Interim Remedial Measure Work Plan #2
820 Linden Ave BCP Site #828200
820 Linden Avenue
Pittsford, Monroe County, New York

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Certification

I, Kevin Ignaszak, of Stantec Consulting Services Inc., certify that I am currently a New York State-registered professional engineer and that this *Interim Remedial Measure Work Plan #2* was prepared in general accordance with applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

_____ _____

Signature Date

EXECUTIVE SUMMARY

The purpose of this Interim Remedial Measures (IRM) Work Plan #2 (IRM WP#2 or "Work Plan") is to present a plan for the excavation/in place closure of three septic systems (AOC3) as well as the removal of an impacted debris pile (AOC2) for the Brownfield Cleanup Program (BCP) 820 Linden Ave Site #C828200, located at 820 Linden Avenue in Pittsford, Monroe County, New York (the "Site"). Stantec Consulting Services, Inc. (Stantec) prepared this Work Plan on behalf of Ridgecrest Associates, L.P., the property owner and BCP "Participant", for submission to the New York State Department of Environmental Conservation (NYSDEC). This Work Plan identifies the proposed IRM2 tasks to be completed in general accordance with the BCP and NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (DER-10; NYSDEC, 2010a). The Brownfield Cleanup Agreement between Ridgecrest Associates and NYSDEC was executed on April 14, 2018.

One additional interim remedial measure (IRM) has been implemented:

1. IRM1 consisted of design, construction, and operation of a sub-slab depressurization system (SSDS) to address soil vapor intrusion (SVI) in a portion of the southern tenant space. SSDS construction began on December 6, 2018 and was completed in March 2019 when the system became operational on March 1, 2019.

A third IRM is about to be implemented to supplement IRM1:

2. IRM3 consists of design, construction, and operation of the SSDS extension into an area of the southern tenant space that was constructed in 1954 and is outside the IRM1 SSDS radius of influence. This IRM was initiated in response to results of the post-IRM1 SSDS installation SVI sampling conducted on March 31, 2019. Construction of the IRM3 SSDS extension is anticipated to begin before the end of 2019.

The Site consists of an approximately 7.97-acre, L-shaped property improved with an approximately 108,400 square foot, L-shaped, one-story slab-on-grade building. Based on building permit records, the building was reportedly constructed in six phases with the first building permit issued in 1954 and the final in 1967.

Three Areas of Concern (AOCs) have been identified at the Site based on findings from the RI, SRI, and the 2016-2017 Phase II Environmental Site Assessment (ESA) and are summarized below:

1. AOC1: Chlorinated Volatile Organic Compounds (VOCs) have been identified in sub-slab soil vapor beneath the JML tenant space at concentrations requiring mitigation. Chlorinated VOC impacts to sub-slab vapor were first identified from historical PSG surveys (ERM, 2004; Labella, 2005). The potential for soil vapor intrusion (SVI) was investigated by Stantec through combined sub-slab vapor and indoor air sampling in 2016-2017 as part of the Limited Phase II ESA (Stantec, 2017b). The following chlorinated

VOCs were identified as contaminants of concern (COCs) for this media: 1,1-dichloroethene (1,1-DCE); cis-1,2-dichloroethene (cis-1,2-DCE); tetrachloroethene (PCE); and trichloroethene (TCE). No source has been identified despite extensive shallow and deep soil and groundwater investigations in the areas of impact. Potential exposure has been or is being addressed through implementation of IRM1 and IRM3 with the installation and operation of the SSDS, long-term implementation of the Operations, Maintenance, and Monitoring Plan (OM&M Plan) as well as the site-wide Site Management Plan (SMP). Given the implementation of IRM1 and the upcoming implementation of IRM3, no additional investigation or remedial action beyond implementation of IRM1 and IRM3 is considered warranted at this time.

2. AOC-2: The debris pile located in the northeast corner of the parking lot area was found to contain elevated levels of polycyclic aromatic hydrocarbons (PAHs) associated with significant crushed asphalt contents. Removal of this debris pile will be conducted as part of IRM2 with confirmatory sampling conducted. No additional remedial action beyond implementation of IRM2 is considered warranted at this time.

3. AOC-3: Three former septic systems were identified during the test pit program. The buried structures will be addressed through proposed system removal or in place closure through IRM2 as described herein. This includes:

    - Proposed abandonment in place of the Southeast Septic System, contingent on sampling near tanks and in the leach field demonstrating favorable results. This proposed plan is based on historic records indicating this system was used for sanitary purposes and on non-impacted sampling results from the tank interior.

    - Proposed removal of the Southwest Septic System, including tanks, distribution box(s), and leach lines, as well as the east-west oriented cast iron pipe to the south of the tanks. Sampling results of the solids and water in the tank indicate the presence of VOCs, PCBs and mercury.

    - Proposed abandonment in place of the Northwest Septic System with removal of residual black tar-like material that was encountered above the distribution box during the SRI. Abandonment in place is proposed due to the close proximity of active utilities and tree root systems from large nearby trees. Sampling results of tank contents and in the vicinity of the tanks, distribution box and leach fields were below Commercial SCOs with the exception of exceedance of PAH SCOs for the black tar-like material and an exceedance of the Commercial SCO for mercury near Tank 2 at 8-10 ft bgs.

This Work Plan presents a plan to implement a Track 4 cleanup for Commercial/Industrial Use to address the debris pile (AOC-2) and the septic systems (AOC-3) along with any associated residual contamination.

There will be four major components to the proposed IRM2 program as summarized below:

1. Southeast Septic System – Sample and Abandon in Place

    - Initial collection of investigation samples near tank and in leach field via Geoprobe to confirm that abandonment in place is acceptable.

    - If samples results do not reveal a source area of grossly contaminated soils under the tank, complete abandonment in place by filling distribution box with flowable fill (Tank 1 previously filled with soil by others).

    - If sample results reveal that a source area of grossly contaminated soils (as defined by visual, olfactory, elevated PID and analytical results) greatly exceeding the Commercial and/or Industrial SCOs, develop a focused remedial plan in consultation with NYSDEC to address the exceedance, potentially including removal of the tank (and contents), the distribution box and/or the leach field piping, and collecting confirmatory samples in consultation with NYSDEC during the field program.

2. Southwest Septic System – Removal

    - Removal of tanks (and contents), distribution box(s) and leach field.

    - Removal of East-West oriented cast iron pipe south of tanks.

    - Confirmatory sampling.

3. Northwest Septic System – Abandon in Place

    - Re-excavate and dispose off-Site the black tar-like material and intermixed soils previously excavated and backfilled into the excavation during the SRI down to the distribution box.

    - Fill Tank 2 and distribution box with flowable fill (Tank 1 previously filled with soil by others).

    - No further sampling needed.

4. Debris Pile

    - Loading and off-Site disposal.

    - Confirmatory sampling.

Implementation of the IRM2 field activities in accordance with this Work Plan is anticipated to begin by the Spring 2020 construction season and are anticipated to be completed in approximately 10-15 working days.

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Abbreviations

1,1-DCE	1,1-dichloroethene
AOC	Area of Concern
ASP	Analytical Services Protocol
BCP	Brownfield Cleanup Program
CAMP	Community Air Monitoring Plan
CCR	Construction Completion Report
cis-1,2-DCE	cis-1,2-dichloroethene
COC	Contaminants of Concern
CVOC	chlorinated volatile organic compound
cy	cubic yards
DER	Division of Environmental Remediation
DUSR	Data Usability Summary Report
EDD	electronic data deliverable
ELAP	Environmental Laboratory Accreditation Program
ERM	Environmental Resources Management
ESA	Environmental Site Assessment
ft bgs	feet below ground surface
GPS	Global positioning system
GZA	GZA GeoEnvironmental, Inc.
HASP	Health and Safety Plan
IRM	Interim Remedial Measure
JML	JML Optical
MCDES	Monroe County Department of Environmental Services
µg/kg	microgram per kilogram
MS/MSD	matrix spike/matrix spike duplicate
NEtFOSAA	N-ethyl perfluorooctane sulfonamidoacetic acid
Newport	Newport Corporation
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OBG	O'Brien & Gere
OM&M Plan	Operations, Maintenance and Monitoring Plan
PAH	Polycyclic Aromatic Hydrocarbon

PCB	polychlorinated biphenyls
PCE	Tetrachloroethene
PFAS	per- and polyfluoroalkyl substances
PFAS	polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PFOSA	Perfluorooctane sulfonamide
PID	photoionization detector
POGW	Protection of Groundwater
ppb	Part per billion
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAOC	Remedial Area of Concern
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
SCOs	Soil Cleanup Objectives
SGVs	Standards and Guidance Values
SMP	Site Management Plan
SPLP	Synthetic Precipitation Leaching Procedure
sq ft	square feet
SSDS	sub-slab depressurization system
SVI	Soil Vapor Intrusion
SVOC	semi-volatile organic compound
TAL	target analyte list
TCE	Trichloroethene
TCL	Target Compound List
TIC	tentatively identified compound
TOGS	Technical and Operational Guidance Series
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
µg/L	micrograms per liter

1.0 INTRODUCTION

This document presents the Interim Remedial Measures (IRM) Work Plan #2 (IRM WP#2 or "Work Plan") for the Brownfield Cleanup Program (BCP) 820 Linden Ave Site #C828200, located at 820 Linden Avenue in Pittsford, Monroe County, New York (the "Site"). A map showing the Site location is presented on Figure 1. Stantec Consulting Services, Inc. (Stantec) prepared this Work Plan on behalf of Ridgecrest Associates, L.P., the property owner and BCP "Participant", for submission to the New York State Department of Environmental Conservation (NYSDEC). This Work Plan identifies the proposed IRM tasks and remedial technologies to be completed in general accordance with the BCP and NYSDEC's DER-10 Technical Guidance for Site Investigation and Remediation (DER-10; NYSDEC, 2010a).

1.1 PURPOSE AND CONTENTS OF WORK PLAN

The Site recently underwent a Remedial Investigation (RI) pursuant to the Remedial Investigation Work Plan (RIWP) dated September 2017 and conditionally approved by NYSDEC on May 21, 2018. During the RI, a debris pile located in the northeastern corner of the Site and containing asphalt and concrete was sampled. Three historical septic systems were encountered during the RI test pit program conducted in August 2018 and were further investigated during the Supplemental Remedial Investigation (SRI) in July 2019. The SRI was conducted according to a SRI WP originally submitted to NYSDEC on December 21, 2018 and approved by NYSDEC in letters dated May 9 and June 7, 2019.

To provide a timely response to these findings, IRM2 is proposed herein to address AOC-2 (debris pile) and AOC-3 (three former septic systems), collectively to be identified within this Work Plan as the four Remedial Areas of Concern (RAOCs) to mitigate the potential for migration of contaminants and to facilitate expedient Site closure. Based on a review of the RI and SRI findings, no further investigation or remediation of the Site is warranted beyond the implementation of this IRM2 and the SSDS extension in IRM3.

