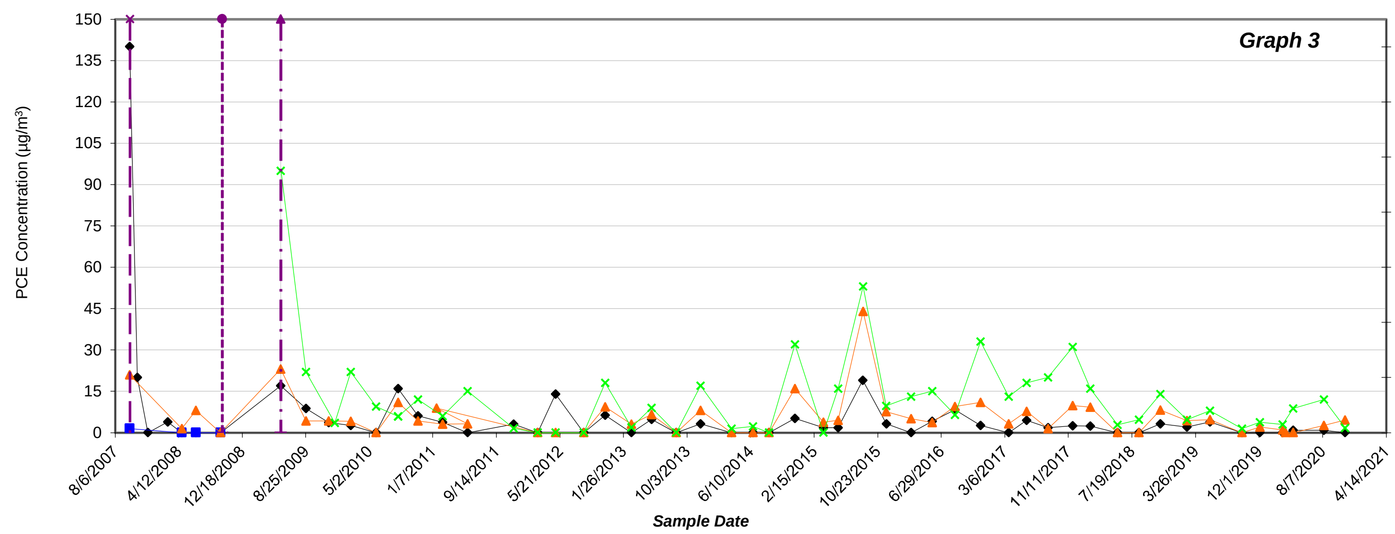
Notes:
- Soil gas sample results are for soil vapor probes included in the soil vapor extraction (SVE) pilot test monitoring program (includes probes where baseline, monthly, and bi-monthly sampling were performed) and those included in the full-scale SVE system.
- Sampling was performed at each Vapor Extraction Well (VEW) location while the blower was running, and vapors were being conveyed from the well to the blower, except during the May 19, 2009 and subsequent sampling events. Sampling on May 19, 2009 was performed before SVE system start-up to assess baseline conditions, and subsequent sampling events where performed with the blower temporary off to efficiently collect the sample. Sampling on October 2, 2007 was completed at the end of SVE step testing for each well.
- Samples were collected by ARCADIS or CRA/GHD during October 2006, September 2007, November 2007, December 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, and through May 2019.
- Samples were collected by GeoSyntec Consultants, Inc. during February 2007, May 2007, and August 2007 were analyzed by Alpha Woods Hole Laboratory of Westborough, Massachusetts.
- Samples were collected by GES from September 2019 through March 2020.
- Sample collection/analysis performed using United States Environmental Protection Agency Method TO-15.
- µg/m³ - micrograms per cubic meter
- J - Estimated value.
- '<' - Compound was not detected above the reported laboratory analytical detection limit.
- NA - Analysis was not performed for the indicated compound.
- Duplicate sample results are presented in (parantheses).
- August 2009 analytical results and results from subsequent sampling events have been validated.

Graphs 1 to 3

Concentration Trends in On-Site Vapor Extraction Wells
Former TRW Aeronautical Systems Facility
Utica, New York

