SECOND FIVE-YEAR REVIEW REPORT
LAWRENCE AVIATION INDUSTRIES SUPERFUND SITE
PORT JEFFERSON STATION,
SUFFOLK COUNTY, NEW YORK

Prepared by

U.S. Environmental Protection Agency
Region 2
New York, New York

Approved by:

Date:

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS & ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CVOC	Chlorinated Volatile Organic Compound
Cvt	Concentrations Versus Time
COCs	Contaminant of Concern
EPA	United States Environmental Protection Agency
ICs	Institutional Controls
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OU	Operable Unit
O&M	Operation and Maintenance
PCE	Tetrachloroethene
PRPs	Potentially Responsible Parties
ROD	Record of Decision
RA	Remedial Action
RAO	Remedial Action Objective
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
RPM	Remedial Project Manager
TCE	Trichloroethene
VI	Vapor Intrusion
VOC	Volatile Organic Compound
µg/L	Micrograms Per Liter

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii)) and considering EPA policy.

This is the second FYR for the for the Lawrence Aviation Industries (LAI) Superfund site (Site) located in Port Jefferson Station, Suffolk County, New York. The triggering action for this statutory FYR is the completion date of the previous FYR, dated July 20, 2015. The FYR has been prepared due to the fact that hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE). The Site consists of one operable unit, which addresses contamination in soil, groundwater, surface water, and sediments.

The LAI Superfund Site FYR was led by Maria Jon, EPA Remedial Project Manager (RPM). Participants included Damian Duda (Eastern New York Remediation Section Chief), Chuck Nace (EPA Human Health and Ecological Risk Assessor), David Edgerton (EPA Hydrogeologist), and Cecilia Echols (EPA Community Involvement Coordinator).

Site Background

The LAI facility (LAIF) property, which is part of the Site, is located at 100 Sheep Pasture Road, Port Jefferson Station, Suffolk County, New York (refer to Figure 1: Facility Property Location Map) and covers approximately 42 acres. The LAIF was used historically to produce titanium sheeting for the aeronautics industry. Presently, the LAIF consists of 10 dilapidated former manufacturing buildings that occupy over 200,000 square feet of space, located in the southwestern portion of the property. A former drum-crushing area is located south of the buildings. Approximately 80 acres of the Site located to the northeast and east of the LAIF are referred to as the "Outlying Parcels" consisting of vacant, wooded areas. Finally, the Site also consists of a downgradient contaminated groundwater plume in a primarily residential area, located to the north of the LAIF.

Port Jefferson High School is within a one-mile radius of the Site. Topographically, the LAI properties (both the industrial facility and the Outlying Parcels) are located at approximately 225 feet above sea level. The Long Island Railroad and Sheep Pasture Road form the northern boundary of the LAIF property; to the east and the west are residential single-family homes; and to the south are a New York State Department of Transportation right-of-way (NYSDOT ROW) and the Long Island Power Authority ROW (LIPA ROW). The Village of Port Jefferson, the

Port Jefferson Harbor, which is an inlet of Long Island Sound, and a ferry terminal are located one mile to the north.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Lawrence Aviation Industries		
EPA ID: NYD002041531		
Region: 2	**State:** NY	**City/County:** Port Jefferson Station/Suffolk
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name (Federal or State Project Manager): Maria Jon		
Author affiliation: EPA		
Review period 6/30/2015 thru 1/15/2020		
Date of site inspection: 11/19/2019		
Type of review: Statutory		
Review number: 2		
Triggering action date: 7/20/2015		
Due date *(five years after triggering action date)*: 7/20/2020		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

EPA conducted a remedial investigation/feasibility study (RI/FS) of the Site for soil, surface water and groundwater from August 2003 to May 2005. The RI documented a VOC-plume originating at the LAIF and also identified soil contaminated with polychlorinated bi-phenyls (PCBs) on the LAIF property. The VOC that has been identified as the primary contaminant of

concern (COC) in groundwater and surface water is trichloroethene (TCE). The highest TCE concentrations in groundwater were detected on the LAIF at monitoring well MPW-07, at a depth of approximately 200 to 210 feet, with concentrations of approximately 1,100 micrograms per liter (µg/L).

The results of the Risk Assessment conducted indicated an unacceptable cancer risk from exposure to groundwater through ingestion, inhalation, and dermal contact from groundwater at the Site. Results also indicated an unacceptable noncancer hazard from exposure to groundwater through ingestion, inhalation, and dermal contact from contaminated groundwater, as well as an unacceptable noncancer hazard from exposure to PCB in surface soil at the LAIF industrial property.

A screening-level ecological risk assessment evaluation identified the potential for ecological adverse effects due to cis-1,2- dichloroethene (DCE) in surface water in Old Mill Creek (OMC) and Old Mill Pond (OMP); and PCBs in the soils at the LAIF.

Response Actions

A Record of Decision (ROD) for the LAI Site was issued in September 2006 and addressed contamination in soil, groundwater, surface water, and sediments. Each media is discussed separately below:

Soil and Sediment

The remedial action objectives (RAOs) for soil are to:

- Prevent or minimize human exposure with soils having PCB contaminant concentrations in excess of soil cleanup objectives; and
- Manage ecological risks.

The RAOs for LAI catch basin sediments are to:

- Prevent or minimize the potential release of contamination in catch basin sediments to soil and/or groundwater; and
- Prevent current and future ecological and human exposures to contaminated sediment.

There were no RAOs selected for sediments outside of the catch basin (i.e., downgradient of OMP, OMC and Port Jefferson Harbor). Because of the low bioaccumulation potential and low bioavailability, the potential risks to ecological receptors from exposures to the VOCs detected in sediments outside of the catch basin were considered low. The assumption was that after remediation of groundwater, Site-related VOC contamination will not persist in the surface water and sediment; therefore, no remedial action (RA) was required for the surface water and sediments.

The major components of the remedy that address contaminated soils and catch basin sediments were:

- Pre-design investigation;
- Excavation of surface soils at the LAIF exhibiting PCB concentrations exceeding the remediation goal of 1 part per million (ppm);
- Post-excavation sampling to verify achievement of soil cleanup objectives;
- Disposal of excavated soils at off-site facilities;
- Backfilling of excavated areas with clean fill;
- Institutional controls (ICs) consisting of an environmental easement/restrictive covenant filed in the property records of Suffolk County that will limit the use of the active industrial area to commercial and/or industrial uses only;
- Evaluation of additional catch basins and removal of sediments; and
- Evaluation of approximately 30 electrical transformers for leakage of PCB contents and implementation of RAs to address these transformers if cleanup objectives are exceeded.

Groundwater and Surface Water

The RAOs for groundwater are to:

- Prevent or minimize potential, current, and future human exposures including inhalation, ingestion and dermal contact with VOC-contaminated groundwater;
- Minimize the potential for off-site migration of VOC-contaminated groundwater;
- Restore groundwater to levels which meet New York State Groundwater and Drinking Water Quality Standards within a reasonable time frame; and
- Prevent or minimize VOC-contaminated groundwater from discharging into Port Jefferson Harbor.

The RAOs for surface water are to:

- Prevent or minimize potential human exposure including ingestion, inhalation and dermal contact with VOC-contaminated surface water;
- Restore surface water to levels which meet Surface Water Quality Standards within a reasonable time frame; and
- Prevent or minimize VOC-contaminated surface water that exceeds water quality standards from discharging into Port Jefferson Harbor.

The major components of the remedy that address contaminated groundwater are:

- Installation of groundwater extraction and treatment systems (GWTSs) both at the LAIF and within the plume area near OMP;
- *In-situ* chemical oxidation (ISCO) applied as an initial enhancement within the area of high TCE concentrations in groundwater at the LAIF;
- Imposition of institutional controls;
- Development of a Site Management Plan;
- Long-term groundwater and surface water monitoring to provide an understanding of changes in contaminant concentrations and distribution over time; and
- Investigate of vapor intrusion (VI) into structures within the area that could be potentially affected by the groundwater contamination plume, and implementation of an appropriate

remedy (such as subslab ventilation systems) based on the investigation results. Any new or renovated building or on-site structure that will be occupied in the future should be evaluated for soil VI.