This IRM WP#2 includes the following items:

- A summary of the RI and SRI findings including historical records review relating to the four RAOCs;
- A listing of applicable Soil Cleanup Objectives (SCOs) and groundwater standards for the Site's current and reasonably anticipated future use;
- A description of the proposed IRM;
- Plans for confirmatory sampling, waste characterization, and soil/groundwater management for proper off-Site disposal; and
- A schedule for implementation and reporting.

1.2 ADDITIONAL PLANS

Additional complementary plans, including a Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and Community Air Monitoring Plan (CAMP) were prepared to supplement the RIWP and have been updated to support the activities proposed in this IRM WP#2. The IRM activities will be performed in accordance with this Work Plan and each of the following complementary plans:

- **QAPP:** Outlines the procedures to be used to assure that analytical results obtained as part of IRM WP#2 meet data quality objectives. The QAPP presented in the RIWP will be utilized with the addendum provided in Appendix A.
- **HASP:** Describes personal safety protection standards and procedures to be followed by Stantec personnel during the IRM field tasks (Appendix B). Subcontractors will be required to develop their own HASP, as well as to meet pertinent health and safety regulations.
- **CAMP:** Describes procedures for monitoring and controlling air quality issues related to VOCs and particulates (dust) that may arise during remedial excavation activities (Appendix C). This includes the generic DER-10 CAMP along with the May 21, 2018 comments provided by NYSDEC on the RIWP which outline CAMP procedures to be followed close to the occupied building.

2.0 BACKGROUND

2.1 SITE DESCRIPTION AND HISTORY

The Site consists of an approximately 7.97-acre property improved with an approximately 108,400 square foot slab-on-grade building (Figure 2). The southern tenant space in this building is approximately 70,200 square feet and is currently occupied by JML Optical (JML). The northern tenant space is approximately 38,200 square feet and is currently occupied by Newport Corporation (Newport). Based on building permit records, the building was reportedly constructed in six phases. The first building permit was issued in 1954, with subsequent additions permitted for the rear and west side of the building in 1956, 1958, and 1959. A large addition immediately north of the original building was permitted in 1966. Each of the first five construction phases now comprise the current JML tenant space. The final construction phase, which now comprises the Newport tenant space, was permitted in 1967.

Land use at the Site, and at immediately-adjacent parcels to the east and west, is industrial/commercial. Both current tenants are optics manufacturing facilities: JML manufactures precision optical components for commercial, industrial and military applications, and Newport manufactures diffraction gratings for spectroscopic, telecommunications, and laser applications. However, in the future the building could be converted to a commercial use. Historical records indicate that the Site's manufacturing building has been occupied for optical industry use since the construction of the southern building in 1954. Pertinent historical records for properties adjacent to the Site are described in the 2017 Phase I ESA (Stantec, 2017a).

The Site is bounded by wooded land to the north, Linden Avenue and a railroad to the south. Adjoining properties include commercial and light industrial properties to the east, west, and south, as well as residential properties south of the railroad. A drainage ditch that runs along the western property boundary collects storm water drainage from two roof drain outfalls and pitches to the north.

Based on the subsurface investigations performed as part of Stantec's Limited Phase II Environmental Site Assessment (Stantec, 2017b) and 2018 RI, the general subsurface profile observed across the Site consists of the following deposits, in order of increasing depth: fill materials (where present) underlain by native unconsolidated overburden deposits (outwash sand) to the bottom of the borings. The test borings installed during the previous investigations extended to a maximum depth of 72 feet below ground surface (ft bgs), and bedrock was not encountered. Based on the Geologic Map of New York (1970; Finger Lakes Sheet), the Site is underlain by the Upper Silurian Penfield Dolostone of the Lockport Group. It is estimated that the depth to bedrock is approximately 110-120 ft bgs based on findings from a nearby investigation

at Sigismondi Landfill (Site #C828011) as posted on the NYSDEC Environmental Site Remediation Database (https://www.dec.ny.gov/cfmx/extapps/derexternal/haz/details.cfm).

The overburden materials encountered beneath the surface cover (topsoil, concrete, or asphalt) generally consisted of a sand and gravel fill layer ranging from 0-9.5 ft bgs, underlain by native sand. The native soils were primarily comprised of fine to coarse sand and silty fine sand, with occasional and minor percentages of clay and gravel. Lenses of variably saturated clay and silt/clay ranging from 1 to 15 ft thick were encountered in shallow subsurface soil above the deep groundwater zone water table) on the eastern and southern portions of the Site.

Groundwater levels in Site monitoring wells range from approximately 41 to 62 ft bgs. Based on the well gauging data, groundwater flow direction is to the north/northeast towards Irondequoit Creek, which is located approximately 2,800 ft to the northeast of the Site and situated approximately 120 ft lower in elevation than the Site.

2.2 IDENTIFICATION OF SCGS

The regulatory Standards, Criteria and Guidelines (SCGs) established for environmental media at the Site is based on the intended future use of the property, which is not anticipated to change. The Site is anticipated to remain industrial. However, for flexibility in terms of potential future use and as a conservative approach, the Commercial Clean-Up track was selected for this Site. Therefore, the IRMs are intended to attain conditions at the Site which are protective of the Track 4 Commercial Use of the Site and are protective of public health and the environment. The specific SCGs are discussed in detail below.

Soil: Soil results will be compared to New York Codes, Rules and Regulations (NYCRR) Part 375 Restricted Use Soil Cleanup Objectives (SCOs) for Commercial and Industrial Uses. Pursuant to 6 NYCRR 375-6.5, the POGW SCOs are applicable when (1) soil contamination is present at levels exceeding POGW SCOs and (2) groundwater is impacted by that soil contamination as demonstrated by exceedances of groundwater standards for the specific compound(s) identified in on-Site source soil.

Groundwater: Groundwater results have been compared to Class GA standards and guidance values listed in NYSDEC's Ambient Water Quality Standards and Guidance Values, Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) Memorandum dated October 22, 1993, Reissued June 1998, and addenda dated April 2000 and June 2004.

2.3 OVERVIEW OF PREVIOUS INTERIM REMEDIAL MEASURES

A preceding IRM WP#1 was prepared to address the potential for soil vapor intrusion through construction and operation of a SSDS and was conditionally approved by NYSDEC on September 19, 2018. IRM WP#1 was prepared concurrently with the RIWP for the Site in response

to Limited Phase II Environmental Site Assessment (ESA) (and historical) SVI data indicating chlorinated solvent impacts to sub-slab vapor particularly beneath the southern tenant space of the occupied building. The finalized IRM WP#1 was issued on October 2, 2018 and construction of the SSDS began on December 6, 2018, following completion of a pre-construction limited asbestos survey on December 4, 2018. SSDS construction was completed in March 2019 and the system became operational on March 1, 2019. Two additional SVI monitoring points were installed in accordance with the IRM WP and per the request of NYSDEC: SS-13 in the northern tenant space (Newport, see Figure 2) and SS-14 in the southern tenant space (JML, see Figure 2). Sub-slab pressure field extension testing of the SSDS was performed in early March 2019 to demonstrate achievement of vacuum and radius of influence performance requirements. Post-SSDS installation SVI sampling was performed on March 31, 2019 in accordance with the approved IRM WP#1.

Based on the post-SSDS SVI sampling results, a Supplemental Interim Remedial Measures Work Plan (IRM WP#3) was prepared to detail the SSDS extension into the area of the southern tenant space (JML). IRM WP#3 was submitted on August 12, 2019 and approved on October 1, 2019. Implementation of IRM3 is planned during Fall 2019. Details of the complete SSDS installation and implementation of IRM1 and IRM3 will be documented in a Construction Completion Report (CCR).

2.4 SUMMARY OF PRIOR INVESTIGATION RESULTS

A detailed description of prior investigation results is provided in the RIWP (Stantec, 2017c). The Remedial Investigation Report (RIR) presents a detailed description of the RI and SRI investigation, results, and conclusions. Figure 2 depicts the investigation and sampling locations for the Limited Phase II ESA, RI, IRM1, and SRI. An overview of the applicable findings is included below.

Three Areas of Concern (AOCs) have been identified at the Site based on findings from the RI, SRI, and the 2016-2017 Phase II ESA and are summarized below.

AOC-1: Chlorinated Volatile Organic Compounds (VOCs) have been identified in sub-slab soil vapor beneath the JML tenant space at concentrations requiring mitigation. Chlorinated VOC impacts to sub-slab vapor were first identified from historical PSG surveys (ERM, 2004; Labella, 2005). The potential for SVI was investigated by Stantec through combined sub-slab vapor and indoor air sampling in 2016-2017 as part of the Limited Phase II ESA (Stantec, 2017b). The following chlorinated VOCs were identified as COCs for this media: 1,1-DCE; cis-1,2-DCE; PCE; and TCE. No source has been identified despite extensive shallow and deep soil and groundwater investigations in the areas of impact. Potential exposure has been or is being addressed through implementation of IRM1 and IRM3 with the installation and operation of the SSDS, which will be subject to the long-term OM&M Plan as well as the site-wide SMP. *Given the implementation of IRM1 and the upcoming implementation of IRM3, no additional investigation or remedial action beyond implementation of IRM2 and IRM3 is considered warranted at this time.*

AOC-2: The debris pile located in the northeast corner of the parking lot area was found to contain elevated levels of PAHs associated with significant crushed asphalt contents. Removal of this debris pile will be conducted in IRM2 with confirmatory sampling conducted. *No additional action beyond implementation of IRM2 is considered warranted at this time.*

AOC-3: Three former septic systems were identified during the test pit program. The buried structures will be addressed through proposed system removal or in place closure through this Work Plan. *No additional investigation or remedial action beyond implementation of IRM2 is considered warranted at this time.*

As per the RIR, instances where there were exceedances of Commercial or POGW SCOs or Groundwater standards or guidance values, but the issue does not rise to the level of an AOC, since there are no areas of grossly contaminated soil source areas, include:

- An isolated exceedance of the Commercial SCO for mercury in the sample adjacent to Northwest Septic System Tank 2. This sample was taken at 8-10 ft bgs and due to its isolated location and depth, and the proposed site use, it is not considered a concern. *No additional investigation or remedial action is considered warranted.*

- The PAH benzo(a)pyrene was the single semi-volatile organic compound (SVOC) reported to exceed Commercial SCOs in surface soil. It was detected at 0-2 inches at a concentration of 1,800 micrograms per kilogram (µg/kg) versus the respective commercial and Industrial SCOs of 1,000 and 1,100 µg/kg in a composite sample SS-4. The SS-4 composite was derived from discrete sampling locations SS-4a, SS-4b, and SS-4c along the vegetated berm near the eastern property line. This concentration is considered to be typical of a developed, urban setting and not of concern. This compound did not exceed SCOs at the 2-12 inch sample collected at this location. *No additional investigation or remedial action is considered warranted.*

- TCE was identified in groundwater in the eastern parking lot area in B/MW-101, B/MW-104, and B/MW-105. The inferred direction of groundwater flow suggests an off-Site source particularly given the non-detect results for all of the wells closer to the Site building. Adjacent upgradient properties 830 and 834 Linden Avenue have a history of manufacturing and light industry, based on the directory review findings of Site occupants as reported in Stantec's Phase I ESA (Stantec, 2017a). TCE in groundwater on the eastern side of the Site does not appear to be related to the 820 Linden Ave soil vapor results based on the direction of groundwater flow, the horizontal distance to the building (approximately 185 ft), and vertical separation between the water table and the building sub-base (approximately 45 ft). Groundwater TCE impacts *do not warrant additional investigation or remediation* given the likelihood of an off-Site source. Potential exposure pathways are addressed through implementation of IRM1 and IRM3, and preparation of the SMP.