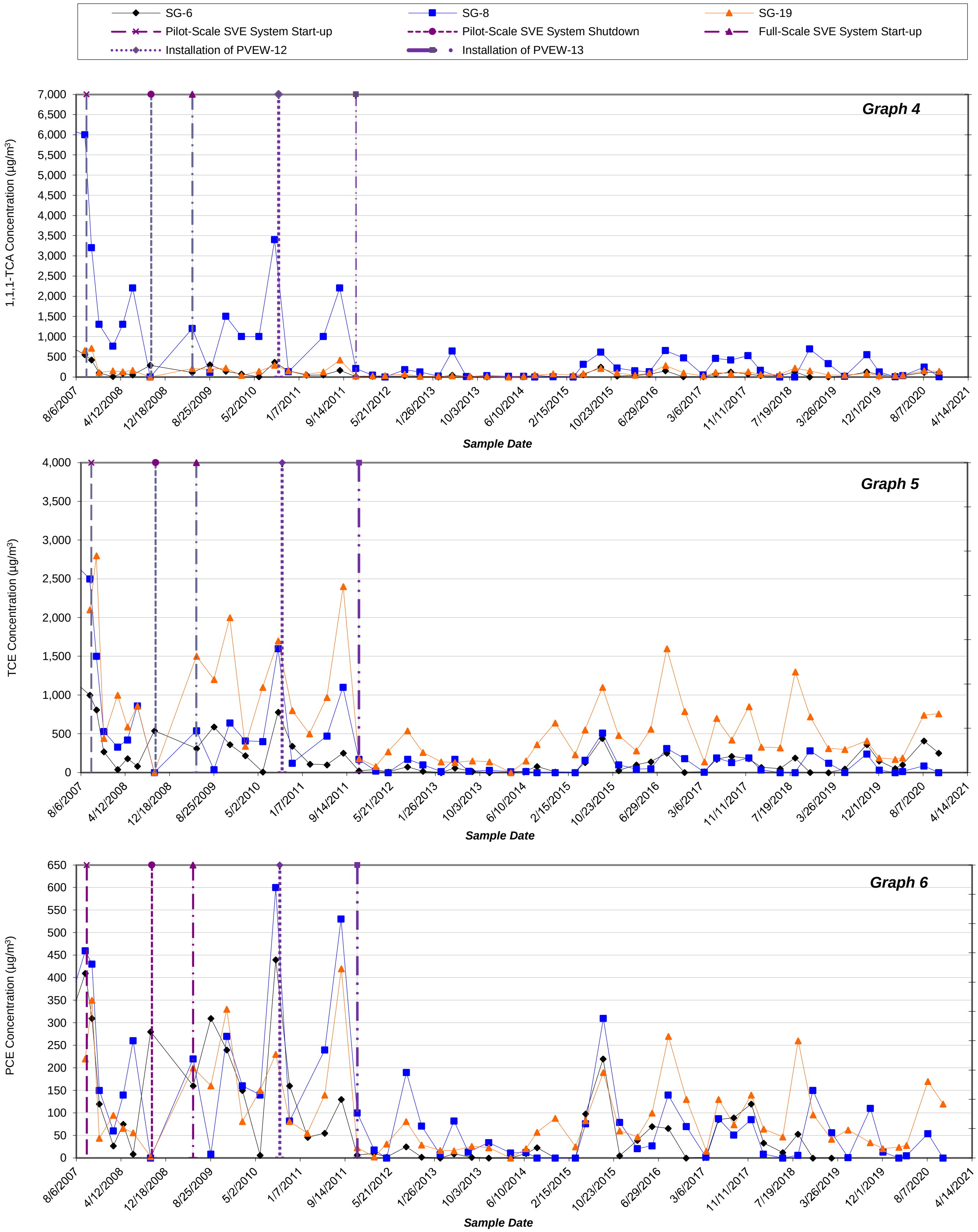






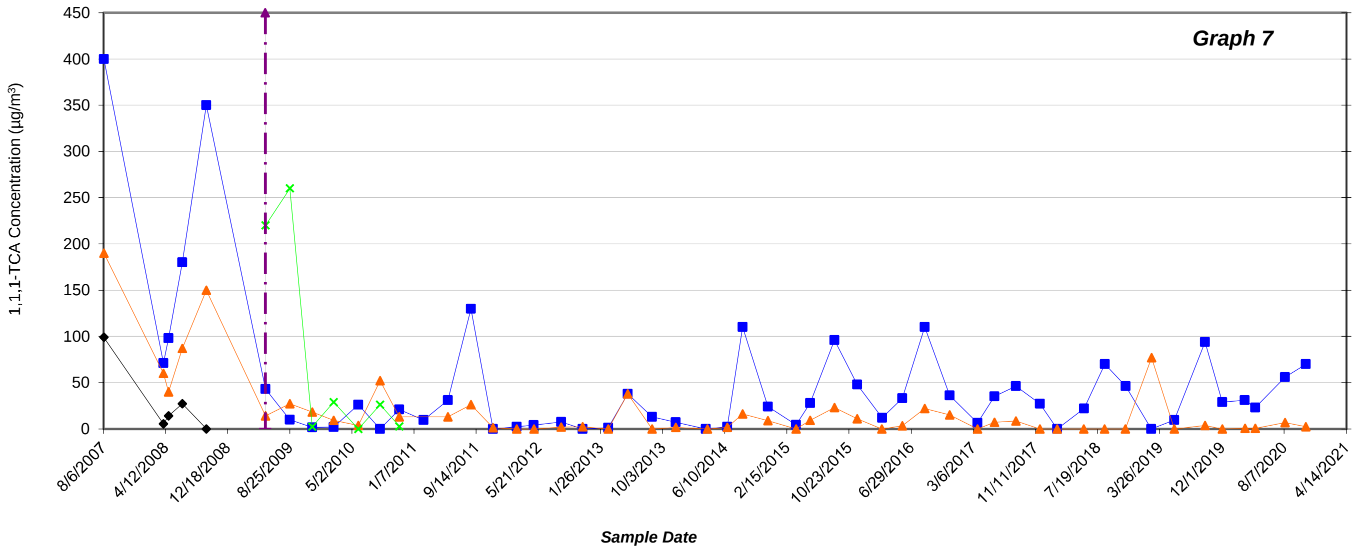
Graphs 4 to 6

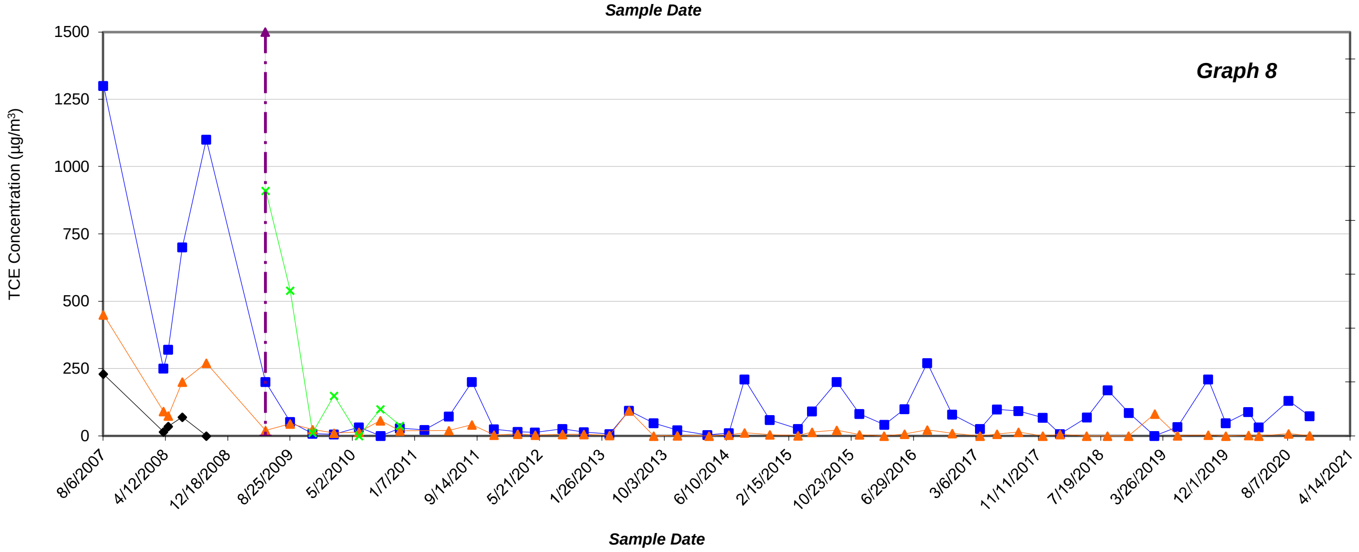
Concentration Trends in Off-Site Soil Gas Probes