As indicated in the ROD, surface water in the OMP and OMC was contaminated with VOCs, including TCE, tetrachloroethene (PCE) and *cis*-1,2-DCE, via contaminated groundwater discharging to surface water bodies. It was expected that by remediating the groundwater source of contamination, the contamination levels in the surface water and sediments would also be reduced and eliminated. As a result, no remedial action was selected to directly address contaminated surface water.

Status of Implementation

Remedial Action (RA) Activities for Soil, Sediment, Transformers and Drainage Structures

Transformers and Drainage Structures Remedial Activities

EPA inventoried, mapped and sampled 30 transformers for PCB analysis. On April 28, 2014, EPA removed the dielectric fluid from the three leaking transformers shipped the transformers off-site to a recycling facility. The drums of PCB-contaminated fluids and debris generated from the operation were also shipped off-site for disposal.

In June 2019, the New York Department of Environmental Conservation (NYSDEC), under an enforcement action, removed and properly disposed of 20 leaking transformers which contained approximately 1600 gallons of liquid with PCB concentrations ranging from 1.9 ppm to 160 ppm. These 20 transformers were part of the 30 transformers previously identified and were not leaking at the time that EPA evaluated them. Seven non-leaking transformers still remain at the LAIF with PCB concentrations ranging from non-detect to 22 ppm. The NYSDEC has secured these remaining transformers and they are inspected on a regular basis. NYSDEC is also conducting a spill removal action of oils in the machine pits and leaking machinery.

Drum Crushing Area Soil Remedial Activities

The Drum Crushing Area (DCA) is approximately three acres of cleared land located on the southwestern part of the property. The DCA was reportedly used as an area to crush drums prior to disposal. NYSDOT and LIPA right of ways (ROWs) are located within the DCA. Between January and September 2009, PCB-contaminated soil was excavated to a depth where a PCB concentration of 1 ppm or less was encountered. All remediated areas were lined with geotextile, backfilled and graded with a minimum of one foot of clean soil cover. Final restoration included seeding and mulching of all disturbed areas.

Recharge Basin Remedial Activities

The Recharge Basin is located on the southwestern corner of the LAIF. Sample locations where PCBs exceeded 1 ppm were remediated by excavating and properly disposing PCB-soils off-site. This area was backfilled only as needed to establish a consistent gradient throughout.

Areas of Concern Investigated and Remediated

Additional areas of concern (AOCs) of soil contamination at the LAI property had been identified for further remediation. All AOCs were excavated to a minimum total depth of 12 inches and were lined with geo-textile fabric, backfilled with clean fill. Approximately 17,000 tons of soil were excavated and shipped off-site for disposal.

Remedial Construction Activities for the LAI Facility Groundwater Remedy and the Old Mill Pond Groundwater Remedy

LAIF Groundwater Remedy

Completed in September 2010, the GWTS at the LAIF includes two groundwater extraction wells; an air stripper; transfer pumping system; bag filters; an off-gas treatment system (activated carbon adsorption); and five injection wells. The GWTS has maintained hydraulic plume control of the source area (Figure 3).

Old Mill Pond (OMP) Groundwater Remedy

In April 2010, the second GWTS near OMP (OMP GWTS) was constructed to remediate the contaminated groundwater emanating from the upgradient LAI property, as well as prevent contaminated water from discharging into the OMP, OMC, and Port Jefferson Harbor. The system includes five extraction wells, air stripper which is followed by two liquid-phase GAC units. The treated effluent is discharged into the Old Mill Pond and Old Mill Creek under a NYSDEC SPDES permit equivalent. The VOC contaminated air is treated by three vapor-phase GAC units in lead-lag phase before discharge.

Additional Site Activities

Enforcement Action under the NYSDEC

The NYSDEC, under an enforcement action, is currently conducting a spill removal action of oils in the machine pits and leaking machinery. To date over 3,000 gallons of machine oil has been removed, characterized and properly disposed off-site.

Vapor Intrusion (VI) Investigation and Mitigation

In January 2007, EPA initiated an investigation to determine if residences and other occupied buildings in the vicinity of the Site might be impacted by the intrusion of VOC vapors resulting from groundwater contamination beneath such properties. Permanent sub-slab soil gas ports were

installed in 59 locations. Subsequently, soil gas samples and ambient air samples were collected in SUMMA canisters and analyzed for VOCs.

In April 2008, subslab results for four properties (three residences and the local High School wrestling room) indicated the need for vapor mitigation systems to alleviate the potential for VI. As a result, four systems were installed. EPA continues to sample the subslab and indoor air at these four locations every year, as well as six other residences located in very close proximity to the homes where the mitigation systems were installed, and when requested by residents in the area. At present, based on the sampling conducted thus far, there are no public health issues related to indoor air quality within the Site area.

Additional Removal Activities

In December 2013, EPA discovered an active scrap salvaging operation being conducted by the property owner in Building G at the Site, with no regard to any environmental concerns. The salvaging activities caused Asbestos Containing Material (ACM) to be released onto the floor and to exterior areas. Also, mercury and an acid liquid were spilled onto the floor. As a result of EPA's cease and desist request, the property owner retained an environmental contractor to contain the releases of hazardous substances that had occurred.

From March until August 2014, EPA performed an emergency removal action to respond to additional threats resulting from this salvaging operation; these included temporarily securing Building G; re-packaging the asbestos, mercury and acid wastes, and disposing off-site; and completing a full-scale asbestos materials survey of all facility buildings. The data results of the asbestos survey confirmed the presence of friable asbestos in Building G. From December 2014 until March 2015, EPA performed a Time-Critical Removal Action at the Site to abate the friable asbestos releases and properly dispose of the materials off-Site.

Institutional Controls Implementation

Although not envisioned in the ROD, the Town of Brookhaven has implemented a local ordinance requiring any new buildings to be evaluated for potential VI before a certificate of occupancy is issued. The Town's recent Land Use Plan for the area calls for eliminating residential zoning on the LAI properties and replacing it with light industrial uses, such as factories, offices and storage facilities. The plan also calls for developing green energy projects, such as solar panel farms.

EPA is working with the State to implement the ICs on the LAI property limiting future use of the property to industrial/commercial usage. We have not been able to implement the ICs at the Site to date due to lack of cooperation from the property owner and ongoing court case.

Table 1: Summary of Planned and/or Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soil	Yes	Yes	LAI Industrial Property	Limit the use of the former industrial area to commercial and/or industrial uses only; and an evaluation for vapor intrusion into any new or renovated building or on-site structure that will be occupied in the future.	Environmental Easement/Restrictive Covenant are not yet in place.
Groundwater	Yes	Yes	LAI Industrial Property	Restrict the extraction, consumption exposure or use of groundwater at the Site while the groundwater contamination is above health-based levels.	Environmental Easement/Restrictive Covenant are not yet in place. ICs in the form of existing state and local regulations restrict future groundwater use at the Site. Specifically, the NYSDOH State Sanitary Code regulates and prevent the installation of wells at a hazardous waste site in the state.
Vapor Intrusion	Yes	Yes		Any new or renovated building or on-site structure that will be occupied in the future should be evaluated for VI.	Town of Brookhaven has implemented a local ordinance requiring any new buildings to be evaluated for potential VI before a certificate of occupancy is issued.

Systems Operations/Operation & Maintenance

Since October 2012, EPA's contractor, HDR, has been conducting the long-term response action (LTRA) which includes the operation, maintenance and monitoring of the LAI GWTS and the OMP GWTS. The LTRA is being conducted to hydraulically capture and to treat contaminated groundwater at the LAI Site, and to prevent the migration of contaminated groundwater further downgradient until restoration is achieved.