- Acetone impacts to groundwater beneath the building were identified during Stantec's Limited Phase II ESA (Stantec, 2017b). Delineation of these impacts was addressed during the RI, which confirmed that groundwater acetone impacts are limited to beneath the building. Levels of acetone reported in Site soil samples meet both Commercial and Industrial SCOs, but in some cases exceed the POGW SCO. *No further investigation or remedial action is recommended* due to the following observations:

    - downgradient wells indicate that acetone in groundwater is not migrating beyond the building footprint.
    - groundwater is not used for drinking water purposes.
    - potential for exposure is minimal and can be managed through SSDS operation (IRM1 and IRM3), and the implementation of the SMP.
    - The feasibility of deep soil remediation beneath an existing and occupied building is not warranted for such minor impacts and low exposure risk.

3.0 SUMMARY OF REMEDIAL AREAS OF CONCERN (RAOCS)

An overview of the four remedial areas of concern (RAOCs) is depicted on Figure 3. The current understanding of the sewer configuration at the Site, which impacts remedial activities at the three former septic systems, is depicted on Figure 4. The following sub-sections provide a focused summary of each RAOC. Section 4.3 describes the proposed approach to address each of the RAOCs.

3.1 RAOC-1 – SOUTHEAST SEPTIC SYSTEM

The remnants of former Septic System #1, located in the southeast portion of the Site, were encountered during the test pit program. Based on 1972 correspondence from Bausch and Lomb to E. J. Delmonte Corp. (GZA, 1995), no chemicals were discharged through the southeast septic system as it was solely used for sanitary purposes.

3.1.1 Septic System Configuration

Figure 5 depicts the RAOC and the anticipated buried system configuration based on a historical drawing of the former septic system and field observations from the SRI. Septic System #1 consisted of one oval-shaped tank designated as TANK1-SE, contradictory to the historical installation drawing which depicted two circular tanks. It is unknown whether the drawing was in error, the system was modified over time, or the second tank was removed when the building transitioned onto the sanitary sewer line. The length of the tank is 6.3 ft and the width is 4.0 ft. The full depth of the tank was not measured, but observations from the RI test pit program indicated that the tank was at least 3.3 feet deep. The tank had a lid with two openings and was completely backfilled with soil. The estimated minimum volume of soil in TANK1-SE is 3.0 cubic yards (CY). A summary of septic tank field observations including dimensions, buried depths, content and capacity calculations are included on Table 5.

3.1.2 Characterization of Septic Tank System Contents

The only exceedance of Site SCGs encountered during the RI was for iron (Sample Location TP-5a; see Table 1). The soil sample was collected from within the tank, however, and may not be representative of surrounding soil. During the SRI, another sample of tank soil was collected for analysis of the waste characterization parameters pH and flashpoint; the results were acceptable for potential disposal as non-hazardous waste (see Table 3).

3.2 RAOC-2 – SOUTHWEST SEPTIC SYSTEM

The remnants of former Septic System #2, located in the southwest portion of the Site, were encountered during the test pit program.

Based on 1972 correspondence from Bausch and Lomb to E. J. Delmonte Corp. (GZA, 1995), this system collected sanitary and process discharge. Process chemicals including acids, bases, "poisons (arsenic, antimony, mercury, etc.)", diphospyridine, sodium pyruvate, and biological organics were discharged to the system either directly or through neutralization tanks.

3.2.1 Septic System Configuration

Figure 6 depicts RAOC-2 and the anticipated buried system configuration based on a historical drawing of the former septic system and field observations from the SRI. Findings from the SRI confirmed the historical depiction of Septic System #2, with four rectangular tanks herein designated as TANK1-SW, TANK2-SW, TANK3-SW, and TANK4-SW. The tanks were similar in dimension, each 9.5 feet long and 5.0 feet wide, with depths ranging between 5.1 and 5.5 feet deep. The variability in depth may be a result of sediment accumulation at the tank base. TANK1-SW contained approximately 1.8 feet of water column, or an estimated ~640 gallons of water, and a thin layer of sediment. A sewage odor was observed while sampling TANK1-SW. TANK2-SW and TANK3-SW contained approximately 1.9 feet of water column, or an estimated ~675 gallons of water each and a thin layer of sediment. TANK4-SW was oriented perpendicular to the other three tanks as depicted in the historical drawing. TANK4-SW was empty, with a thin layer of soil at the bottom that was assumed to be infill from surrounding soil. A summary of septic tank field observations including dimensions, buried depths, content and capacity calculations are included on Table 5.

3.2.2 Characterization of Septic Tank System Contents

Although no exceedances of Site SCGs were detected in the RI soil samples (Sample Locations TP-4, TP-8a, and TP-8c; see Table 1), the samples were collected adjacent to the system structures; therefore, the sample results may not be representative of the soil conditions beneath the tank and related components.

Water samples were collected from Tanks 1, 2, and 3. As shown on Figure 6, Tank 1 is the furthest east and Tank 3 is the furthest west tank that contain water. Results are summarized in Table 4. No hazardous waste criteria were exceeded. While not directly applicable for tank water destined for off-Site disposal, Table 4 also provides a comparison to NYSDEC SGVs. Freon 113 and PCE were reported at concentrations in each of the tanks in exceedance of their 5 micrograms per liter (µg/L) groundwater standard. Freon 113 ranged from 88 to 680 µg/L decreasing from Tank 1 (closest to the building) to Tank 3 (more westerly), as historical waste flow likely moved away from the building. Similarly, PCE ranged from 21 to 84 µg/L with concentrations decreasing from Tank 1 to Tank 3.

The compound 4-isopropyltoluene was also detected in Tank 3 at a concentration only slightly exceeding the 5 µg/L groundwater standard (5.4 µg/L). No other compounds were detected.

Solids samples were collected from Tanks 1 and 4. Tank 1 contained water and sludge while Tank 4 contained soil that appeared to be infill from surrounding soils. While not directly applicable, Table 3 provides a comparison to SCOs. Tanks 1 and 4 solid samples had a few exceedances of UU and POGW SCOs for parameters not found to exceed standards in nearby groundwater. Otherwise, mercury, Freon 113, and PCBs exceeded the Commercial, but not the Industrial, SCOs in the Tank 1 sample. No Site use SCO exceedances were reported in the Tank 4 sample. Results of pH and flashpoint analyses, where collected, indicated the material was acceptable for potential disposal as non-hazardous waste.

3.3 RAOC-3 – NORTHWEST SEPTIC SYSTEM

The remnants of former Septic System #3, located in the northwest portion of the Site, were encountered during the test pit program. Figure 7 depicts RAOC-3 and the anticipated buried system configuration based on a historical drawing of the former septic system and field observations from the SRI. Based on 1972 correspondence from Bausch and Lomb to E. J. Delmonte Corp. (GZA, 1995), this system collected cooling water, sanitary, and process water from the cafeteria, washrooms, and the chemistry laboratory. The discharge chemicals reportedly included organic solvents, acids, alkalis, ammonia residue, and various fixers and developers.

3.3.1 Septic System Configuration

The configuration of Septic System #3 depicted on the historical sketch was confirmed during the SRI, with two tanks (designated TANK1-NW and TANK2-NW, see Figure 7) and the distribution box exposed. Both tanks were rectangular. TANK1-NW was 9.2 feet long and 4.5 feet wide. TANK2-NW was 9.3 feet long and 4.5 feet wide. TANK1-NW did not have a lid and was full of an estimated 9.2 CY of soil; the depth of the tank was estimated to be 6.0 feet, based on the measurement of adjacent TANK2-NW. TANK2-NW was empty, with a thin layer of soil (assumed to be mostly infill from excavation activities) at the base. A summary of septic tank field observations including dimensions, buried depths, content and capacity calculations are included on Table 5.

3.3.2 Characterization of Septic Tank System Contents

Solid samples collected from both tanks in Septic System #3 and the system distribution box in the northwest portion of the Site were analyzed. Figure 7 depicts the numbering of the tanks with Tank 1 located closest to the building and Tank 2 located further north and adjacent to the distribution box. Table 3 provides a comparison to SCOs, which is relevant given the soil matrix of the samples and the proposed IRM of in place closure. There were no exceedances of any SCOs for the solid samples collected from within the tanks except iron, which is a common naturally-occurring metal. Iron was also the only compound detected in the sample collected from the distribution box that exceeded Site use SCOs. The only other exceedances in the

distribution box sample were for metals exceeding UU and/or POGW SCOs, however, the metals exceeding POGW SCOs were not detected in groundwater during Site investigations. Results of pH and flashpoint analyses indicated the material was acceptable for potential disposal as non-hazardous waste.

3.3.3 Leach Field and Adjacent Soil Investigation Findings

No exceedances of Site SCGs were detected in the RI soil sample collected adjacent to the top of the tank (Sample Location TP-1a; see Table 1. During the SRI, leach field soil samples LF-1, LF-3, and LF-4 from Septic System #3 in the northwest portion of the Site were collected from within the historically mapped leach field areas at depths of 4.5-6.5 ft bgs to target soil at and within 1-2 ft below the drain tile lines. The depth and approximate lateral alignment corresponded to the observed configuration of the drain outlets within the exposed distribution box. Leach field soil sample LF-2 was collected from within the historically mapped leach field area directly adjacent to and at a depth beneath the bottom of the distribution box at 6-8 ft bgs. Adjacent tank samples TANK1-NW and TANK2-NW were collected adjacent to the approximate center of each tank at depths of 8-10 ft bgs to target soil at and within 1-2 ft below the tank bottoms. Table 2 provides a summary of the analytical results and a comparison to SCOs.

The only detections in this soil sample group were metals and per- and polyfluoroalkyl substances (PFAS). Metals exceedances included common, naturally-occurring metals (calcium and iron), as well as an exceedance of UU, POGW, and Commercial, but not Industrial, SCOs for mercury in the sample adjacent to Tank 2. Mercury was not detected in the nearby well sampled during the Phase II ESA.

Low-level concentrations of PFAS were detected in both samples analyzed for PFAS: leach field sample LF-3 and the sample adjacent to Tank 1. In the leach field sample LF-3, N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) was reported at 2.8 µg/kg. In the sample adjacent to Tank 1 (TANK1-NW), NEtFOSAA was also reported at 2.8 µg/kg, and perfluorooctanesulfonamide (PFOSA) and perfluorooctane sulfonate (PFOS) were reported at estimated ("J"-qualified) concentrations of 0.74 µg/kg and 1.5 µg/kg, respectively.