Former TRW Aeronautical Systems Facility
Utica, New York

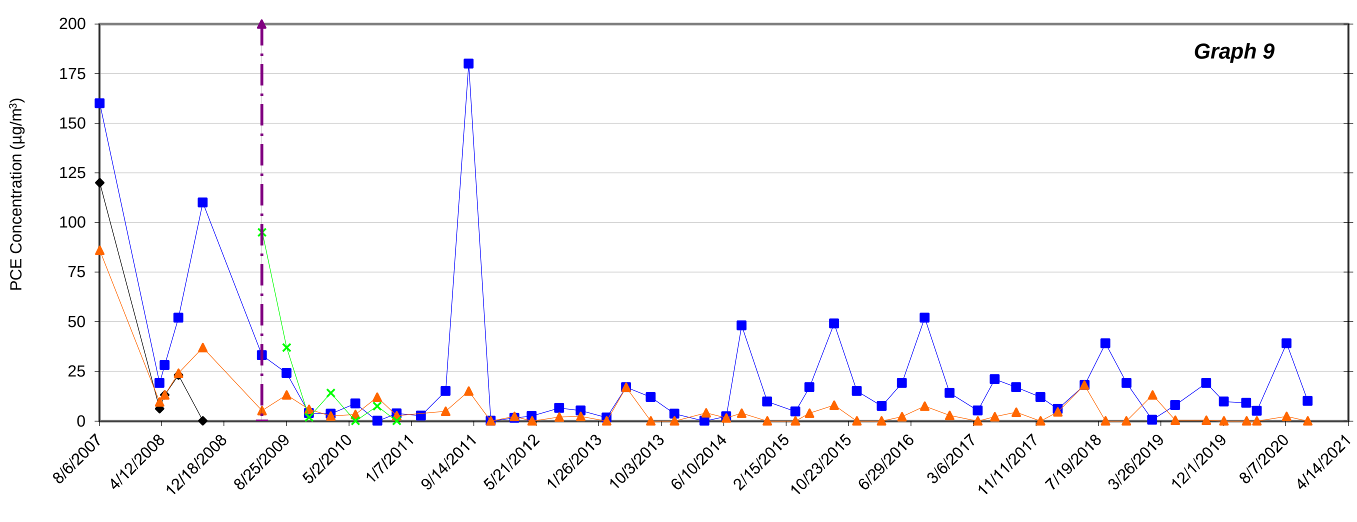


Graphs 7 to 9

Concentration Trends in Off-Site Soil Gas Probes
Former TRW Aeronautical Systems Facility
Utica, New York