The LAI GWTS achieves hydraulic plume control of the contaminated source area by extracting contaminated groundwater via two extraction wells (EW-01 and EW-02). Extracted groundwater is treated by an air stripper and re-injected into the aquifer via five injection wells (IW-01 through IW-05) under a NYSDEC State Pollutant Discharge Elimination System (SPDES) permit equivalent. The air stripper achieves a total VOC influent mass removal rate of nearly 100%. The VOC vapors exiting the air stripper are treated by two vapor-phase granular activated carbon (GAC) units before discharging to the air under a NYSDEC air permit equivalent.

The system can be operated remotely; however, in the event of a shutdown an on-site visit is required for restart. Due to aluminum precipitation at the LAI facility, on average, on-site operator attention has been required for 24 hours per week to perform regular weekly maintenance functions and bag filter changes.

The downgradient OMP GWTS includes five extraction wells (EW-1 through EW-4 and EW-6) which capture and provide hydraulic control of the downgradient plume. Three of the extraction wells (EW-1, EW-2, and EW-6) are currently active. EW-3 and EW-4 are standby wells and are not utilized for the extraction of groundwater due to elevated iron levels. Extraction well EW-5 is not used for groundwater extraction and hydraulic control since the well is not of adequate size and depth for a pump. EW-5 is currently use for groundwater level measurements. The extracted groundwater is treated by an air stripper which is followed by two liquid phase GAC units. The treated effluent is discharged to OMP under a NYSDEC SPDES permit equivalent. The VOC vapor are treated by three vapor phase GAC units in lead-lag phase before discharge to the air under a NYSDEC air permit equivalent.

As part of the long-term groundwater (and surface water) monitoring plan, water-quality data has been collected to monitor changes in chlorinated VOC (CVOC) concentrations and distribution over time. The ongoing monitoring program consists of 65 monitoring locations, including multiport monitoring wells/extraction wells, and influent and effluent points to and from the air strippers. The effluent from the air stripper is sampled monthly; the extraction wells and re-injection wells are sampled on a quarterly basis. Sampling parameters include PCE, *cis*-1,2-DCE, TCE, ethylbenzene, xylenes, vinyl chloride, arsenic, chromium, lead, manganese, chlorides, iron, total dissolved solids, total suspended solids, pH and alkalinity.

Climate Change

Potential Site impacts from climate change have been assessed, and the performance of the remedy is currently not at risk due to the expected effects of climate change in the region and near the Site.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the last FYR as well as the recommendations from the last FYR and the current status of those recommendations.

Table 2: Protectiveness Determinations/Statements from the 2015 FYR

OU #	Protectiveness Determination	Protectiveness Statement
LAI Industrial Area	Short-term Protective	The implemented remedy is protective of human health and the environment in the short-term.
Sitewide	Short-term Protective	The remedy for LAI Site is protective of human health and the environment in the short term. However, in order for the remedy to be protective in the long term, a declaration of covenant, restrictions, and environmental easements need to be filed for the LAI manufacturing property that will limit the use of the industrial area to commercial and/or industrial uses only.

Table 3: Status of Recommendations from the 2015 FYR

OU #	Issue	Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
LAI Former Industrial Area	The deed notice contemplated by the Decision Document for the LAI Former Industrial Area has not been implemented.	The declaration of covenants, restrictions, and environmental easements should be implemented.	Ongoing	EPA is working with the State to implement the ICs on the LAI property We have not been able to implement the ICs at the Site to date due to lack of cooperation from the property owner and ongoing court case.	Expected 12/31/25

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

On October 1, 2019, EPA Region 2 posted a notice on its website indicating that it would be reviewing site cleanups and remedies at Superfund sites in New York, New Jersey, Puerto Rico and the US Virgin Islands, including the Lawrence Aviation Industries Superfund Site. The announcement can be found at the following web address: https://www.epa.gov/aboutepa/fiscal-year-2020-five-year-reviews

In addition to this notification, a public notice of the commencement of the FYR was sent to local public officials. The notice was provided to the Town on November 1, 2019, with a request that the notice be posted on the Village of Port Jefferson webpage. The purpose of the public notice was to inform the community that the EPA will be conducting the fourth FYR to ensure that the remedy implemented at the Site remains protective of human health and the environment and is functioning as designed. The notice included the contact information for the RPM and CIC for questions related to the FYR process or the Site. Once the FYR is completed, the results will be made available on EPA's Lawrence Aviation Industries Superfund Site http://www.epa.gov/superfund/LawrenceAviation and at the local Site repository located at the Port Jefferson Free Public Library, 100 Thompson Street, Port Jefferson, NY 11777. In addition, efforts will be made to reach out to stakeholders and local public officials to inform them of the results.

No interviews were conducted as part of this FYR.

Data Review

From June 2015-2019, groundwater samples were collected to measure performance of the two groundwater remediation systems. Analytical results are used to monitor contaminant levels over time and evaluate whether the extraction wells prevent or minimize offsite migration of impacted groundwater and discharges to Port Jefferson Harbor. Seventy-five groundwater samples were collected from 65 locations, consisting of seven extraction wells, six process monitoring points, nine multiport monitoring wells, three piezometers and 26 monitoring wells. The monitoring network is currently being sampled annually.

CVOCs have been detected in both surface water and groundwater at the Site. The primary COC for this remedial action is TCE and is the focus of this FYR. The TCE breakdown products cis-1,2-DCE and VC are commonly observed, but not at concentrations that exceed the drinking water standards, or with the same regularity as observed for TCE. Analytical results for TCE from 2008 to 2019 are summarized in Table 3, and historical results are integrated into the following discussion for clarification.

Groundwater Assessment

Analytical results show a general decline in TCE concentrations between 2010 and 2019 at most sampling locations (Table 3). The current extent of the TCE plume (footprint) are displayed in Figure 3. The most recent data indicates the overall plume mass (dissolved phase TCE) has decreased by approximately 60 percent (%) and is separating at the 100 µg/L contour into a source-attached (treated source area) plume and detached-downgradient plume. The separation of the plume into the treated source area and downgradient plume reflects a reduction in the source mass that sustained the plume at steady-state conditions. The performance of the groundwater remedy can be judged by analyzing TCE results from the treated source area, separately from the downgradient plume. Performance wells in the treated source area are: ERT-MW-2B, MW-ISCO-2, MW-ISCO-4 and MW-ISCO-5. Performance wells downgradient of the LAI facility are: MPW-04, MWP-12, MWP-14, MWP-16, and MWP-09 (Table 4 , Figures 2 and 3).

The overall performance of the groundwater remedy is measured by calculating the geometric mean of TCE results for samples collected from the performance wells between 2010 and 2019 (Table 4). The geometric mean is employed to account for spatial and temporal irregularities that in the short-term, may obscure the overall groundwater quality. These spatial and temporal irregularities are attributed to disturbances in the source area that were caused by the implementation of the remedy, and the active shrinking of the plume as it re-establishes at steady-state conditions.

The mean TCE concentrations for each sampling event performed in the first and second FYRs are listed in Table 4 and displayed as Concentration vs Time (Cvt) Plots in Figure 4. The Cvt plots for the treated source and downgradient plume exhibit declining trends, indicating the overall groundwater quality at the Site is improving. Based on the analysis of this data, we may conclude the following:

1. Mean TCE concentrations in both the treated source and downgradient plume areas display some scatter (Figure 4), but the overall declining trend indicates groundwater quality is improving (note: data scatter is expected, if a plume is shrinking).
2. Though concentrations in some wells fluctuated or even increased, mean TCE concentrations declined from 495 to 335 µg/L in the treated source area, and from 146 to 69 µg/L in the downgradient plume from 2014 to 2019 (Table 4).
3. Following the ISCO treatment, TCE concentrations rebounded between October 2010 and May 2012 before establishing an anticipated declining trend.