In the test pit excavated to expose the distribution box, a discrete occurrence of solid, black, tar-like material was encountered. NYSDEC required that this material be sampled; Stantec additionally collected a soil sample from the soil around the discrete occurrence that is representative of the remaining soil conditions in this area. The additional investigation samples were analyzed from this septic system area as part of the SRI: LIN-DBOX2-NW-SLD, collected from test pit spoils from the distribution box excavation area; and LIN-DBOX3-NW-SLD, a bulk sample of black, tar-like material encountered while digging down to the distribution box. Results are summarized in Table 2, which also provides a comparison to SCOs.

VOCs, SVOCs, and metals were detected in bulk sample LIN-DBOX3-NW-SLD. The reported concentrations, however, exceeded only UU SCOs except for two PAHs (fluoranthene and phenanthrene) that exceeded Commercial, but not Industrial, SCOs. The only exceedance for soil sample LIN-DBOX2-NW-SLD, representative of soil conditions in the area surrounding the discrete occurrence of the black material, was for iron, a common naturally-occurring metal.

3.4 RAOC-4 – DEBRIS PILE

The debris pile soil sample (Sample Location DP-1; see Table 1 and Figure 8) exhibited exceedances of NYSDEC Commercial/Industrial Use SCOs and/or POGW SCOs for the following six PAHs: benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; chrysene; and indeno(1,2,3-cd)pyrene. These exceedances are likely associated with the significant proportion of asphalt material observed in the pile.

4.0 INTERIM REMEDIAL MEASURES

The proposed IRM2 achieves protection of public health and the environment for the intended use of the property. The interim remedial plan for the excavation/in place closure of three septic systems as well as the removal of an impacted debris pile will allow for the planned continued Commercial/Industrial Use of the Site. The remedial plan is effective in both the short-term and long-term and reduces mobility, toxicity, and volume of contaminants. The remedial plan is cost-effective, able to be implemented, and uses standards and methods that are well established in the industry. This section provides detail on the proposed IRM2 work activities and describes the remedial methodologies and controls to be utilized during implementation of this Work Plan.

4.1 GENERAL REMEDIAL CONSTRUCTION INFORMATION

4.1.1 Remedial Engineer

The Remedial Engineer is required by the State of New York to be a Professional Engineer, registered in New York. The Remedial Engineer must certify that the remediation requirements set forth in the Work Plan, and any other relevant provisions of ECL 27 1419, have been achieved in full conformance with the Plan. The Remedial Engineer for this portion of the project is Kevin Ignaszak, PE, of Stantec and his designated representatives. The Remedial Engineer will have primary direct responsibility for implementation of the remedial program for the Site and will certify in the CCR that the remedial activities were observed by environmental professionals under his supervision.

The Remedial Engineer and staff of environmental professionals (Project team) will coordinate the work of other contractors and subcontractors involved in remedial construction, including soil excavation, stockpiling, characterization, removal, disposal or reuse, air monitoring, emergency spill response services, import of backfill material, and management of waste transport and disposal. The Remedial Engineer or designated project team member will be responsible for appropriate communication with NYSDEC and New York State Department of Health (NYSDOH).

The Remedial Engineer will review the pre-remedial plans submitted by the Remedial Contractor for compliance with this Work Plan and will provide the certifications listed in the CCR.

4.1.2 Construction Schedule

A schedule for performance of the remedial work is discussed in Section 8.0. An updated schedule will be submitted to NYSDEC after their approval of the Work Plan has been provided and a Remedial Contractor has been retained.

4.1.3 Work Hours

The working hours for operation of remedial construction activities will begin approximately at 7:00 AM and terminate approximately at 5:00 PM. No weekend or holiday work is planned. No excessive noise will be permitted beyond the property limits from 10:00 PM to 7:00 AM on any day of the week. Construction activities will be limited to 7:00 AM to 5:00 PM unless alternative hours are approved by the NYSDEC, the Tenants, and the Owner.

4.1.4 Traffic Control

Vehicular traffic is present in the vicinity of the Site. The Remedial Contractor will provide a worker(s) at the Site entrance with flaggers, when deemed necessary, to ensure safe entry and exit of vehicles.

4.1.5 Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during on-Site remedial excavation, sampling will be performed on product, sediment, and/or surrounding soils. Chemical analytical work will include TAL metals, PCBs, TCL and CP-51 VOCs and SVOCs. These analyses will not be limited to CP-51 parameters where tanks are identified without prior approval by NYSDEC. Analyses will not be otherwise limited without NYSDEC approval. Identification of unknown or unexpected contaminated media identified by screening during invasive Site work will be promptly communicated by phone to NYSDEC's Project Manager. These findings will also be included in weekly and monthly progress reports.

4.1.6 Worker Training and Monitoring

Site workers involved with the handling of contaminated materials will have up-to-date OSHA HAZWOPER certification and medical monitoring. Attendance at a daily safety briefing will be mandatory for all workers.

4.1.7 Agency Approvals and Permits

The Work Plan will be performed following approval by the Departments and per requirements of the BCP. The required permits, if any, will be obtained from the appropriate agencies or municipalities by the Remedial Contractor prior to commencement of work. Wastes removed from the Site for off-Site disposal will be transported to permitted facilities by a permitted waste hauler(s).

4.1.8 Emergency Contact Information

A preliminary emergency contact sheet with names and phone numbers is included in the HASP, included as Appendix B. The list will be updated prior to the start of construction activities.

The contact sheet will define the specific project contacts for use by NYSDEC and NYSDOH in the case of a day or night emergency.

4.2 SITE PREPARATION ACTIVITIES

4.2.1 Utility Stakeout

The Remedial Contractor will be responsible for the identification of utilities that might be affected by work under the Work Plan and for implementation of all required, appropriate, or necessary health and safety measures during performance of work under this IRM WP. The Remedial Contractor will be responsible for safe execution of all invasive and other work performed under this Work Plan. The Participant's Remedial Contractor will obtain the local, State, or Federal permits or approvals pertinent to such work that may be required to perform work under this IRM WP (see Section 4.1.8).

The presence of utilities on the Site has been investigated by the Remedial Engineer and the identified utilities are anticipated to impede the planned work under this Work Plan. The Remedial Contractor will be responsible for the identification and protection of all existing utilities at the Site and will contact DigSafely New York prior to the start of work. Prior to implementing the IRMs described herein, preparation and pre-field work activities including utility clearance will be initiated. Based on historical drawings as well as findings and observations from the RI and SRI field programs, there are active overhead and buried utilities in close proximity to each of the three former septic systems (see Figures 4-7). Underground utility clearance of public utilities through DigSafelyNY will be supplemented by a private underground utility location effort to identify and mark out on-Site underground utility lines in the vicinity of the excavation areas. Extreme caution will be required when digging near active utilities, including hand digging when within 1-2 vertical and/or horizontal feet of the mark-out location.

4.2.2 Erosion and Sedimentation Controls

Earthwork disturbance is involved with the implementation of IRM2. Best Management Practices will be employed for erosion and sediment controls (ESCs) including bermed and lined material stockpiles, vehicle decontamination and dust control measures. Existing asphalt surfaces will be kept free of loose soil to minimize the amount of potentially mobile sediment that could eventually be carried to the storm sewer.

4.2.3 Equipment and Material Staging

An Equipment and Material Staging Area will be designated in a portion of the Site away from areas that will require remediation, as located in the field by the Owner, Remedial Contractor, and Remedial Engineer at the time of construction.

The Remedial Contractor will construct and maintain separate staging areas for the excavated system components and any excavated soil. The excavated materials will be stockpiled on polyethylene (poly) sheeting and covered by the same during non-working hours. The poly cover will be anchored or weighted at the edges to prevent stormwater and wind erosion. If excavated material contains significant free liquid that it drains from the surrounding matrix, measures will be taken to collect and contain the fluid. If feasible, any excavated soil or system components staged on-Site will not be mixed between RAOCs. As excavations are planned throughout the Site, multiple equipment and material staging areas may be required for different phases of work.

4.2.4 Temporary Fencing

The Site is currently open. A temporary perimeter construction fence will be installed along the western and southern perimeter of the southwest septic system area as shown on Figure 6. The purpose of the fencing will be to prevent unauthorized entry into the remediation work area. Backfilling will be performed as soon as practical after analytical results are received. Therefore, fencing shall be in place at all times for the shallow excavations that will temporarily remain open to await confirmatory soil sample results. The fencing shall remain in place until final backfilling of the area is completed.

Given the limited nature of work at the other RAOCs, no fencing is anticipated as being required. No fence will be required for the debris pile since the excavation below ground surface will be to an anticipated maximum depth of 6 inches and only the tops of the tanks in RAOCs -2 and -3 will be exposed and backfilled.

In addition to the construction fence, the Remedial Contractor shall erect and maintain orange construction fencing surrounding all open subsurface excavations until excavations have been backfilled to surrounding grade.

4.2.5 Decontamination

The Remedial Contractor will construct a temporary decontamination pad consisting of poly and wood timbers that will be used to decontaminate the excavator bucket and other related equipment as necessary. The pad will be located in the field by the tenant(s), Remedial Contractor, and Remedial Engineer at the time of construction. Decontamination of the excavation equipment will be accomplished with a steam cleaner between RAOCs. It is not anticipated that truck tires will come into contact with contaminated wastes, but in the event they do, trucks leaving the Site will have their tires cleaned prior to entering the highway. The Remedial Engineer will be responsible for ensuring through visual observation that outbound trucks are cleaned at the Truck Wash Station before leaving the Site until the remedial construction is complete.

Decontamination water will be collected and temporarily stored in 55-gallon drums or a storage tank and properly disposed of off-Site at the end of the project. Accumulated sediments will be disposed of with the impacted Site soil. The decontamination pad construction materials will also be disposed of off-Site as non-hazardous waste along with PEE and other incidentals at the completion of the project.

4.3 DESCRIPTION OF RAOC APPROACH

This section includes focused descriptions of specific tasks associated with addressing each of the RAOCs under the proposed IRM2.

4.3.1 RAOC-1: Southeast Septic System – Sample and Abandon in-Place

A RI sample of the soils infilling the tank only indicated an exceedance of iron. The approach to the southeast septic system includes initial collection of four investigation soil samples: one adjacent to the tank, one adjacent to the distribution box, and two in the leach field via Geoprobe. Proposed soil sample locations are depicted on Figure 5. Samples will be submitted for expedited turnaround from the analytical laboratory. The purpose of the soil sampling program is to confirm that abandonment in place is acceptable.

If samples meet SCGs, then the septic tank system will be abandoned in place. The following activities will be performed as depicted on Figure 5:

1. Access top of previously filled-in tank and expose inlet pipe entering tank;
2. Plug pipe inlet into tank with a 6-inch thick plug of concrete grout;
3. Backfill tank area with excavation spoils;
4. Access distribution box if located and remove cover;
5. Fill distribution box with flowable fill; and
6. Backfill distribution box area with cover and excavation spoils.