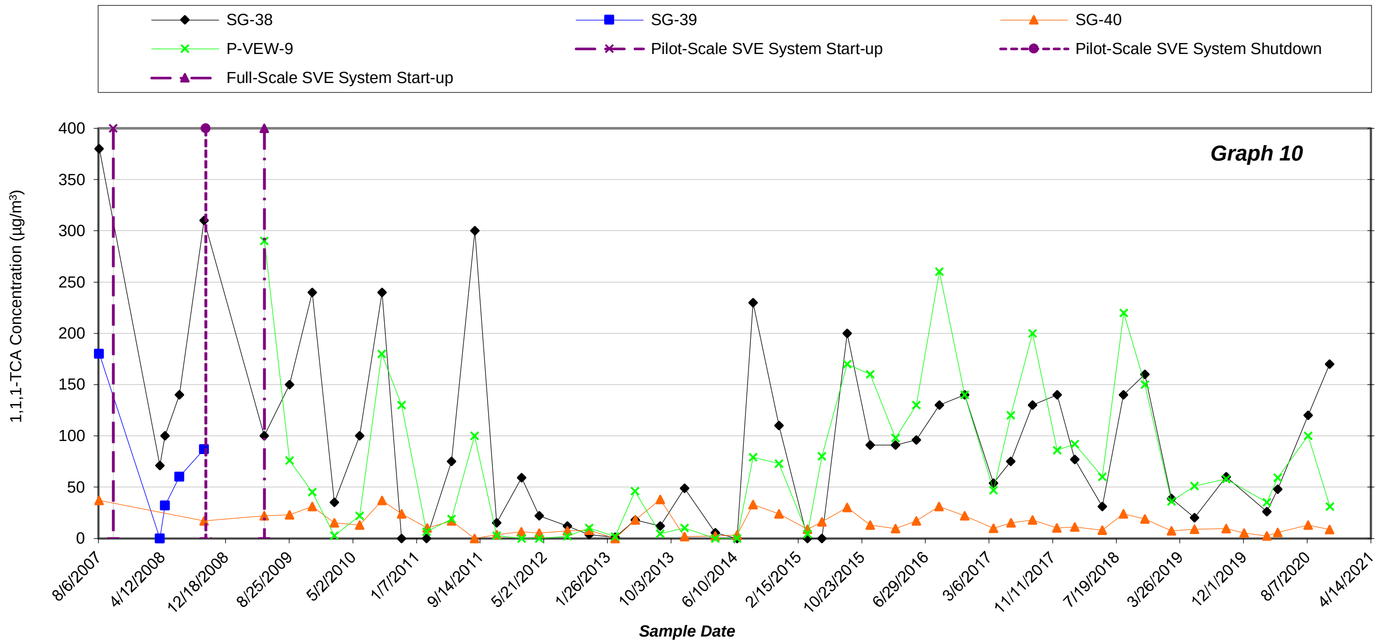


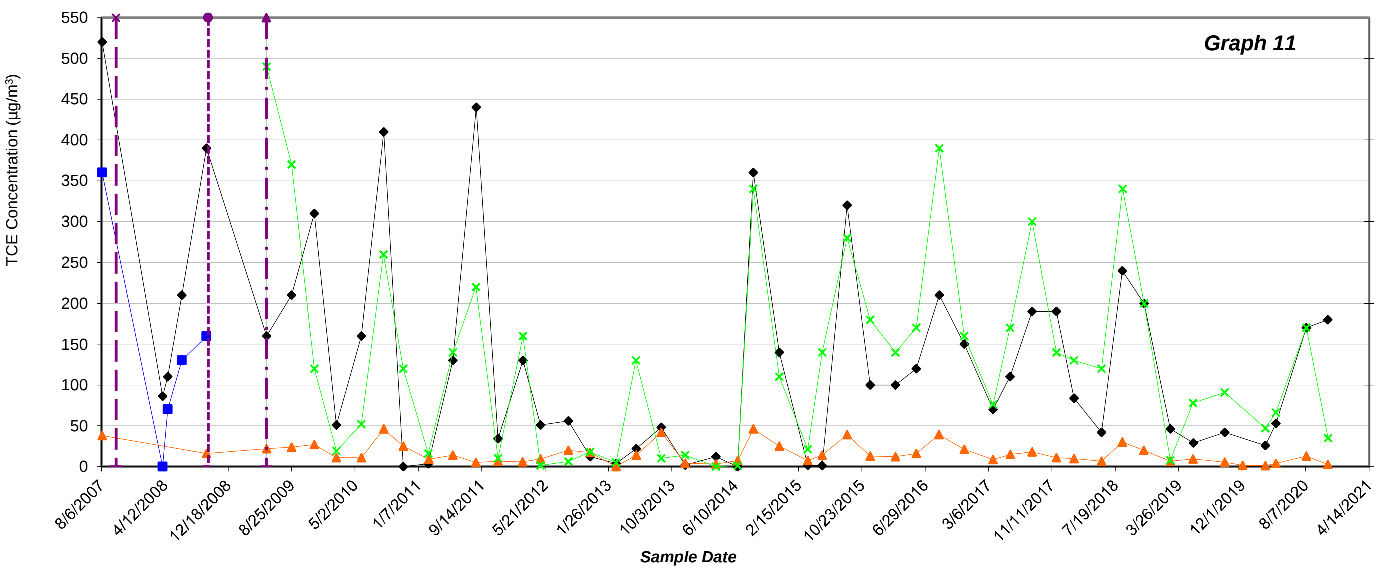


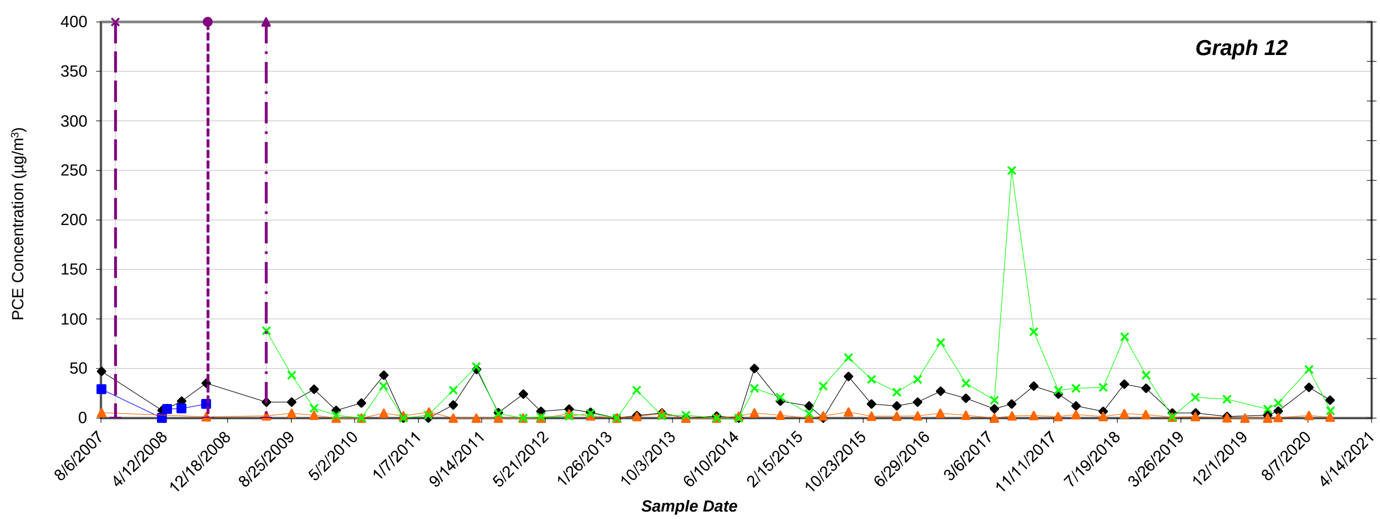


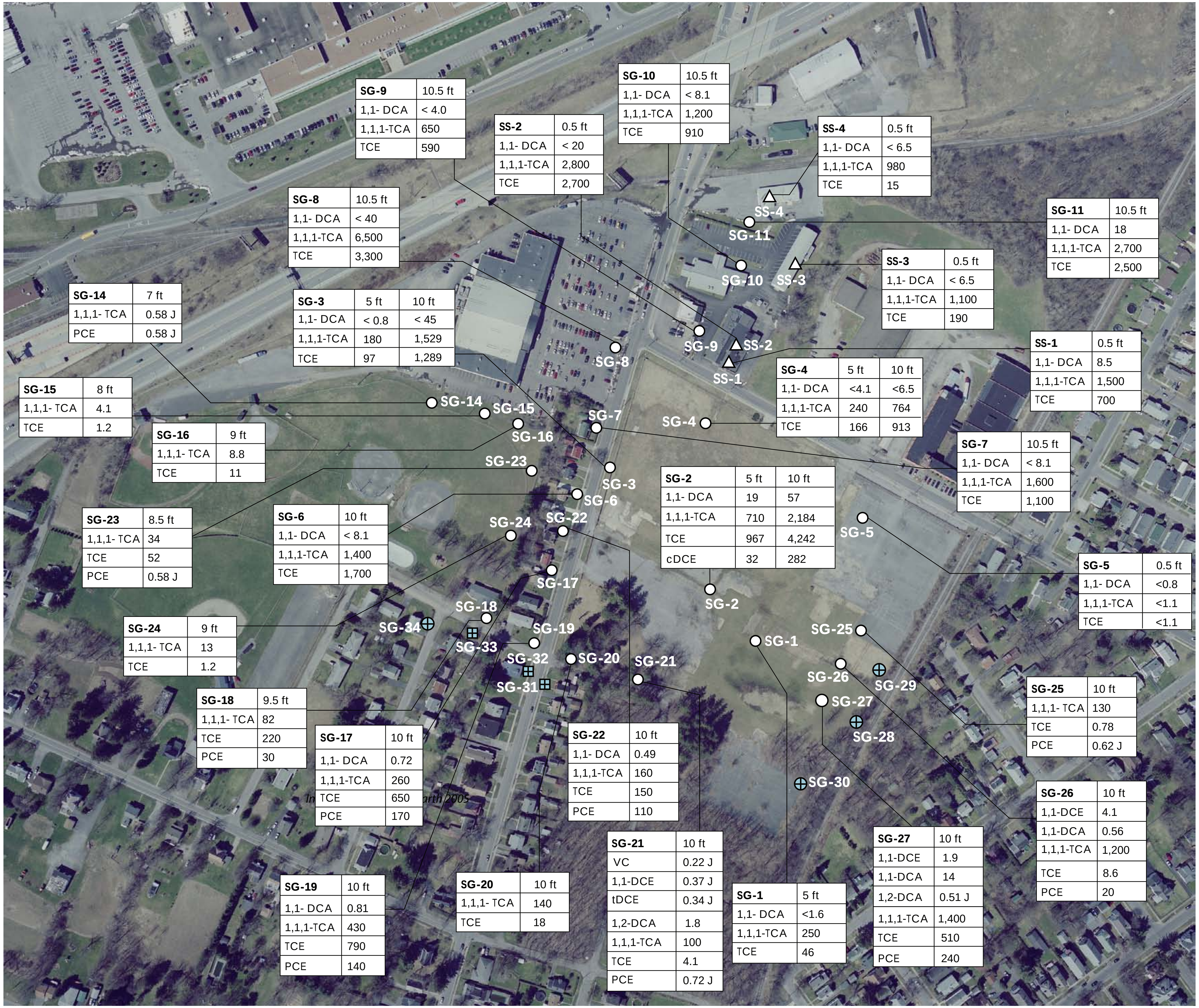
Graphs 10 to 12

Concentration Trends in Off-Site Soil Gas Probes
Former TRW Aeronautical Systems Facility
Utica, New York









○ Soil gas sample location

⊕ Soil gas sample location (proposed)

⊞ Multi-level soil gas sample location (proposed)

△ Sub-slab sample location

TCE	Trichloroethene
PCE	Tetrachloroethene
1,1,1-TCA	1,1,1-Trichloroethane
cDCE	cis-1,2-Dichloroethene
tDCE	trans-1,2-Dichloroethene
1,1-DCA	Trichloroethene
1,1-DCE	1,1-Dichloroethene
1,2-DCA	1,2-Dichloroethane
VC	Vinyl Chloride

SGP ID → | SG-17 | 10 ft | ← *approximate probe depth in feet below ground surface*

SG-17	10 ft
1,1- DCA	0.72
1,1,1-TCA	260
TCE	650
PCE	170

compound → ; ← *concentrations in μg/m³*

Soil Gas Results and Proposed Soil Gas Sample Locations
Former TRW Aeronautical Systems Facility
211 Seward Avenue, Utica, New York