Groundwater: Emerging Contaminant

During the June 2018 sampling event, groundwater samples were collected and analyzed for 1,4-dioxane. In 2018, the New York State Drinking Water Council (NYSDWC) proposed a maximum contaminant limit (MCL) of 1.0 µg/L for 1,4-dioxane. Analytical results identified 1,4-dioxane in 15 of the 65 groundwater samples; however, the 1,4-dioxane concentrations ranged from non-detect to 0.55J µg/L, which are below the proposed state MCL.

Surface Water: Qualitative Assessment

During the June 2018 sampling event (Figure 2), six surface water samples were collected and analyzed for VOCs and 1,4-dioxane. Four fresh water samples were collected from OMP, and two salt water samples from Port Jefferson Harbor. TCE and its derivatives (cis-1,2-DCE and VC) were detected at three of six locations. Freshwater samples collected from OMP, identified 16 µg/L TCE at location SW06, a decrease of almost two-orders of magnitude from the baseline concentration of 340 µg/L; 8.0 µg/L TCE at location SW07 and 4.2 µg/L TCE at SW08, a decrease of approximately two-orders of magnitude from both their respective baseline concentrations of 280 and 230 µg/L, respectively (Table 3 and Figure 2). Salt water samples collected from Port Jefferson Harbor, exhibited 0.57 µg/L TCE at location SW-15; and 8.8 µg/L TCE at location SW-16, an increase from 1.7 µg/L TCE that was exhibited in the 2016 sampling event (Table 6 and Figure 2). The contaminant 1,4-dioxane was detected in three of the six surface water samples but at concentrations below the proposed state MCL of 1.0 µg/L.

Site Inspection

A Site inspection was conducted on November 19, 2019. In attendance were Maria Jon (EPA-RPM), David Edgerton (EPA-Hydrogeologist), Steve Scharf (NYSDEC), Payson Long (NYSDEC), and Demetrios Klerides (HDR). The purpose of the inspection was to assess the protectiveness of the remedy. Observations made during the inspection indicated that the remedy-related infrastructure was in good condition. All the monitoring well casings and extraction wells were found to be properly secured and locked, and the treatment system buildings were found to be properly secured. During the FYR process, EPA communicated with the PRP, and the State of New York. No interviews were conducted for this FYR.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

The remedy was designed to remove contaminated soil, to control migration of contaminated groundwater and to treat groundwater contamination through pumping and treatment. Currently, the soil exposure pathway has been eliminated due to removal of contaminated soil, and the groundwater pathway is not complete due to the drinking water source being municipal water. There is still contaminated groundwater discharging to the Old Mill Pond located downgradient of the Site, although concentrations have decreased since implementing the pump and treat remedy and do not pose an unacceptable human health or ecological risk.

Water quality data collected during the second FYR generally show a decrease in VOC concentrations, particularly TCE, from both the pre-design and first FYR concentrations. A semi-quantitative analysis of the TCE mass in the plume footprint indicates a 60% mass reduction. The groundwater plume continues to decrease in both size and concentration since the implementation of the groundwater remedy. Given the successes observed so far, the remedy is functioning as intended, although cleanup goals have not been reached.

Surface water quality has improved significantly since the OMP GWTS began operating in August 2011. Analytical results for TCE in surface water samples collected from the OMP have decreased by two-orders of magnitude from 2008 to 2018. The remedy is improving groundwater quality; however, TCE in the OMP still exceeds the RAOs that are specified in the ROD. Analytical results for 1,4-dioxane were below the proposed state MCL of 1.0 µg/L

Consistent with the selected remedy, EPA evaluated the potential for VI at properties overlying the downgradient plume. Based on subslab sampling results, four subslab mitigation systems were installed. EPA is continuing its VI sampling at these properties each winter heating season.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Human Health – (a) As was done in the previous FYR, the exposure assumptions and exposure pathways that were used in the risk assessment were reviewed and were found to still be valid.

The pathways that were evaluated included industrial/commercial, recreational and future residential for inhalation, dermal and ingestion of groundwater; inhalation, dermal, and ingestion of surface soil; and inhalation, dermal and ingestion of sediment and surface water. These pathways are still valid. (b) The previous FYR discussed the change in the TCE toxicity value and concluded that the outcome of the risk assessment would still be valid, and the cleanup levels were not impacted by the toxicity change. This finding remains valid for this FYR. (c) The cleanup levels that were used for the soil, sediment and surface water were NYSDEC values, and the groundwater cleanup levels were the lower of the state and federal maximum contaminant levels. The values chosen in the ROD are still valid. (d) The RAOs for soil, groundwater and sediment and surface water are still valid.

VI was evaluated and continues to be evaluated, as part of the O&M of the remedy. EPA continues to monitor the four subslab mitigation systems installed. In addition, a local ordinance has been put into place that requires any new or renovated building or any structure that will be occupied in the future at the LAI facility to be evaluated for VI.

Ecological – The ecological evaluation that was conducted for the RI indicated that there are contaminants present in the surface water and sediments of OMP and OMC and surface soil of the LAI Facility that may cause adverse health effects to the flora and fauna in the area. These adverse health effects could consist of impacts in growth, reproduction, and survival of plants, aquatic invertebrates, fish, soil invertebrates, and terrestrial birds and mammals. Further evaluation determined that surface water in OMP and OMC has the potential to cause ecological adverse health effects due to cis-1,2-DCE and at LAI soils due to PCBs.

The recent groundwater monitoring data indicates that groundwater concentrations are decreasing over time and that the groundwater plume is decreasing in size. Both of these factors will lead to a decrease in the concentration of cis-1,2-DCE discharging to OMP. The on-site soil that contained PCBs at elevated levels has been excavated and backfilled with clean soil. Thus, the exposure pathway for ecological receptors exposed to on-site soil has been eliminated. All of the cleanup values and RAOs associated with ecological receptors are still valid.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations				
OU(s) without Issues/Recommendations Identified in the Five-Year Review:				
OU(s): LAI former industrial area	**Issue Category: Institutional Controls**			
	Issue: The deed notice contemplated by the Decision Document for the LAI former industrial area has not been implemented.			
	Recommendation: File a declaration of covenant, restrictions, and environmental easements for the LAIF property to limit the use to commercial and/or industrial uses only.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	PRP	EPA	12/31/2025

OTHER FINDINGS

There are no other findings in this FYR.

VII. PROTECTIVNESS STATEMENT

Protectiveness Statement(s)		
Operable Unit: LAI industrial Area	*Protectiveness Determination:* Short-term Protective	*Planned Addendum Completion Date:* Click here to enter a date

Protectiveness Statement:
The remedy for the LAI Site is protective of human health and the environment in the short term because all exposure routes have been addressed, groundwater concentrations are decreasing and impacts to surface water lessening. In order to be protective in the long term, a declaration of covenant, restrictions, and environmental easements need to be filed for the LAI manufacturing property that will prohibit groundwater use and limit the use of the industrial area to commercial and/or industrial uses only.

Sitewide Protectiveness Statement

Protectiveness Determination:	*Planned Addendum Completion Date:*
Short-term Protective	Click here to enter a date

The remedy for LAI Site is protective of human health and the environment in the short term because all exposure routes have been addressed, groundwater concentrations are decreasing and impacts to surface water lessening. In order to be protective in the long term, a declaration of covenant, restrictions, and environmental easements need to be filed for the LAI manufacturing property that will prohibit groundwater use and limit the use of the industrial area to commercial and/or industrial uses only.

VIII. NEXT REVIEW

The next FYR for the LAI Superfund Site is required five years from the completion date of this review.