If the soil sample results reveal grossly contaminated soils greatly exceeding the Commercial SCOs, a focused remedial plan to address the exceedances will be developed in consultation with NYSDEC during the field program. Potential plans may include removal of the tank (and contents), distribution box and/or leach field piping with analysis of confirmatory soil samples.

4.3.2 RAOC-2: Southwest Septic System - Removal

Samples collected during the RI indicated several exceedances of SCGs. To address these impacts, complete septic system removal will be completed. The following activities will be performed as depicted on Figure 6:

1. Access and open Tanks 1, 2, 3 and 4;
2. Expose inlet pipe entering Tank 1, saw cut and plug pipe with a 6-inch thick plug of concrete grout;
3. Remove Tanks 1, 2, 3 and 4 and their contents, any stone bedding, and 6 inches of underlying soil;
4. Collect eight confirmatory soil samples from below the tanks as depicted on Figure 6;
5. Excavate, trace, and remove outlet pipe(s) from Tank 4 until they intersect the 6-inch diameter cast iron pipe, including any stone bedding, and 6 inches of underlying soil;
6. Expose 6-inch cast iron pipe in western direction;
7. Saw-cut western end of cast iron pipe and plug pipe with a 6-inch thick plug of concrete grout;
8. Expose 6-inch cast iron pipe in eastern direction;
9. Saw-cut eastern end of cast iron pipe and plug pipe with a 6-inch thick plug of concrete grout;
10. Remove isolated section of 6-inch diameter cast iron pipe;
11. If confirmatory soil samples do not reveal grossly contaminated soil remains present, , backfill tank excavations;
12. Continue to excavate, trace, and remove two outlet pipes originally from Tank 4 to the two distribution boxes, any stone bedding, and 6 inches of underlying soil;
13. Remove both distribution boxes, any stone bedding, and 6 inches of underlying soil;
14. Excavate, trace, and remove four leach field pipes from each distribution box, including any stone bedding, and 6 inches of underlying soil;
15. Collect four confirmatory soil samples from the leach field as depicted on Figure 6; and
16. If no grossly contaminated soil remains, backfill leach field excavations with a combination of excavated soils and imported fill, which will serve as a cover system if Commercial SCOs exceedances remain present.

If the soil sample results reveal grossly contaminated soil greatly exceeding the Commercial SCOs, a focused remedial plan to address the grossly contaminated soil will be developed in consultation with NYSDEC during the field program. Potential plans may include additional excavation with analysis of confirmatory soil samples.

4.3.3 RAOC-3: Northwest Septic System – Abandonment in-Place and Removal of Black Tar-Like Material

A sample of the black tar-like material demonstrated exceedances of SCGs; but samples collected from the septic system tank contents, adjacent to the tanks/distribution box, and leach field generally did not. The approach to address RAOC-3 includes excavation and removal of the residual black tar-like material and septic system abandonment in place. It is proposed that no remedial action is needed to address the isolated exceedance of the

Commercial SCO for mercury adjacent to Tank 2. The sample was taken at 8-10 ft bgs and due to the depth, remediation is not considered necessary.

The following activities will be performed as depicted on Figure 7:

1. Excavate and dispose of soils overlying distribution box cover intermixed with de minimis pieces of black tar-like material;
2. Transport and stage soils containing black tar-like materials to the debris pile (RAOC-4) for off-Site disposal;
3. Access top of distribution box;
4. Fill distribution box with flowable fill;
5. Access and open Tank-2;
6. Fill Tank-2 with flowable fill;
7. Access previously filled-in Tank-1 and expose inlet pipe entering tank;
8. Plug pipe inlet into Tank-1 with a 6-inch thick plug of concrete grout;
9. Backfill excavated areas with tank and distribution box covers, excavation spoils and imported fill.

No confirmatory soil samples are proposed from RAOC-3 due to sampling conducted during the SRI, including "DBOX2" (see Table 2) collected from the soils in the vicinity of the black tar-like material.

4.3.4 RAOC-4: Debris Pile - Removal

Samples collected during the RI indicated several exceedances of SCGs for the materials contained within the pile. The debris pile will be removed along with approximately 6 inches of cover/topsoil directly beneath the pile. The debris pile contents, including the soil intermixed with black tar-like material from RAOC-3, the bathtub pieces retrieved during the advancement of TP-6 during the RI, and underlying 6 inches of excavated material will be directly loaded into a truck for transport to an off-Site disposal facility. One confirmatory soil sample will be collected from the area. The debris pile location and proposed confirmatory soil sample is depicted on Figure 8.

4.4 SOIL SCREENING METHODS

Visual, olfactory, and PID soil screening and assessment will be performed by an environmental professional under the direction of the Remedial Engineer during remedial excavations into known or potentially contaminated material to evaluate if grossly contaminated soil is still present. All soil screenings will be recorded in the field while excavation is taking place.

4.5 EXCAVATION STORMWATER MANAGEMENT

Based on Site monitoring well gauging data, the anticipated maximum bottom excavation depth is well above the water table. Therefore, groundwater is not likely to be encountered. However, should accumulated water (perched groundwater or precipitation) conditions be encountered, it will be pumped out of the excavation and temporarily containerized in a frac tank or in drums. Containerized groundwater will be sampled and characterized as necessary prior to transportation and disposal.

4.6 WASTE DISPOSAL

Wastes generated during the IRM program are anticipated to include the following:

- Debris pile contents (soil fill containing asphalt and concrete), bathtub pieces, and black tar-like material and intermixed soils);
- Southwest septic system tank contents (water and/or sediment/sludge or soil fill);
- Southwest septic system tanks (concrete) and related system components (including cast-iron and/or terracotta piping);
- Excavated soil from beneath the debris pile and in association with the Southwest Septic System (potential impacts to be assessed through waste characterization sampling of soil removed);
- Excavation fluids (groundwater or stormwater);
- Decontamination fluids and pad; and
- Polyethylene sheeting.

Waste materials will be handled, containerized, and disposed of in accordance with DER-10 guidance and applicable regulations. It is currently anticipated that the soil and water wastes will be non-hazardous; however, this will be confirmed through appropriate analyses as dictated by requirements of the disposal facility(s). The presence of PCE in the southwest area Tank 1 contents will be discussed with the disposal facility. This material may need to be separately drummed and disposed of as a hazardous waste. It is not anticipated that groundwater will be encountered in the excavations, however, disposal of groundwater would follow the same process as for the pumped septic tank water described below.

Any excavated soil will be stockpiled on-Site both on and under poly in manageable units to facilitate waste characterization. The soil stockpiles will be segregated based on the RAOC from which they originated so as not to co-mingle materials with potentially different contamination conditions until disposal at an off-Site NYSDEC Part 360-permitted facility is arranged. Pumped liquid from the tanks, where present, will be containerized and temporarily stored on-Site in either 55-gallon drums or poly storage tank(s). The tank water may potentially be discharged to the

municipal sanitary sewer in accordance with a temporary discharge permit applied for by the Remedial Contractor and issued by the Monroe County Department of Environmental Services (MCDES) provided contaminant concentrations are demonstrated by appropriate lab analyses to be within required limits. Otherwise, the containerized water will be disposed of at an off-Site NYSDEC Part 360-permitted facility.

The non-soil bulk solids (including the septic system and bathtub components) will stored on and under poly while staged on-Site. The bulk materials will likely be disposed of at an appropriate facility such as a NYSDEC Part 360-permitted landfill or C&D recycling facility. All concrete from the southwest area is proposed to be disposed off-Site. If feasible, concrete C&D material from non-impacted locations (i.e. meeting Commercial SCOs) may be reused on-Site as excavation backfill.

Transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

4.7 EXCAVATION BACKFILL

The excavations will be backfilled to approximately 6 inches below existing grade with a combination of previously excavated spoils and imported run of bank gravel and compacted in 12 inch lifts with the excavator bucket. The imported material will be demonstrated to be sufficiently free of contamination through sampling and analysis in accordance with Table 5.4(e)10 of DER-10 and, if needed, NYSDEC's June 2019 Emerging Contaminants Memo.

Any soil that overlies the septic systems may be segregated and re-used as backfill assuming there are no visual, olfactory, or PID indications of impact. Any soil that is excavated at or below the septic system grade will be stockpiled separately and characterized for off-Site disposal (or for potential re-use based on DER-10 Table 5.4(e)4) and, if needed, NYSDEC's June 2019 Emerging Contaminants Memo.

4.8 SITE RESTORATION

The Site will be restored to pre-remedial excavation conditions to the extent practicable. Excavations will be completed with 6 inches of imported topsoil and graded to match existing grades. Any ruts or other depressions caused as a result of the remedial activities will be fine graded and finished with topsoil as required. All topsoil areas will be hydroseeded. To the extent

any areas require a new cover system, six inches of imported bank run gravel and six inches of topsoil will be used.

4.9 SURVEY CONTROL

The actual limits of excavation or work activities for RAOCs-1 through -4 will be established in the field at completion using a handheld GPS unit, such as the Trimble GeoXT, with sub-meter accuracy. Confirmatory sample locations will be recorded in the field using the handheld global positioning system (GPS) unit where feasible or utilizing measured field ties to permanent Site features.

4.10 DEMOBILIZATION

After the completion of the remedial actions, Fencing, the Equipment and Materials Staging Areas, and the Decontamination Area will be dismantled and removed from the Site. Excess material (general refuse, decontamination materials, poly sheeting, etc.) will be disposed of in accordance with applicable rules and regulations.

Equipment will be properly decontaminated before removal from the Site.

5.0 SAMPLING AND ANALYTICAL PROGRAM

Sampling and analytical activities will be conducted in accordance with standard environmental sampling and analytical guidelines and protocols contained in the QAPP as presented in the RIWP and Appendix A. Samples will be submitted to, and all analyses will be performed by, a NYSDOH ELAP-certified laboratory. Analytical reports will be prepared in accordance with the NYSDEC ASP Category B requirements, except for waste characterization samples. All sample data, except waste characterization samples, will be submitted to NYSDEC in the appropriate EQuIS Electronic Data Deliverable (EDD) format pursuant to DER-10.

Analytical summary tables will be prepared which summarize the data and compare them to the Site SCGs. This will include: SCOs for Commercial Use and Industrial Use, and POGW; NYSDEC Commissioner Policy CP-51 (NYSDEC, 2010b) Table 1 Supplemental SCOs for Commercial Use, Industrial Use, and POGW; and NYSDEC Class GA Water Quality Standards and Guidance Values for Groundwater (TOGS 1.1.1; NYSDEC, 1998).

Table 6 presents a summary of the proposed sampling and analyses for each RAOC. The proposed sampling scheme may be subject to change field based on field observations and actual excavation area.

5.1 INVESTIGATION SAMPLING

Similar to sampling conducted at the Northwest Septic System during the SRI where abandonment in place is also proposed, sampling will be conducted in proximity to the tank and leach field and from within the distribution box (if located) (see Figure 5). As was performed in the Northwest Septic System area, to the extent practicable, samples near the tanks will be collected at a depth within 2 ft. beneath, and within 2 horizontal ft. from the tanks. To the extent practicable, samples near the leach field piping will be collected at a depth within 0.5 ft. beneath, and within 2 horizontal ft. from the piping. Full suite analyses are proposed (see Table 6).