Geosyntec consultants

Guelph | June 2007

Figure 1

preliminary SG results_11x17_crop.ai

APPENDIX B

March 15, 2006 NYSDEC Letter

New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bureau of Hazardous Waste & Radiation Management
625 Broadway, Albany, NY 12233-7258
Phone: (518) 402-8594 · **FAX:** (518) 402-9025
Website: www.dec.state.ny.us

March 15, 2006

Mr. Kurt Batsel
The Dextra Group, LLC
1205 Johnson Ferry Road
Suite 136-446
Marietta, Georgia 30068

Dear Mr. Batsel:

Re: Former TRW Aeronautical Systems Facility, Utica, NY, USEPA ID No. NYD002244911; Phase II Soil Gas Investigation Freedom of Information Law Request Summary; February 13, 2006

The New York State Department of Environmental Conservation (Department) reviewed the document referenced above and also discussed it with representatives of Lucas Western (Lucas) on March 3, 2006. The Department approves the document, with the condition that Lucas satisfactorily address the comments below.

Summary of FOIL Request Information

- On page 3 it is states that "no information was provided in response to the FOIL requests for eight of the identified businesses, including Sportplx, K&K Train and Hobby, Nunn & McGrath Funeral Directors, Blue Moon Café & Pub, Domino's Pizza, Chanantry's Market, Village Liquors, and Parkway Drugs". Generally, if a business handles, spills, emits and/or generates hazardous waste, then the Department would have records available for the business and/or the physical address, and would provide the information to Lucas. The Department does not have any records for these eight businesses.
- For Turbo Machined Products, a consent order was issued on January 28, 2002, with a $5,000 penalty paid by Turbo. The penalty was for a one time discharge of lubrication coolant into a facility toilet, and thus into the Oneida County POTW. (A copy of the order is enclosed for your information.)

Conclusions/Recommendations

- The Department agrees that no further action is necessary at Divine Brothers, Munson Machinery and Mercurio's Automotive.
- The Department agrees that Step 3 activities should be implemented at the following businesses: Sportplx, K&K Train & Hobby, Nunn & McGrath Funeral Directors, Turbo Machined Products, Blue Moon Café & Pub, and Domino's Pizza. The Department is primarily concerned about the businesses that sit directly above the groundwater plume, specifically Nunn & McGrath Funeral Directors and K&K Train & Hobby.

- In order for the Department to assist Lucas with obtaining access to the business properties, the following procedures must be followed: (1) Within three business days of receipt of this approval letter, or sooner, Lucas will submit a draft letter for the Department's review which explains to the business owner the reasons that access in needed to the property; the proposed activities that will be implemented ; and the time frame for completion of the activities. (2) Before the approved letter is sent to the business owner, Lucas will contact the owner by telephone and explain why a letter is being sent to them. (3) Lucas will send the approved letter, along with a NYSDOH fact sheet(s) explaining soil vapor intrusion, to the business owner within three business days of the Department's approval of the letter. (4) If access is denied at all of the businesses, or if no response is received ten business days of receipt of the letter, then Lucas must immediately contact the Department and move forward with the proposed sampling activities in the right of way along French Road.
- The Department agrees that at least one verification soil gas sample must be collected to the east of the Chanantry shopping center buildings. The sample shall be collected from the right of way along French Road, near the southeast parking lot of the Chanantry shopping plaza.

The Department and NYSDOH continue to strongly recommend that Lucas obtain soil gas samples in the right of way adjacent to French Road as soon as possible. The NYSDOH will review the sampling results and determine if no further action or additional soil gas sampling is necessary. Detailed information regarding soil vapor intrusion guidance can be found at the following website address:
http://www.health.state.ny.us/nysdoh/gas/svi_guidance.

If you have any questions, please contact me at (518) 402-8594.

Sincerely,

Alicia Barraza
Environmental Engineer
Hazardous Waste Engineering Eastern Section

Enclosure

cc w/o encl: J. Reidy, EPA Region II
Greg Rys, NYSDOH

ecc w/o encl: D. Evans
L. Rosenmann
S. Hamilton
Skip Shoemaker, Region 6

APPENDIX C

Corrective Measures Costing Summary Sheets

ARCADIS Design & Consultancy for natural and built assets

Table of Contents

Table B-1
Appendix B. Corrective Measures Costing Summary Sheets
Alternative A - No Further Action
Offsite Soil Vapor
Former TRW Aeronautical Systems Facility
Utica, New York