TABLE 4
SUMMARY ANALYTICAL RESULTS FOR TCE
IN PERFORMANCE MONITORING WELLS[1] IN THE
TREATED SOURCE AREA AND DOWNGRADIENT PLUME (2014 TO 2019)
LAWRENCE AVIATION

Date	ERT-EW-3	ERT-EW-4	ERT-EW-5	ERT-MW-1A	ERT-MW-1B	ERT-MW-2A	ERT-MW-2B	ERT-MW-2C	ERT-MW-2D	ERT-MW-3	ERT-MW-4A	ERT-MW-4B
May-08	---	---	---	---	---	---	---	---	---	---	---	---
Sep-10	---	---	---	---	---	---	---	---	---	---	---	---
Mar-11	---	---	---	---	---	---	---	---	---	---	---	---
Jun-11	---	---	---	---	---	---	---	---	---	---	---	---
Sep-11	---	---	---	---	---	---	---	---	---	---	---	---
Dec-11	---	---	---	---	---	---	---	---	---	---	---	---
Mar-12	---	---	---	---	---	---	---	---	---	---	---	---
May-12	---	---	---	---	---	---	---	---	---	---	---	---
Jul-12	---	---	---	---	---	---	---	---	---	---	---	---
Sep-12	---	---	---	---	---	---	---	---	---	---	---	---
Jun-14	16.0	9.40	16.0	29.0	20.0	16.0	300	95.0	18.0	0.5U	1.10	1.30
Jun-15	15.0	3.90	9.40	24.0	21.0	4.30	240	70.0	28.0	0.5U	1.10	0.64
Jun-16	5.10	16.0	0.5U	15.0	13.0	0.5U	120	35.0	30.0	0.5U	0.5U	0.5U
Jun-17	8.90	13.0	0.2J	19.0	14.0	4.10	240	73.0	35.0	0.33J	1.10	0.85
Jun-18	8.60	7.10	0.3J	18.0	10.0	---	200	87.0	28.0	0.18J	1.10	0.84
Jun-19	8.5	13.0	0.88	17.0	11.0	0.7	360	180	28.0	0.5U	1.70	1.60
Maximum	16.0	16.0	16.0	29.0	21.0	16.0	360	180.0	35.0	0.5U	1.70	1.60
Minimum	5.10	3.90	0.2J	15.0	10.0	0.5U	120	35.0	18.0	0.18J	0.5U	0.5U

Date	ERT-MW-5A	ERT-MW-5B	ERT-MW-6A	ERT-MW-6B	IW-ISCO-10	MPW-01-A	MPW-01-B	MPW-01-C/01	MPW-02-B/02	MPW-02-C	MPW-02-D	MPW-03-B
May-08	---	---	---	---	---	---	---	5U	820	---	---	---
Sep-10	---	---	---	---	---	---	---	0.5U	180	---	---	---
Mar-11	---	---	---	---	---	---	---	0.60	500	---	---	---
Jun-11	---	---	---	---	---	---	---	0.5U	310	---	---	---
Sep-11	---	---	---	---	---	---	---	0.5U	51.0	---	---	---
Dec-11	---	---	---	---	---	---	---	0.62	39.0	---	---	---
Mar-12	---	---	---	---	---	---	---	0.66	15.0	---	---	---
May-12	---	---	---	---	---	---	---	---	56.0	---	---	---
Jul-12	---	---	---	---	---	---	---	0.79	28.0	---	---	---
Sep-12	---	---	---	---	---	---	---	0.80	29.0	---	---	---
Jun-14	1.20	1.20	45.0	31.0	200	0.5U	0.5U	1.10	0.5U	0.87	0.5U	1.80
Jun-15	0.73	0.78	32.0	18.0	220	0.5U	0.5U	0.58	0.43J	0.83	0.58	2.40
Jun-16	0.5U	0.5U	20.0	5.40	130	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.10
Jun-17	0.73	0.67	32.0	3.10	26.0	0.5U	0.5U	0.65	1.90	0.42J	0.27J	2.20
Jun-18	0.78	0.61	22.0	3.10	18.0	0.5U	0.5U	0.57	0.3J	0.34J	---	3.30
Jun-19	1.40	1.40	28.0	4.40	24.0	0.5U	0.5U	0.78	8.3	6.10	---	3.10
Maximum	1.40	1.40	45.0	31.0	220	0.5U	0.5U	1.10	820	0.87	0.58	3.30
Minimum	0.5U	0.5U	20.0	3.10	18.0	0.5U	0.5U	0.5U	0.3J	0.34J	0.27J	1.10

1. Monitoring well locations displayed on Figures 2 and 3

TABLE 4 (cont'd)
SUMMARY ANALYTICAL RESULTS FOR TCE
IN PERFORMANCE MONITORING WELLS[1] IN THE
TREATED SOURCE AREA AND DOWNGRADIENT PLUME (2014 TO 2019)
LAWRENCE AVIATION

Date	MPW-03-C/03	MPW-03-D	MPW-04-B/04	MPW-04-D	MPW-04-E	MPW-05-A	MPW-05-B	MPW-05-C	MPW-05-D	MPW-06-A	MPW-06-B	MPW-06-D
May-08	1.90	---	100.0	---	---	---	---	---	---		---	---
Sep-10	5.30	---	38.0	---	---	---	---	---	---		---	---
Mar-11	8.90	---	85.0	---	---	---	---	---	---		---	---
Jun-11	6.70	---	59.0	---	---	---	---	---	---		---	---
Sep-11	8.50	---	55.0	---	---	---	---	---	---		---	---
Dec-11	6.80	---	44.0	---	---	---	---	---	---		---	---
Mar-12	6.10	---	35.0	---	---	---	---	---	---		---	---
May-12	7.20	---	32.0	---	---	---	---	---	---	---	---	---
Jul-12	4.70	---	43.0	---	---	---	---	---	---	4.20	---	8.80
Sep-12	4.80	---	33.0	---	---	---	---	---	---		---	---
Jun-14	3.70	2.10	32.0	39.0	1.20	0.5U	0.5U	0.5U	2.20	2.70	0.5U	4.10
Jun-15	1.60	2.60	6.30	0.46	0.46	0.5U	0.5U	1.70	2.20	0.5U	0.15J	3.70
Jun-16	0.5U	1.00	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	3.30
Jun-17	1.10	2.80	1.50	0.50	0.4J	0.5U	0.5U	1.60	1.60	0.5U	0.5U	3.50
Jun-18	0.87	2.20	3.20	0.61	0.33J	0.5U	0.5U	1.70	1.60	0.5U	0.19J	3.30
Jun-19	1.10	4.00	3.40	0.62	0.61	0.5U	0.5U	2.20	2.40	0.5U	0.54	4.00
Maximum	8.90	4.00	100	39.0	1.20	0.5U	0.5U	1.70	2.20	4.20	0.54	8.80
Minimum	0.5U	1.00	0.5U	0.5U	0.33J	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	3.30

Date	MPW-08-A	MPW-08-B	MPW-08-C	MPW-08-D	MPW-08-E	MPW-09-A	MPW-09-B	MPW-09-C	MPW-09-D	MPW-09-E	MPW-10-A	MPW-10-B
May-08	---	---	---	---	---	---	---	---	---	---	---	59.0
Sep-10	---	---	---	---	---	---	---	---	---	---	---	53.0
Mar-11	---	---	---	---	---	---	---	---	---	---	---	59.0
Jun-11	---	---	---	---	---	---	---	---	---	---	---	61.0
Sep-11	---	---	---	---	---	---	---	---	---	---	---	56.0
Dec-11	---	---	---	---	---	---	---	---	---	---	---	60.0
Mar-12	---	---	---	---	---	---	---	---	---	---	---	48.0
May-12	---	---	---	---	---	27.0	---	---	---	---	---	---
Jul-12	---	---	---	---	---	---	---	---	---	---	---	54.0
Sep-12	---	---	---	---	---	---	660	---	---	---	---	46.0
Jun-14	1.30	2.00	5.60	16.0	17.0	15.0	1100	510	430	8.00	31.0	32.0
Jun-15	0.76	1.50	4.70	14.0	15.0	17.0	140	430	200	4.50	32.0	20.0
Jun-16	0.5U	0.5U	2.40	7.40	5.00	13.0	260	43.0	210	2.40	20.0	35.0
Jun-17	0.53	0.91	1.80	9.90	7.60	13.0	38.0	300	230	0.94	15.0	18.0
Jun-18	0.34J	0.56	1.90	10.0	6.50	27.0	2.90	140	150	0.79	6.80	10.0
Jun-19	0.5U	0.71	2.80	9.20	3.70	22.0	32.0	150	230	1.1	3.9	6.0
Maximum	1.30	2.00	5.60	16.0	17.0	27.0	1,100	510	430	8.00	32.0	61.0
Minimum	0.34J	0.5U	1.80	7.40	3.70	13.0	2.90	43.0	150	0.79	6.80	10.0