5.2 CONFIRMATORY SOIL SAMPLING APPROACH

Soil samples will be obtained in each RAOC to characterize the soil remaining on-Site (as compared to Site SCGs) following removal of the Southwest Septic System and the debris pile. Refer to Figures 6 and 8 and Table 6 for details regarding the proposed IRM confirmatory sampling activities.

For the Southwest Septic System excavations (RAOC-2), samples from the tank area will be obtained at a frequency of one bottom sample per every 5 ft of tank length per DER-10 Section 5.5 (as per Danielle Miles of NYSDEC September 5, 2018 e-mail correspondence). Samples from

the leach field will be collected at a frequency of approximately one bottom sample for every 900 square feet (sq ft). Sidewall samples are not considered applicable as the sidewalls are primarily above the leach field piping.

For the debris pile removal (RAOC-4), given that the area is less than 900 sq ft and the excavation will only be 6-inches below grade, a single bottom sample will be collected to confirm that the impacted material is removed.

The confirmatory samples will include some or all of the following parameters (see Table 6):

- Target Compound List (TCL) VOCs plus up to 10 Tentatively Identified Compounds (TICs) by EPA Method 8260C;
- TCL semi-volatile organic compounds (SVOCs) plus up to 20 TICs by EPA Method 8270D;
- TCL Polychlorinated Biphenyls (PCBs) by EPA Method 8082A; and
- Target Analyte List (TAL) Metals by EPA Methods 6010C/7000-series.

For RAOC-2, sampling parameters will include those parameter classes for which elevated results were seen, including TCL VOCs, PCBs and TAL Metals. For RAOC-4, TCL SVOCs will be analyzed since PAHs were the only compounds that exceeded commercial SCOs in the RI debris pile sampling.

5.3 WASTE CHARACTERIZATION

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Waste characterization sample parameters and frequency will be evaluated once a disposal facility has been identified. Sampling and analytical methods, sampling frequency, and analytical results will be reported in the CCR. Data available for soil/material to be disposed at a given facility must be submitted to the disposal facility with suitable explanation prior to shipment and receipt.

5.4 IMPORTED FILL

Materials proposed for import onto the Site will be approved by NYSDEC and the Remedial Engineer and will be in accordance with DER-10 Appendix 5 for Restricted Residential Use and CP-51 Table 1 for Restricted Residential, Table 2 and Table 3.

Testing for material anticipated to be reused or relocated on-Site will also include 1,4-dioxane using EPA Method 8270 and PFAS using EPA Method 537.1 (modified) at the frequencies as specified in NYSDEC's June 2019 Emerging Contaminants Memo. For 1,4-dioxane soil exceeding the Unrestricted SCO of 0.1 ppm will be rejected for reuse. If PFOA or PFOS are detected above 1 part per billion (ppb) then a soil sample will be submitted for Synthetic Precipitation Leaching

Procedure (SPLP) analysis. If the SPLP analysis is above 70 ppt for combined PFOA and PFOS, then the material will be rejected for reuse.

A summary of anticipated imported fill samples is included on Table 6.

5.5 FIELD QUALITY CONTROL SAMPLES

Field QA/QC samples to be collected include field duplicates, trip blanks, rinsate blanks, and matrix spike/matrix spike duplicate analyses. Field duplicates and matrix spike/matrix spike duplicates will be collected at a rate of one per 20 field samples. Trip blanks will consist of deionized water provided by the analytical laboratory. Should aqueous sampling be needed, a trip blank will accompany each shipment of aqueous samples scheduled for analysis of VOCs. One rinsate blank will be collected for each type of non-dedicated sampling equipment used, and it will be collected by pouring deionized water over decontaminated equipment. The non-dedicated equipment planned for the IRM field program include the excavator bucket and hand shovel.

5.6 DATA USABILITY

The confirmatory, investigation and imported fill sampling analytical data will undergo a data usability evaluation, summarized in a data usability summary report (DUSR). The data usability evaluation will be performed by a third party in accordance with the NYSDEC's "Guidance for the Development of Data Usability Summary Reports," revised 1997, and DER-10. Qualified analytical summary tables will be prepared which summarize the data and compare them to the applicable SCGs.

6.0 DOCUMENTATION AND REPORTING

Detailed documentation of Site activities will be maintained during the IRM field work activities. Reporting will include submission of a final written report to NYSDEC. Related follow-up to the IRM implementation will include preparation of a SMP to document engineering and institutional controls required to mitigate potential exposure to potential residual contamination.

6.1 SOIL AND MATERIALS DISPOSAL DOCUMENTATION

The following documentation will be obtained and reported by the Remedial Engineer for each disposal location used in this project to demonstrate and document that the disposal of material derived from the Site conforms with applicable laws:

- Email correspondence from the Remedial Engineer or Participant to the receiving facility with a waste profile describing the material to be disposed and requesting acceptance of the material. This correspondence will state that material to be disposed is contaminated material generated at an environmental remediation Site in New York State. The correspondence will provide the project identity and the name and phone number of the Remedial Engineer. The correspondence will include as an attachment a summary of the chemical data for the material being transported (including Site Characterization data); and

- A waste profile approval from the receiving facilities stating it is in receipt of the correspondence (above) and is approved to accept the material.

These email correspondences and approved waste profiles will be submitted to NYSDEC for review and approval; they will also be included in the CCR.

The CCR will include an accounting of the destination of the material removed from the Site during IRM2, including excavated soil, contaminated soil, solid waste, and hazardous waste, non-regulated material, and fluids. Documentation associated with disposal of hazardous material must also include records and approvals for receipt of the material, manifests for transportation, and Certificates of Disposal.

Documentation of weight tickets and use of a Bill of Lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the CCR.

6.2 FIELD DOCUMENTATION

Documentation of field activities, off Site disposal of wastes and environmental sampling will include the following:

Field Notebook - Field personnel will maintain a bound field notebook which will document dates, times, and duration of pertinent field events as well as excavation observations, construction quantities, sample locations/depths, and any modifications to the Work Plan. Notebook entries will be made on consecutive, numbered pages.

Project Photographs - Photographs will be taken of exterior field activities.

Calibration Records - Calibration records for field instrumentation will be maintained in the field notebook and/or in the project file directory.

Safety Forms - Project safety forms, air monitoring results, and other safety related documentation will be maintained.

Disposal Documentation – Copies of designated disposal facility approval to accept waste for disposal, signed Non-Hazardous Bills of Lading, signed Hazardous Waste Manifests (if any, not expected), and disposal facility confirmation of waste receipt with weight tickets.

Chain-of-Custody Forms - Sample handling will be recorded on chain-of-custody forms with associated labels and custody seals.

Refer to the QAPP (Appendix A) for additional detail regarding field documentation practices.

6.3 CONSTRUCTION COMPLETION REPORT

Upon receipt and review of the full set of analytical data generated by the IRMs and receipt of the DUSR, a CCR will be prepared, which will summarize the implementation methods, field observations, quantities, waste characterization and confirmatory soil sample laboratory results, Generator Waste Profiles, disposal facility approvals to accept waste, records of waste disposal, photographs, interpretations, conclusions, and recommendations.

7.0 PROJECT ORGANIZATION

A multi-disciplined team is proposed to perform the activities described in this document. The project team will include experienced Stantec staff and qualified contractors that are appropriately trained for their assigned duties and are acceptable to the NYSDEC.

7.1 PROJECT PERSONNEL

The principal personnel selected to perform the activities included in this document are presented below along with a brief description of their duties.

Stephanie Reynolds-Smith, P.G. – Project Manager

- Provides overall project management;
- Provides managerial guidance to technical group;
- Serves as primary liaison between technical group and client;
- Serves as primary liaison with NYSDEC; and
- Prepares and reviews reports.

Mike Storonsky – Managing Principal

- Provide technical guidance;
- Serve as liaison with client and NYSDEC; and
- Reviews reports.

Kevin Ignaszak, P.E. – Professional Engineer

- Provides managerial guidance to technical group; and
- Prepares and reviews remediation plans and reports.

Robert J. Mahoney, P.G. – Professional Geologist

- Provides managerial guidance to technical group; and
- Prepares and reviews investigation plans and reports, if needed.

Laura Best/Amanda Matkowsky/ Amanda Kelly or Kyle Stone – Field Geologist/Field Scientist/Field Engineer

- IRM field task leader(s);
- Site Safety Officer(s);
- Provide immediate supervision of on-Site remedial activities;
- Ensure that samples are properly collected, stored, and subjected to the appropriate chain-of-custody protocols;
- Maintain field equipment;

- Prepare field logs and maps;
- Provide technical representation at meetings; and
- Prepare reports.

Field Technician – Environmental Engineer, Geologist, or Scientist

- Performs community air monitoring; and
- Provides field and office support as needed.

Judy Harry (Data Validation Services) - Third Party Data Validator

- Project QA director;
- Assists in review of data; and
- Prepares DUSR(s).

7.2 CONTRACTORS

Qualified, experienced, and licensed or certified contractors/subcontractors will be retained to perform the IRMs under full-time observation by Stantec. One or more NYSDOH ELAP-certified laboratories will provide analytical services during the IRM program. All contractors/subcontractors are subject to the approval of the NYSDEC.

8.0 PROJECT SCHEDULE

Stantec will provide NYSDEC with notification of the schedule for implementation of remedial action measures no less than one week prior to initiation of such activities.

Implementation of the IRM2 activities in accordance with this Work Plan is anticipated to begin by the Spring 2020 construction season. We are proposing to potentially wait until the spring construction season to implement this Work Plan to avoid potential increased costs and delays associated with winter field conditions which would adversely affect access through grassed lawn areas due to wet ground conditions, excavation activities, and proposed site restoration involving topsoil placement and seeding.

The IRM2 remedies are anticipated to be completed in approximately 10-15 working days. Updates and changes to the implementation schedule will be reported to NYSDEC as part of monthly progress reporting.

9.0 REFERENCES

ERM, 2004	Results of Phase II Site Assessment Activities, Spectronic Facility, 820 Linden Avenue, Pittsford, New York. January 13, 2004.
GZA, 1995	Site Assessment and Operations Audit, Milton Roy Analytical Products Division, 820 Linden Avenue, Rochester, New York. June 1995.
Labella, 2005	Phase II Environmental Site Assessment: Supplemental Passive Soil Gas Survey. June 2005.
NYSDEC, 1998	Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 and June 2004 addenda).
NYSDEC, 2006	6NYCRR Part 375 Environmental Remediation Programs. December 14, 2006.
NYSDEC, 2010a	NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation. May 3, 2010.
NYSDEC, 2010b	NYSDEC Commissioner Policy CP-51 Soil Cleanup Guidance. October 21, 2010.
Stantec, 2017a	Phase I Environmental Site Assessment, 820 Linden Avenue, Town of Pittsford, Monroe County, New York. August 2017.
Stantec, 2017b	Limited Phase II Environmental Site Assessment for 820 Linden Avenue, Pittsford, New York. August 2017.
Stantec, 2017c	Remedial Investigation Work Plan, B + L Site, 820 Linden Avenue, Pittsford, Monroe County, New York. September 2017.
Stantec, 2018	IRM Work Plan, 820 Linden Ave Site, Pittsford, New York, Site # C828200. July 2018.
OBG, 2011	Environmental Site Assessment, 820 Linden Avenue, Rochester, NY. April 2011.