ITEM	QUANTITY	UNITS	UNIT COST	CAPITAL COST	TOTAL O&M COST	PERIODIC COST	PRESENT VALUE COST	ASSUMPTIONS
I. ADMINISTRATIVE ACTIONS								
No Further Action	0	LS	$0	$0	$0	$0	$0	No further actions are required.
SUBTOTAL				$0	$0	$0	$0	
II. REMEDY IMPLEMENTATION								
Vapor Point Abandonment	1	LS	$8,000	$8,000	$0	$0	$8,000	Plug and abandon all vapor sampling points.
Decommission SVE system	1	Each	$50,000	$50,000	$0	$0	$50,000	Remove SVE System at year 0.
Decommission SSD systems	14	LS	$3,000	$42,000	$0	$0	$42,000	Remove SSD systems from 11 residential and 3 commercial buildings.
SUBTOTAL				$100,000	$0	$0	$100,000	
SUBTOTAL (I and II)				$100,000	$0	$0	$100,000	
III. LONG-TERM MAINTENANCE, MONITORING & REVIEW (30 years)								
No Further Action	0	LS	$0	$0	$0	$0	---	
SUBTOTAL				$0	$0	$0	$0	
IV. PERIODIC COSTS								
No Further Action	0	Each	$0	$0	$0	$0	---	No further actions are required.
SUBTOTAL				$0	$0	$0	$0	
SUBTOTAL (I, II III, and IV)				$100,000	$0	$0	$100,000	
IV. IMPLEMENTATION COSTS								
Administration and Legal — 5% of Capital Costs	1	LS	$5,000	$5,000	$0	$0	$5,000	
Completion Report	1	LS	$10,000	$10,000	$0	$0	$10,000	Decommissioning report for vapor points and SVE and SSD systems.
O&M Contingency — 15% of O&M Costs	1	LS	$0	$0	$0	$0	---	
SUBTOTAL				$15,000	$0	$0	$15,000	
SUBTOTAL (I, II, III, IV and V)				$115,000	$0	$0	$115,000	
A. TOTAL CAPITAL COSTS				$115,000				
B. TOTAL ANNUAL & PERIODIC COSTS					$0	$0		
C. TOTAL PRESENT WORTH							$115,000	
TOTAL PRESENT WORTH OF CAPITAL AND ANNUAL COSTS							**$115,000**	

Notes:
LS Lump Sum
O&M Operation and Maintenance
SSD Sub-Slab Depressurization
All fields activities in Level D Personal Protective Equipment.
Costs are based on an accuracy of +50/-30% (USEPA 2000).
Present worth costs are calculated using 1% 30-year discount rate.

Table B-2
Appendix B. Corrective Measures Costing Summary Sheets
Alternative B - Sub-Slab Depressurization
Offsite Soil Vapor
Former TRW Aeronautical Systems Facility
Utica, New York

ITEM		QUANTITY	UNITS	UNIT COST	CAPITAL COST	TOTAL O&M COST	PERIODIC COST	PRESENT VALUE COST	ASSUMPTIONS
I. ADMINISTRATIVE ACTIONS									
Corrective Measures Work Plan		1	LS	$12,000	$12,000	$0	$0	$12,000	Engineering estimate for staff to draft, submit, and finalize the Corrective Measures Implementation Work Plan; includes draft, draft final, and final versions of the document. Plan will outline the system inspection, sampling analysis and frequency, and the reporting schedule.
SUBTOTAL					$12,000	$0	$0	$12,000	
II. REMEDY IMPLEMENTATION									
Inspection		1	LS	$2,000	$2,000	$0	$0	$2,000	No active implementation is required. A baseline inspection will be completed to confirm that SSD systems are operating as
Decommission SVE system		1	Each	$50,000	$50,000	$0	$0	$50,000	Remove SVE System at year 0.
Vapor Point Abandonment		1	LS	$8,000	$0	$0	$8,000	$8,000	Plug and abandon all vapor sampling points in year 0.
SUBTOTAL					$52,000	$0	$8,000	$60,000	
SUBTOTAL (I and II)					$64,000	$0	$8,000	$72,000	
III. LONG-TERM MAINTENANCE, MONITORING & REVIEW									
SSD System Inspection and Maintenance		10	Years	$10,000	$0	$100,000	$0	$94,700	Engineering estimate to inspect SSD systems annually for 10 years. Includes electrical cost to operate the SSD systems for 11 residential and 3 commercial properties and system repairs.
SUBTOTAL					$0	$100,000	$0	$94,700	
IV. PERIODIC COSTS									
SSD system shut-down criteria evaluation		1	LS	$35,000	$0	$0	$35,000	$31,700	SSD system shut-down criteria evaluation in year 10.
Decommission SSD systems		14	Each	$3,000	$0	$0	$42,000	$38,000	Remove SSD systems from 11 residential and 3 commercial buildings at year 10.
SUBTOTAL					$0	$0	$77,000	$69,700	
SUBTOTAL (I, II III, and IV)					$64,000	$100,000	$85,000	$236,400	
V. IMPLEMENTATION COSTS									
Administration and Legal		1	LS	$10,000	$10,000	$0	$0	$10,000	
Completion Report		1	LS	$30,000	$30,000	$0	$0	$30,000	Engineering estimate to compile the draft, draft final, and final versions of the Corrective Measures Completion Report.
O&M Contingency	15% of O&M Costs	1	LS	$15,000	$0	$15,000	$0	$12,900	
Periodic O&M Contingency	15% of Periodic O&M Costs	1	LS	$12,800	$0	$12,800	$0	$11,000	
SUBTOTAL					$40,000	$27,800	$0	$63,900	
SUBTOTAL (I, II, III, IV and V)					$104,000	$127,800	$85,000	$300,300	
A. TOTAL CAPITAL COSTS					$104,000				
B. TOTAL ANNUAL & PERIODIC COSTS						$127,800	$85,000		
C. TOTAL PRESENT WORTH								$300,300	
TOTAL PRESENT WORTH OF CAPITAL AND ANNUAL COSTS								**$300,000**	

Notes:
LS Lump Sum
O&M Operation and Maintenance
SSD Sub-Slab Depressurization
VOC Volatile Organic Compound
USEPA United States Environmental Protection Agency
All fields activities in Level D Personal Protective Equipment.
Costs are based on an accuracy of +50/-30% (USEPA 2000).
Present worth costs are calculated using 1% 30-year discount rate.