1. Monitoring well locations displayed on Figures 2 and 3

TABLE 4 (cont'd)
SUMMARY ANALYTICAL RESULTS FOR TCE
IN PERFORMANCE MONITORING WELLS[1] IN THE
TREATED SOURCE AREA AND DOWNGRADEINT PLUME (2014 TO 2019)

Date	MPW-10-C	MPW-10-D	MW-05	MW-ISCO-2	MW-ISCO-4	MW-ISCO-5	MW-PD-11	MW-PD-12	MW-PD-13	MW-PD-14	MW-PD-15	MW-PD-16
May-08	---	---	8.40	---	---	---	0.5U	240	0.5U	350	35.0	1,900
Sep-10	---	---	0.70	69.0	---	1.00	0.5U	230	0.5U	---	---	---
Mar-11	---	---	0.50	120	---	2.70	0.5U	390	0.5U	---	---	---
Jun-11	---	---	0.69	0.50	---	0.50	0.5U	460	0.5U	---	---	---
Sep-11	---	---	0.50	56.0	88.0	110	0.5U	590	0.5U	---	---	---
Dec-11	---	---	0.52	56.0	29.0	5.40	0.5U	330	0.5U	---	---	---
Mar-12	---	---	0.99	20.0	310	340	0.5U	410	0.5U	---	---	---
May-12	---	---	---	620	210	96.0	0.5U	330	0.5U	280	35.0	370
Jul-12	---	---	---	1100	540	170	0.5U	320	0.5U	---	---	---
Sep-12	---	---	2.20	30.0	660	230	0.5U	330	0.5U	---	---	---
Jun-14	28.0	0.99	5.80	1,500	270	300	0.5U	240	0.5U	190	16.0	130
Jun-15	22.0	0.84	5.10	810	230	270	0.5U	230	0.5U	180	8.20	560
Jun-16	9.00	0.80	0.50	440	470	420	0.5U	92.0	0.5U	110	0.5U	200
Jun-17	3.20	1.30	0.96	710	220	77.0	0.5U	310	0.5U	130	7.60	390
Jun-18	0.77	0.55	1.60	710	330	160	0.5U	190	0.21J	150	7.40	380
Jun-19	0.91	0.64	0.5U	780	1,200	72.0	0.5U	170	0.5U	300	7.10	280
Maximum	**28.0**	**1.30**	**8.40**	**1,500**	**660**	**420**	**0.5U**	**590**	**0.21J**	**350**	**35.0**	**1,900**
Minimum	**0.77**	**0.55**	**0.50**	**0.50**	**29.0**	**0.50**	**0.5U**	**92.0**	**0.5U**	**110**	**0.5U**	**130**

Date	MW-PD-17	PZ-05	PZ-06	PZ-07
May-08	---	---	---	---
Sep-10	---	---	---	---
Mar-11	---	---	---	---
Jun-11	---	---	35.0	---
Sep-11	---	---	66.0	---
Dec-11	---	---	2.60	---
Mar-12	---	---	52.0	---
May-12	0.5U	---	55.0	---
Jul-12	---	0.5U	55.0	32.0
Sep-12	---	3.90	370	32.0
Jun-14	0.5U	0.5U	0.5U	29.0
Jun-15	0.5U	1.40	0.23J	23.0
Jun-16	0.5U	2.30	0.90	0.5U
Jun-17	0.30	1.30	21.0	8.10
Jun-18	0.53	6.20	11.0	2.50
Jun-19	0.83	1.90	22.0	15.0
Maximum	**0.83**	**6.20**	**66.0**	**32.0**
Minimum	**0.30**	**0.5U**	**0.90**	**2.50**

1. Monitoring well locations displayed on Figures 2 and 3

TABLE 5
SUMMARY ANALYTICAL RESULTS FOR TCE
IN PERFORMANCE MONITORING WELLS[1] IN THE
TREATED SOURCE AREA AND DOWNGRADIENT PLUME (2014 TO 2019)
LAWRENCE AVIATION

Event	Treated Source Area				Downgradient Plume											
	MPW-07	MPW-07	MPW-07	Mean	ERT-MW-2B	ERT-MW-2C	MPW-09-B	MPW-09-C	MPW-09-D	MPW-10-A	MPW-10-B	MW-PD-12	MW-PD-14	MW-PD-15	MW-PD-16	Mean
Baseline																
May-08	1200	1100	620	973.3	---	---	560	---	---	59	---	240	350	42	1900	246.0
Performance Assessment																
Date	**ISCO-MW2**	**ISCO-MW4**	**ISCO-MW5**	**Mean**	**ERT-MW-2B**	**ERT-MW-2C**	**MPW-09-B**	**MPW-09-C**	**MPW-09-D**	**MPW-10-A**	**MPW-10-B**	**MW-PD-12**	**MW-PD-14**	**MW-PD-15**	**MW-PD-16**	**Mean**
Oct-11	56	88	110	81.5	---	---	---	---	---	60	---	590	---	---	---	188.1
Apr-12	620	210	96	232.1	---	---	---	---	---	48	---	330	280	35	370	141.9
Aug-12	1100	540	170	465.7	---		---	---	660	54	---	320	---	---	---	69.1
Jun-14	1500	270	300	495.3	300	95	1100	510	430	31	32	240	190	16	130	146.1
Jun-15	810	230	270	369.1	240	70	140	430	200	32	20	230	180	8.2	560	108.5
Jun-16	440	470	420	442.9	35	120	260	43	210	20	35	92	110	0.5U	200	82.1
Jun-17	710	220	77	229.1	240	73	38	300	230	15	18	310	130	7.6	390	84.1
Jun-18	710	330	160	334.7	200	87	2.9	140	150	6.8	10	190	150	7.4	380	50.8
Jun-19	780	1200	72	406.9	360	180	32	150	230	3.9	6	170	300	7.1	281	69.1