FIGURES

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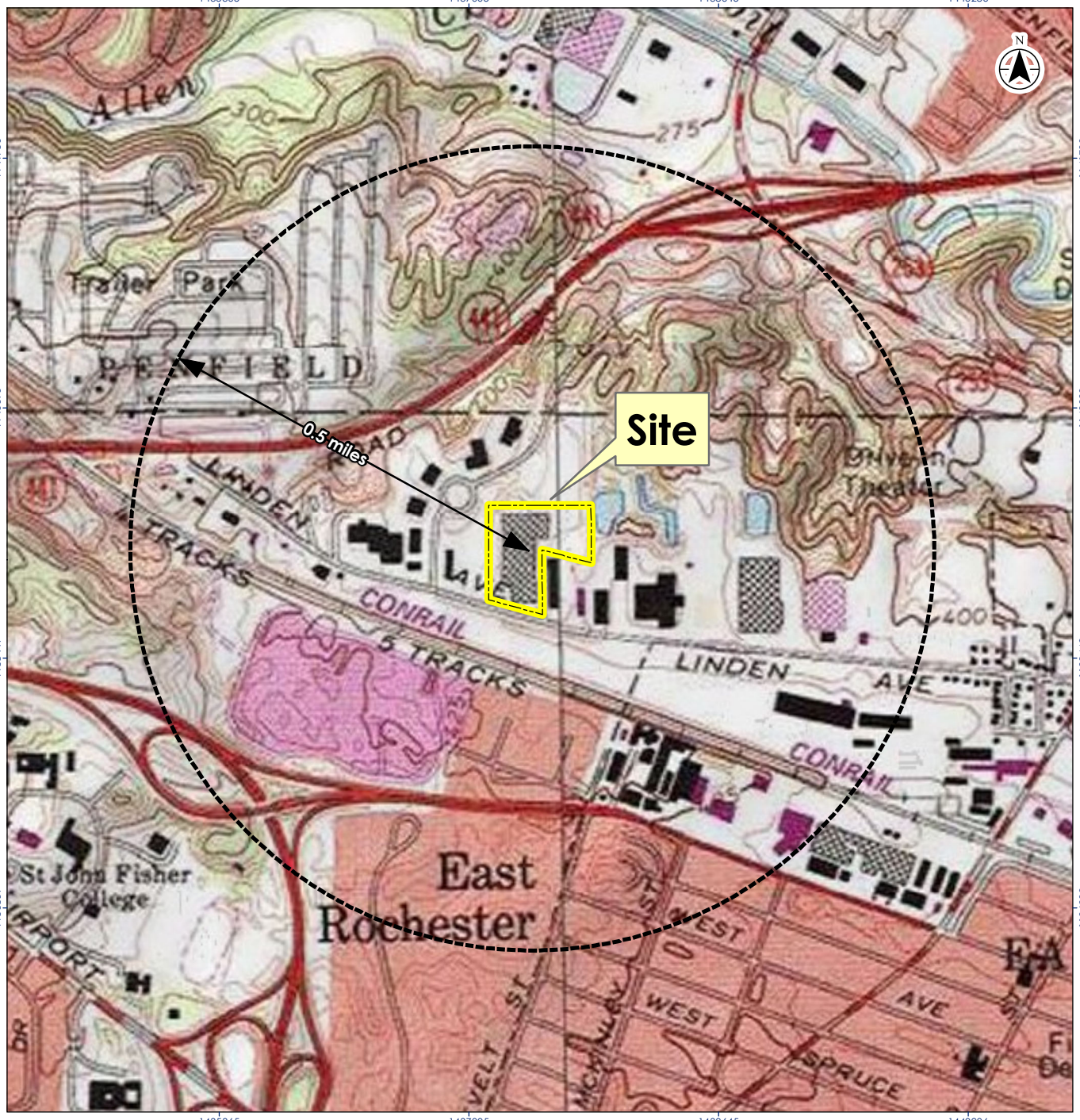

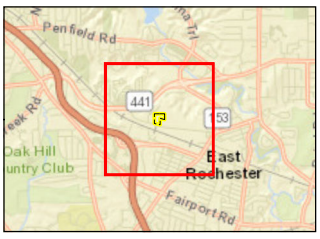

Notes
1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. ArcGIS Basemaps: USA Topo Maps (main frame) and World Street Map (key map).

Legend

- Property Outline
- 1/2-mile buffer

0 400 800 1,200 Feet

1:12,000 (at original document size of 8.5x11)

Stantec

Project Location
820 Linden Avenue
Pittsford, Monroe Co., NY

190500898
Prepared by LB on 2018-11-09
Technical Review by KI on 2019-10-31
Independent Review by MS/SRS on 2019-11-08

Client/Project
820 Linden Ave Site
BCP Site #C828200
IRM Work Plan #2

Figure No.
1

Title
Site Location Map

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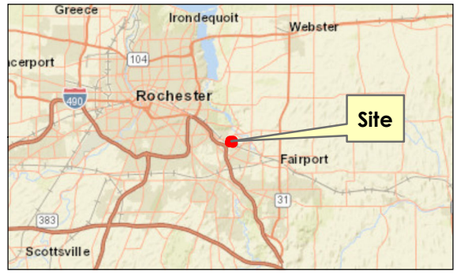
Stantec

Legend

- 2019 SRI Location ID for Septic Tank Contents Sampling
- 2019 SRI Grab Sample**
- 2019 SRI Soil Boring
- 2018 RI Soil Boring/Monitoring Well
- 2018 RI Shallow Monitoring Well
- 2018 RI Soil Boring
- 2018 RI Test Pit
- 2018 RI Discrete Surface Soil Sample for Composite*
- 2018 RI Discrete Surface Soil Sample for Composite and Grab Sample for VOCs*
- 2018 RI Debris Pile Sample
- Previously Existing Monitoring Well
- 2016 Limited Phase II Monitoring Well
- 2016-2017 Limited Phase II Soil Boring
- 2019 Indoor Air/Sub-Slab Vapor Sample Location
- 2016-2017 Indoor Air/Sub-Slab Vapor Sample Location
- Jarl Extrusions Monitoring Well
- Storm Drain Outfall Locations
- Site Property Outline
- Nearby Parcel Boundaries
- Building Outline
- Historical Building Usage
- JML Optical tenant space
- Newport tenant space

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Orthoimagery (2015) downloaded from gis.ny.gov.
3. Monitoring well MW-3 is an angled well that terminates under the building. The other monitoring wells are vertical wells.
4. 2016-2017 soil boring locations and 2018 RI test pit, debris pile, surface soil, and Geoprobe boring locations are approximate. Interior boring/well locations (B-10 to B-13 and B11D to B13D) are estimated based on building structure tie-offs. The exterior locations are based on handheld GPS (Trimble) unit measurements and/or field measurements.
5. Well locations surveyed for vertical and horizontal coordinates by a Stantec surveyor.
6. *Surface soil sample locations were selected based on NYSDEC's Draft Soil Screening Guidance. Soil was collected from two depths at each sample location. Of the twelve discrete sample locations, eight included the collection of additional soil for VOC analysis (in addition to the soil collected for a composite analysis of other parameters). Each of the eight composite samples (4 groups at two depths) were comprised of three discrete samples.
7. **DBOX is a solids sample from within distribution box for waste characterization, as depicted. DBOX2 and DBOX3 are solids samples analyzed as part of the investigation dataset: DBOX2 is in situ soil in the vicinity of the distribution box excavation backfill area; DBOX3 is a bulk sample of black tar-like material encountered in a discrete occurrence while digging to the distribution box.



Project Location:
820 Linden Avenue
Pittsford, Monroe Co., NY

Prepared by LB on 2018-11-09
Technical Review by KI on 2019-10-31
Independent Review by MS/SRS on 2019-11-08

190500898

Client/Project
820 Linden Ave Site
BCP Site #C828200
IRM Work Plan #2

Figure No.
2

Title
Site Layout and Previous Investigation Locations

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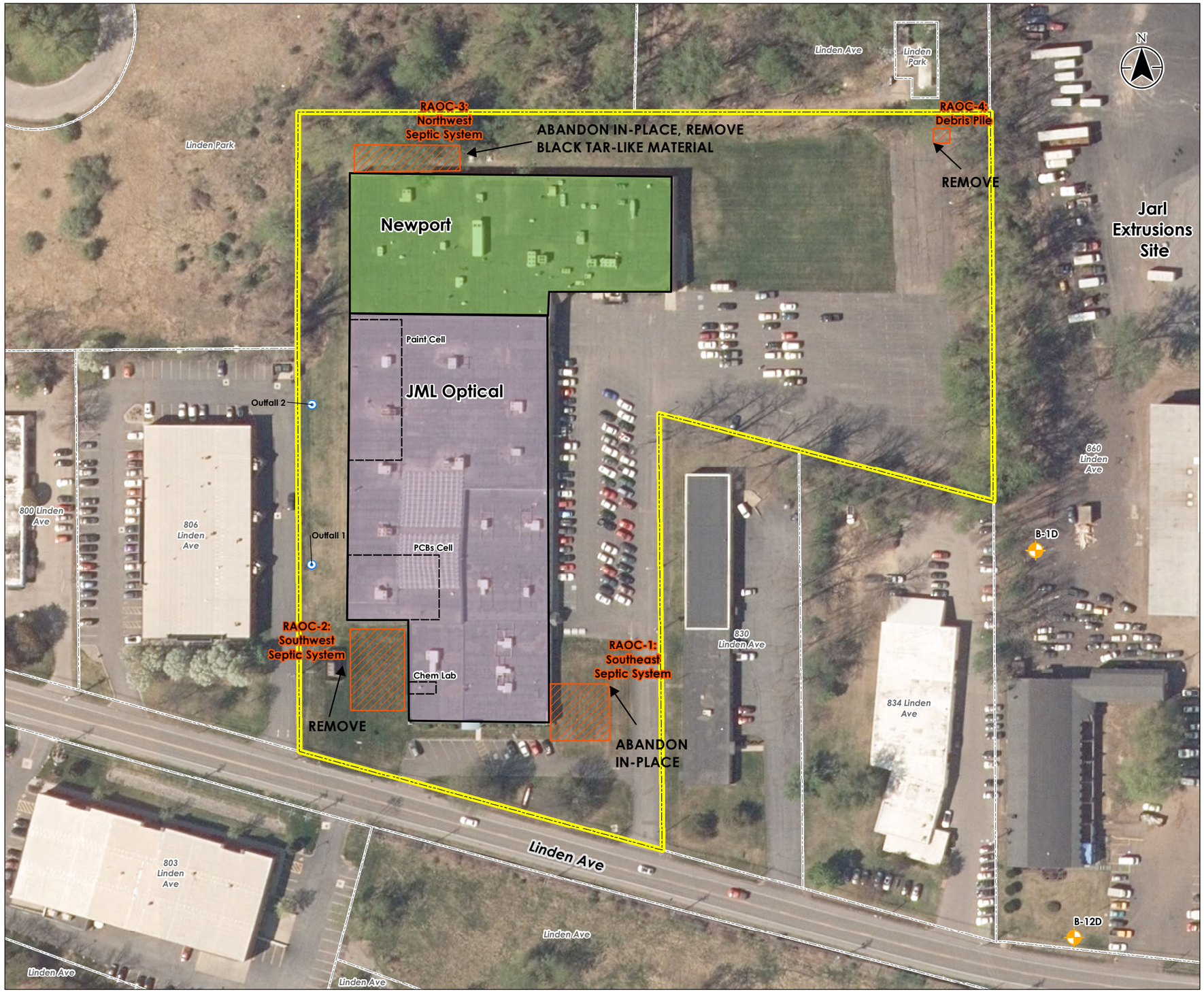