Table B-3
Appendix B. Corrective Measures Costing Summary Sheets
Alternative C - Sub-Slab Depressurization and Soil Vapor Extraction
Offsite Soil Vapor
Former TRW Aeronautical Systems Facility
Utica, New York

ITEM		QUANTITY	UNITS	UNIT COST	CAPITAL COST	TOTAL O&M COST	PERIODIC COST	PRESENT VALUE COST	ASSUMPTIONS
I. ADMINISTRATIVE ACTIONS									
Corrective Measures Work Plan		1	LS	$12,000	$12,000	$0	$0	$12,000	Engineering estimate for staff to draft, submit, and finalize the Corrective Measures Implementation Work Plan; includes draft, draft final, and final versions of the document. Plan will outline the system inspections, sampling analysis and frequency, and the reporting schedule.
SUBTOTAL					$12,000	$0	$0	$12,000	
II. REMEDY IMPLEMENTATION									
Inspection		1	LS	$2,000	$2,000	$0	$0	$2,000	No active implementation is required. A baseline inspection will be completed to confirm that the SSD systems are operating as intended.
SUBTOTAL					$2,000	$0	$0	$2,000	
SUBTOTAL (I and II)					$14,000	$0	$0	$14,000	
III. LONG-TERM MAINTENANCE, MONITORING & REVIEW									
SSD System Inspection and Maintenance		10	Years	$10,000	$0	$100,000	$0	$94,700	Engineering estimate to inspect SSD systems annually for 10 years. Includes electrical cost to operate the SSD systems for 11 residential and 3 commercial properties and system repairs.
SVE System Inspection, Maintenance, and Reporting		5	Years	$30,000	$0	$150,000	$0	$145,600	Engineering estimate to inspect SVE system annually for 5 years. Includes electrical cost to operate the SVE system.
SUBTOTAL					$0	$250,000	$0	$240,300	
IV. PERIODIC COSTS									
SSD system shut-down criteria evaluation		1	LS	$35,000	$0	$0	$35,000	$31,700	SSD system shut-down criteria evaluation in year 10.
SVE system shut-down criteria evaluation		1	LS	$20,000	$0	$0	$20,000	$19,000	SVE system shut-down criteria evaluation in year 5.
Decommission SSD systems		14	Each	$3,000	$0	$0	$42,000	$38,000	Remove SSD systems from 11 residential and 3 commercial buildings at year 10.
Vapor Point Abandonment		1	LS	$8,000	$0	$0	$8,000	$7,600	Plug and abandon all vapor sampling points in year 5.
Decommission SVE system		1	Each	$50,000	$0	$0	$50,000	$47,600	Remove SVE System at year 5.
SUBTOTAL					$0	$0	$155,000	$143,900	
SUBTOTAL (I, II III, and IV)					$14,000	$250,000	$155,000	$398,200	
V. IMPLEMENTATION COSTS									
Administration and Legal		1	LS	$10,000	$10,000	$0	$0	$10,000	
Completion Report		1	LS	$30,000	$30,000	$0	$0	$30,000	Engineering estimate to compile the draft, draft final, and final versions of the Corrective Measures Completion Report.
O&M Contingency	15% of O&M Costs	1	LS	$37,500	$0	$37,500	$0	$32,300	
Periodic O&M Contingency	15% of Periodic O&M Costs	1	LS	$23,300	$0	$0	$23,300	$20,000	
SUBTOTAL					$40,000	$37,500	$23,300	$92,300	
SUBTOTAL (I, II, III, IV and V)					$54,000	$287,500	$178,300	$490,500	
A. TOTAL CAPITAL COSTS					$54,000				
B. TOTAL ANNUAL & PERIODIC COSTS						$287,500	$178,300		
C. TOTAL PRESENT WORTH								$490,500	
TOTAL PRESENT WORTH OF CAPITAL AND ANNUAL COSTS (A + C)								**$491,000**	

Notes:
LS Lump Sum
O&M Operation and Maintenance
SSD Sub-Slab Depressurization
VOC Volatile Organic Compound
USEPA United States Environmental Protection Agency
All fields activities in Level D Personal Protective Equipment.
Costs are based on an accuracy of +50/-30% (USEPA 2000).
Present worth costs are calculated using 1% 30-year discount rate.

Present worth costs are calculated using 1.0% 30-year discount rate.

Total costs are rounded to the nearest $100.

Costs are based on an accuracy of +50/-30% (USEPA 2000).

This cost estimate represents the first opportunity to create a preliminary evaluation of probable alternative implementation costs, based on site-specific information collected to date. The intended use is to provide early-stage “order of magnitude” costs to allow for management decisions regarding further courses of action. Utilization of this cost estimate information beyond the stated purpose is not recommended. Arcadis is not licensed to provide financial or legal consulting services; as such, this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability reserves.

Cost estimates are based on Arcadis' past experience and vendor estimates or costs for current site activiites. Arcadis prepared these estimates using current and generally accepted cost estimation methods. These estimates are based on assumptions concerning future events, and actual costs may be affected by known and unknown risks, including, but not limited to, changes in general economic and business conditions, site conditions which were unknown to Arcadis at the time the cost esimate was prepared, future changes in site conditions, regulatory or enforcement policy changes, and delays in performance. Actual costs may vary from these estimates, and such variations may be material. Arcadis is not licensed as accountants or securities attorneys, and therefore make no representations that these cost estimates form an appropriate basis for complying with financial reporting requirements for such costs.

In providing opinions of probable construction costs, it is understood that Arcadis has no control over costs; the price of labor, equipment, or materials; or the construction contractor’s methods of pricing. The opinions of probable construction costs provided herein are to be made on the basis of Arcadis qualifications and experience. Arcadis makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs. Utilization of this cost estimate information beyond the stated purpose is not recommended.

This cost estimate assumes that all work is done during normal business hours (7:00AM-5:00PM, Monday-Friday). If night or weekend work is necessary, the costs described above may need to be revised.

Costs for on-site monitoring and other tasks not related to off-site soil vapor are not included in this Appendix.