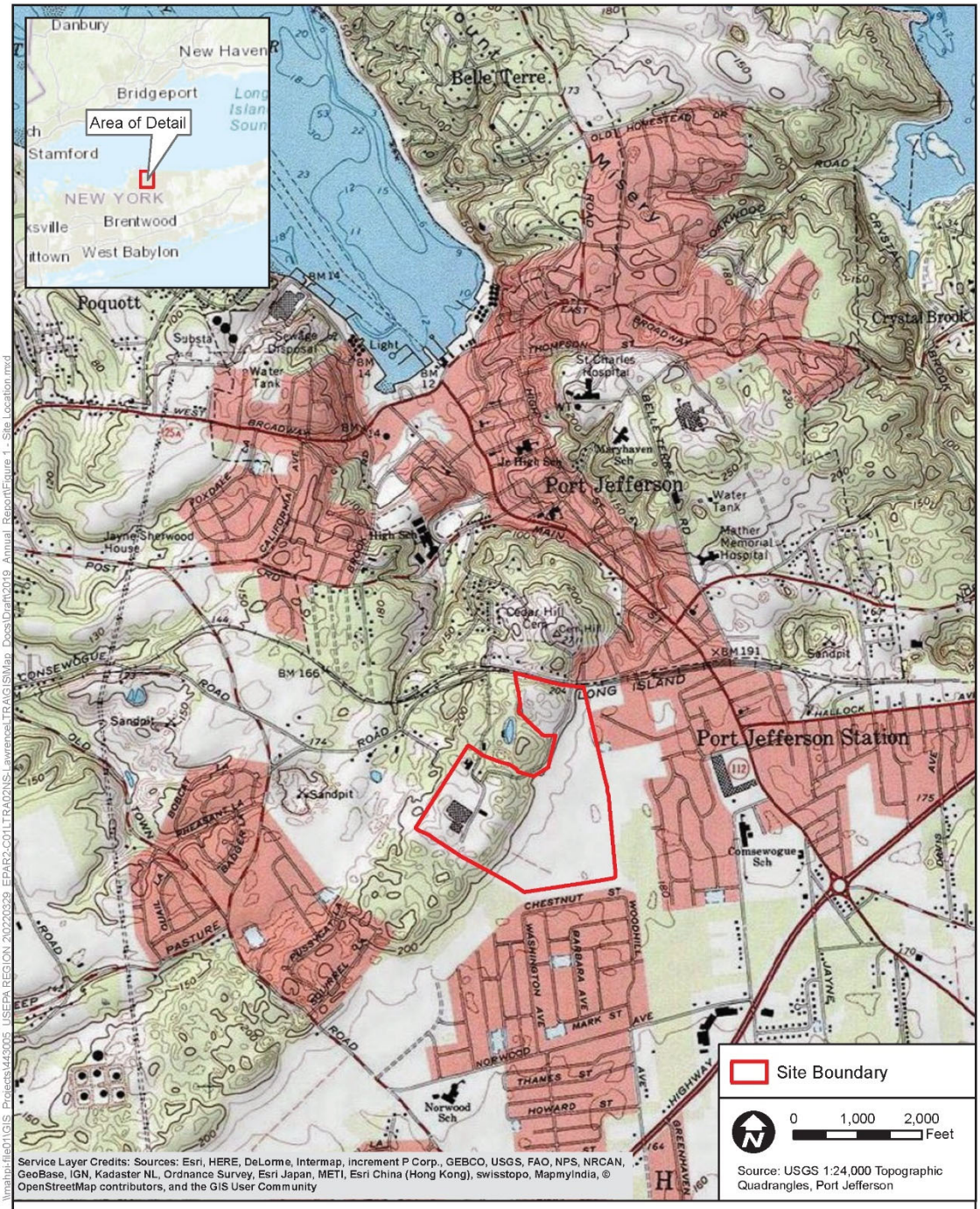
1. Performance monitoring well locations displayed on Figure 3

TABLE 6
SUMMARY ANALYTICAL RESULTS FOR TCE (µg/L)
IN SURFACE WATER SAMPLES
OLD MILL POND AND PORT JEFFERSON HARBOR (2014 TO 2019)
LAWRENCE AVIATION

Date	SW-05	SW-06	SW-07	SW-08	SW-15	SW-16
Jun-2014	13.0	250	210	30.0	1.20	15.0
Jun-2016	2.10	0.94	19.0	9.00	0.5U	1.70
Jun-2018	2.80	16.0	8.00	4.20	0.57	8.80

Surface water screening criteria used for is TCE 5 ug/l , which was obtained from the New York State Department of Health Water Quality Standards for Human Consumption, and the New York State Department of Environmental Conservation Class GA Standards. Results highlighted in yellow represent exceedances of the screening criteria.

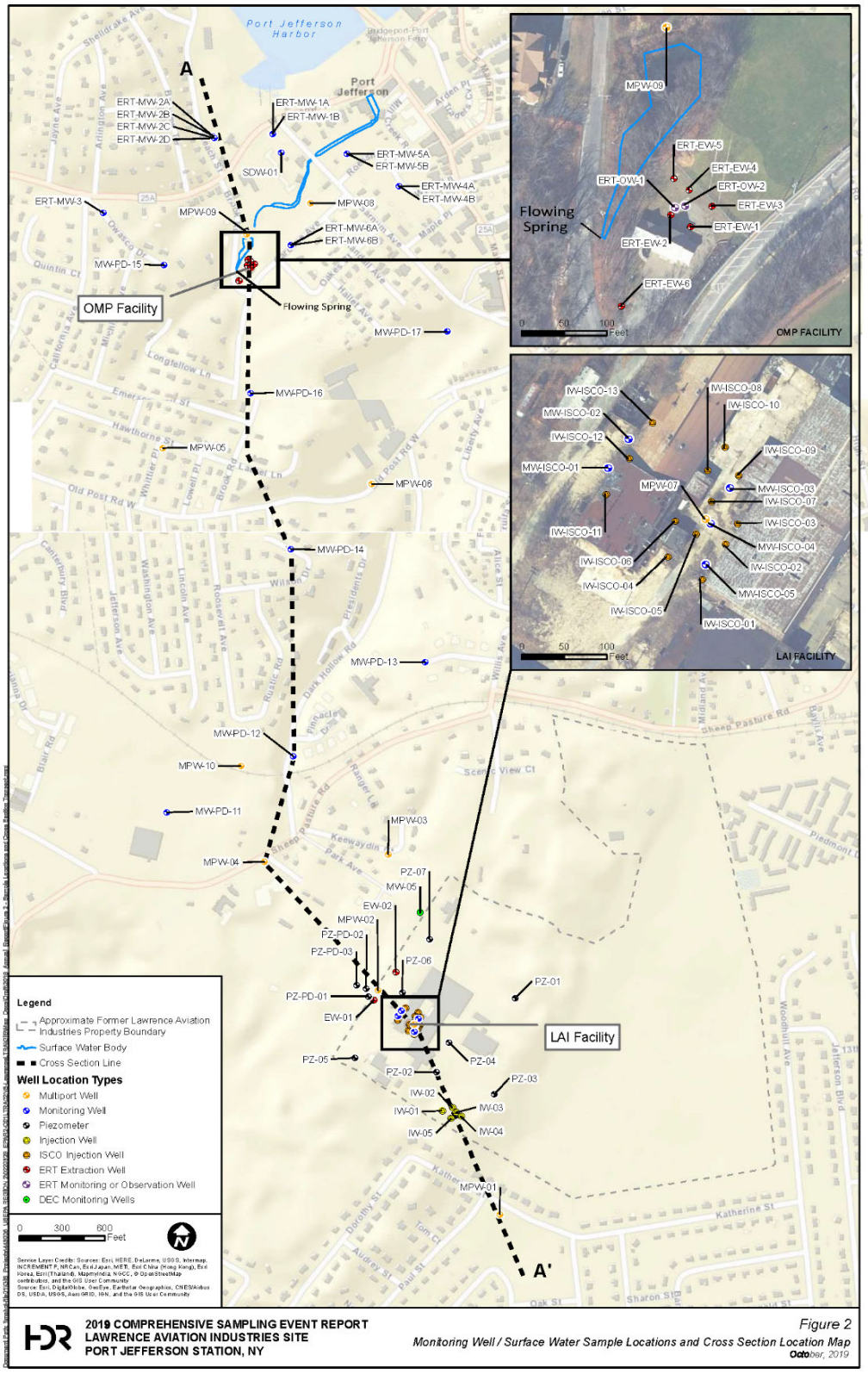
Table 7: Documents, Data and Information Reviewed	
Document Title, Author	**Submittal Date**
Record of Decision Document, Lawrence Aviation Industries, Port Jefferson Station, NY, U.S. Environmental Protection Agency	September 2006
Final Remedial Investigation/Feasibility Study Report, Lawrence Aviation Industries, Port Jefferson Station, NY, CDM Federal Programs Corporation	June 16, 2004
Remedial Action report, Lawrence Aviation Industries, Port Jefferson Station, NY, U.S. Environmental Protection Agency	September 29, 2014
2014 Comprehensive Sampling Event report, Long-Term Response Action, Lawrence Aviation Industries, Port Jefferson Station, NY, Henningson, Durham & Richardson, Architecture and Engineering PC (HDR)	September 2014
2015 Comprehensive Sampling Event report, Long-Term Response Action, Lawrence Aviation Industries, Port Jefferson Station, NY, Henningson, Durham & Richardson, Architecture and Engineering PC (HDR)	September 2015
2016 Comprehensive Sampling Event report, Long-Term Response Action, Lawrence Aviation Industries, Port Jefferson Station, NY, Henningson, Durham & Richardson, Architecture and Engineering PC (HDR)	September 2016
2017 Comprehensive Sampling Event report, Long-Term Response Action, Lawrence Aviation Industries, Port Jefferson Station, NY, Henningson, Durham & Richardson, Architecture and Engineering PC (HDR)	September 2017
2018 Comprehensive Sampling Event report, Long-Term Response Action, Lawrence Aviation Industries, Port Jefferson Station, NY, Henningson, Durham & Richardson, Architecture and Engineering PC (HDR)	September 2018
2019 Comprehensive Sampling Event report, Long-Term Response Action, Lawrence Aviation Industries, Port Jefferson Station, NY, Henningson, Durham & Richardson, Architecture and Engineering PC (HDR)	September 2019

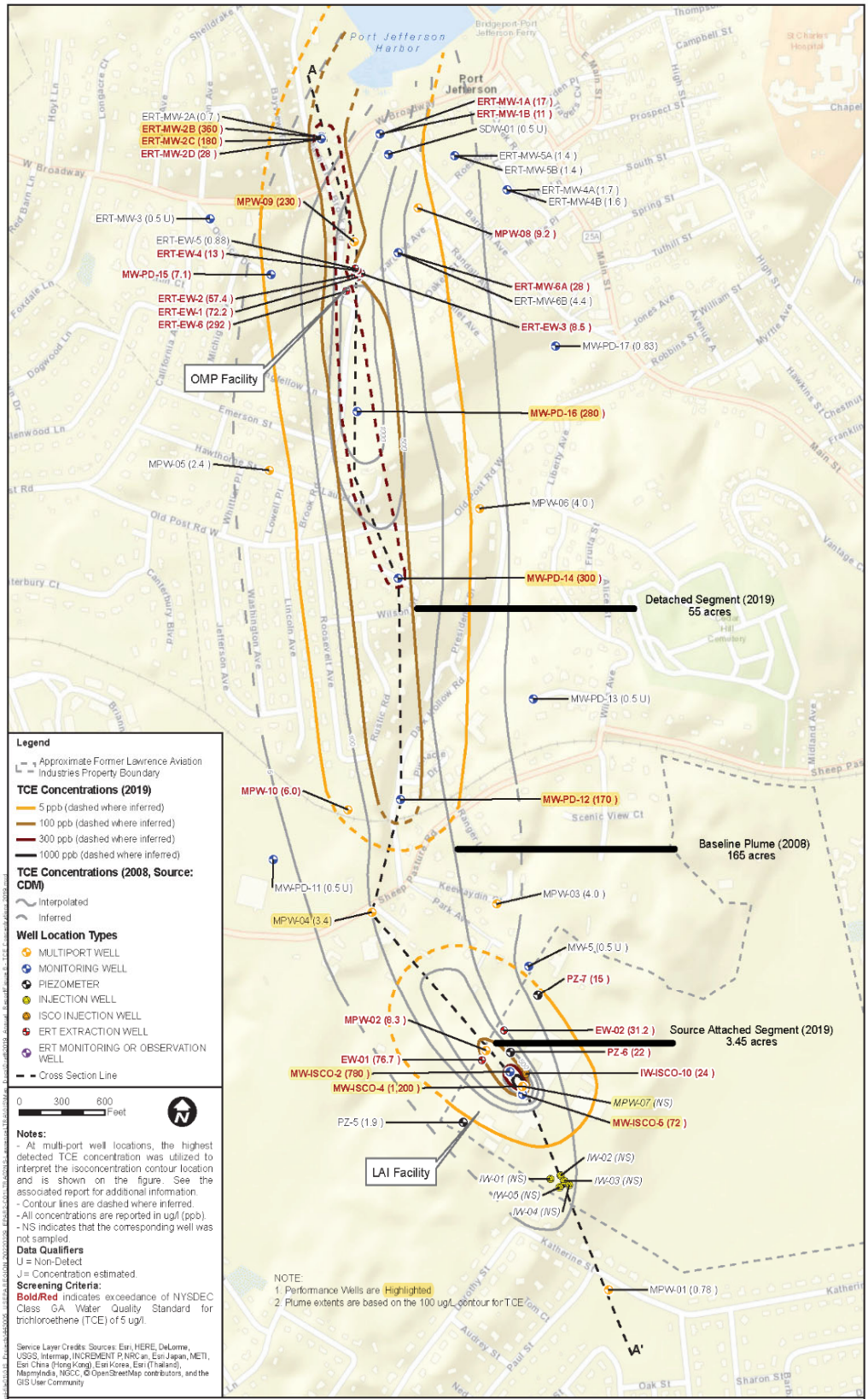


\\mahpl-file01\GIS_Projects\443005_USEPA REGION 2\20220329_EPAR2-C011-TRA02\NS-Lawrence\TRA\GIS\Map_Docs\Draft\2019_Annual_Report\Figure 1 - Site Location.mxd

2019 COMPREHENSIVE SAMPLING EVENT REPORT
LAWRENCE AVIATION INDUSTRIES SITE
PORT JEFFERSON STATION, NY

Figure 1
Site Location Map
October, 2019


Port Jefferson Harbor
Port Jefferson
A
A'
ERT-MW-2A
ERT-MW-2B
ERT-MW-2C
ERT-MW-2D
ERT-MW-1A
ERT-MW-1B
SDW-01
ERT-MW-5A
ERT-MW-5B
ERT-MW-4A
ERT-MW-4B
MPW-08
ERT-MW-3
MPW-09
ERT-MW-6A
ERT-MW-6B
MW-PD-15
OMP Facility
Flowing Spring
MW-PD-17
MW-PD-16
MPW-05
MPW-06
MW-PD-14
MW-PD-13
MW-PD-12
MPW-10
MW-PD-11
MPW-03
MPW-04
PZ-07
MW-05
EW-02
MPW-02
PZ-PD-02
PZ-PD-03
PZ-06
PZ-PD-01
EW-01
PZ-01
LAI Facility
PZ-05
PZ-02
PZ-04
PZ-03
IW-02
IW-01
IW-03
IW-05
IW-04
MPW-01
MPW-09
ERT-EW-5
ERT-EW-4
ERT-OW-1
ERT-OW-2
ERT-EW-3
Flowing Spring
ERT-EW-1
ERT-EW-2
ERT-EW-6
0 50 100 Feet
OMP FACILITY
IW-ISCO-13
IW-ISCO-08
IW-ISCO-10
MW-ISCO-02
IW-ISCO-12
IW-ISCO-09
MW-ISCO-01
MPW-07
MW-ISCO-03
IW-ISCO-07
IW-ISCO-03
IW-ISCO-11
MW-ISCO-04
IW-ISCO-06
IW-ISCO-02
IW-ISCO-04
MW-ISCO-05
IW-ISCO-05
IW-ISCO-01
0 50 100 Feet
LAI FACILITY
Legend
Approximate Former Lawrence Aviation Industries Property Boundary
Surface Water Body
Cross Section Line
Well Location Types
Multiport Well
Monitoring Well
Piezometer
Injection Well
ISCO Injection Well
ERT Extraction Well
ERT Monitoring or Observation Well
DEC Monitoring Wells
0 300 600 Feet
2019 COMPREHENSIVE SAMPLING EVENT REPORT
LAWRENCE AVIATION INDUSTRIES SITE
PORT JEFFERSON STATION, NY
Figure 2
Monitoring Well / Surface Water Sample Locations and Cross Section Location Map
October, 2019



2019 COMPREHENSIVE SAMPLING EVENT REPORT
LAWRENCE AVIATION INDUSTRIES SITE
PORT JEFFERSON STATION, NY

Figure 3
June 2019 Comprehensive Sampling TCE Isoconcentration Contours
October, 2019

Figure 4: Concentration Versus Time (Cvt) Plots for The Treated Source Area and Downgradient Plume (See Table 4).