Stantec

Legend

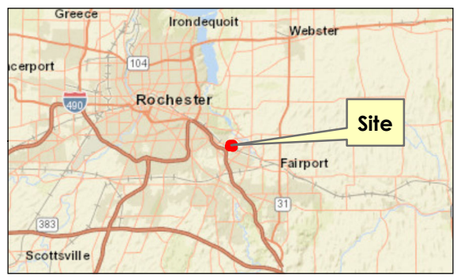
- Approximate Location of Remedial Areas of Concern (see Figures 5-8 for detail)
- Site Property Outline
- Building Outline
- JML Optical tenant space
- Newport tenant space
- Historical Building Usage
- Nearby Parcel Boundaries
- Jarl Extrusions Monitoring Well
- Storm Drain Outfall Locations

0 100 200 Feet

1:1,200 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Orthoimagery (2015) downloaded from gis.ny.gov.
3. Site building is occupied by two tenants: JML Optical in the southern building section and Newport Corporation in the northern building section. Both current tenants are optics manufacturing facilities.



Project Location:
820 Linden Avenue
Pittsford, Monroe Co., NY

Prepared by LB on 2018-11-01
Technical Review by KI on 2019-10-31
Independent Review by MS/SRS on 2019-11-08

190500898

Client/Project
820 Linden Ave Site
BCP Site #C828200
IRM Work Plan #2

Figure No.
3

Title
Overview of RAOCs

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Stantec

Legend

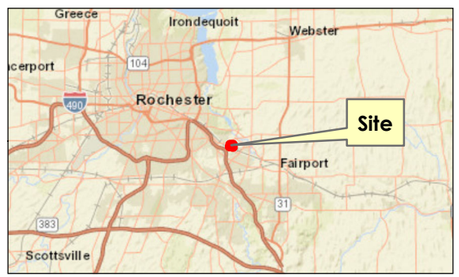
Interior Newport Utility Features
- Clean-out confirmed location during RI video survey
- Clean-out based on available drawings (inaccessible)
- Condensate Drain
- Floor Drain
- Sink

Newport Interior Sewer Configuration
- Based on available drawings (inaccessible)
- Confirmed location/connection during RI video survey

RI Survey Video Transmitter Locations
- Sewer Line
- Storm Drain Line
- Exterior Sewer Lines (confirmed during RI sewer video survey and/or SRI)
- Apparent Historical/Inactive Sewer Line (investigated during SRI)
- Sewer Cleanout
- Additional Sewer Cleanout (observed during Test Pit program and investigated during SRI)
- Storm Drain
- Storm Drain Line
- Floor Drains (JML)
- Floor Drain Line (JML)
- Manhole
- Grinder Pump
- Water Main
- Site Property Outline
- Nearby Parcel Boundaries
- Building Tenant Spaces
- Storm Drain Outfall Locations

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. Orthoimagery (2015) downloaded from gis.ny.gov.
3. Depths and locations depicted are approximate and based on multiple lines of evidence including the video survey, historical drawings, and field observations.



Project Location:
820 Linden Avenue
Pittsford, Monroe Co., NY

Prepared by LB on 2018-12-05
Technical Review by KI on 2019-10-31
Independent Review by MS/SRS on 2019-11-08

190500898

Client/Project
820 Linden Ave Site
BCP Site #C828200
IRM #2 Work Plan

Figure No.
4

Title
Understanding of Sewer Configuration

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JML Optical Building

Active sewer pipe - protect and maintain

1 ft bgs

Concrete septic tank lid at 1' 9" bgs; tank extends to at least 5' bgs and is filled with silt and sand; two circular openings in lid (6" and 1.5" diameter)

TANK1-SE (previously abandoned, no action required)

TANK1-SE-ADJ

DBOX-SE

Abandon in-place

Seal end of pipe entering tank with concrete grout plug

4.5 ft bgs

LF2-SE

GRASS/ LAWN

5' 5" bgs

4"-diameter terracotta drain pipe at ~3' bgs

LF1-SE

Active electric utility - protect and maintain

?

NOTE:
Contractor shall first assist Engineer to collect soil samples for laboratory analyses to confirm abandonment in place is acceptable. In the event detected soil concentrations exceed Commercial SCOs, partial or complete system removal with impacted soil excavation may be necessary. Temporary chain link construction fencing would then be required around perimeter of area.

N

0 10 20 Feet

1 inch = 10 feet

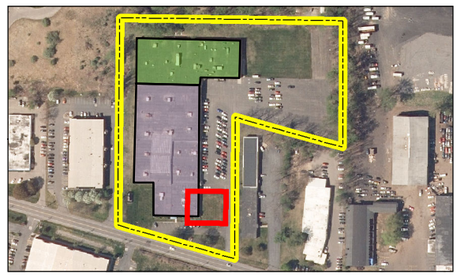
Stantec

Legend

- Septic tank/leach field investigation sample location (via Geoprobe)
- Distribution box sample location (if found)
- Location ID for Septic Tank Contents Characterization Sampling
- Approximate Location of Septic Tank (Location Confirmed)
- Approximate Location of Distribution Boxes (based on historical sketches)
- Approximate Location of Septic Drain Tiles (based on historical sketches)
- Drain Pipe Section Confirmed during SRI
- Approximate Location of Tank Connection Piping (based on historical sketches)
- Exterior Sewer Lines
- Sewer Depth and Location Confirmed during SRI
- Electric (Underground)
- Gas (Underground)
- Water (Underground)
- Sewer Cleanout
- Sewer Line (location identified during RI sewer video survey; approximate depth of sewer line depicted, if known)
- Water Valve
- Site
- JML Optical tenant space
- Newport tenant space

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. All locations based on approximate field observations and measurements.
3. The depiction of septic tanks, distribution boxes, and associated piping is largely based on historical drawings (gray) supplemented by SRI field activities (black). Locations still considered approximate only.
4. Sprinkler conduits not depicted. Additional metal conduits (unknown utility and uknown operational status) encountered, but not depicted.



Project Location:
820 Linden Avenue
Pittsford, Monroe Co., NY

Prepared by LB on 2019-09-10
Technical Review by KI on 2019-10-31
Independent Review by MS/SRS on 2019-11-08

190500898

Client/Project
820 Linden Ave Site
BCP Site #C828200
IRM #2 Work Plan

Figure No.
5

Title
RAOC-1: Southeast Septic System Proposed Abandonment In-Place and Investigation Sample Locations

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Four concrete septic tanks at 1' bgs:
Tank 1 contained thin layer of water/sediment;
Tanks 2 and 3 contain water; Tank 4 contained thin layer of soil

Active sewer pipe - protect and maintain

N

4.6 ft bgs
3.5 ft bgs
2.5 ft bgs
1.5 ft bgs

TANK3-SW (remove)
TANK4-SW (remove)
TANK2-SW (remove)
TANK1-SW (remove)

see Inset for sample location IDs

Cut and seal end of pipe entering tank with concrete grout, location unknown

Cut and seal with concrete grout plug

4.8 ft bgs
3.0 ft bgs

6"-diameter cast-iron pipe

Remove

Pipe #3

Remove
Remove

Cut and seal with concrete grout plug

LF-SW-CS1
LF-SW-CS3

4"-diameter terracotta drain pipe at 3' bgs

Drain pipe investigated during SRI video survey; encountered a blockage at the north end of where it is approximately depicted before veering generally to the west (potential alignment with tank connection feature depicted in historical sketch)

JML Optical Building

GRASS/ LAWN

Pipe #2

4"-diameter terracotta drain pipe at 2'7" bgs

Pipe #1

LF-SW-CS2

Active sewer pipe - protect and maintain

LF-SW-CS4

TANK4-SW-CS1
TANK3-SW-CS1
TANK2-SW-CS1
TANK1-SW-CS1
TANK3-SW-CS2
TANK2-SW-CS2
TANK1-SW-CS2
TANK4-SW-CS2

0 10 20 Feet
1 inch = 10 feet

Stantec

Legend

- Bottom confirmatory sample location
- Location ID for Waste Characterization Sampling
- Approximate Location of Tank (confirmed during SRI)
- Approximate Location of Distribution Boxes (based on historical sketches)
- Apparent Distribution Box Encountered During SRI
- Approximate Location of Septic Drain Tiles (based on historical sketches)
- Drain Pipe Section Confirmed During SRI
- Approximate Location of Tank Connection Piping (based on historical sketches)
- Exterior Sewer Lines
- Electric (Overhead)
- Electric (Underground)
- Fiberoptic (Underground)
- Apparent Historical/Inactive Sewer Line (investigated during SRI)
- Apparent Historical/Inactive Sewer Cleanout (accessed for SRI video survey)
- Sewer Cleanout
- Sewer Line (location identified during RI sewer video survey; approximate depth of sewer line depicted, if known)
- Sprinkler Head (location of sprinkler lines largely unknown; encounters with sprinkler conduits not depicted on map)
- Overhead Electric Utility Poles
- Fenced Electric Area
- Site
- JML Optical tenant space
- Newport tenant space
- Temporary Chain Link Construction Fencing

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. All locations based on approximate field observations and measurements.
3. The depiction of septic tanks, distribution boxes, and associated piping is largely based on historical drawings (gray) supplemented by field activities (black). Locations still considered approximate only.
4. Sprinkler conduits not depicted. Additional inactive metal conduits encountered but not depicted.
5. Pipe # indicated on figure corresponds to WP text discussion of pipe investigation and understanding of underground utilities.

Project Location:
820 Linden Avenue
Pittsford, Monroe Co., NY

Prepared by LB on 2019-09-10
Technical Review by KI on 2019-10-31
Independent Review by MS/SRS on 2019-11-08

190500898

Client/Project
820 Linden Ave Site
BCP Site #C828200
IRM #2 Work Plan

Figure No.
6

Title
RAOC-2: Southwest Septic System Proposed Removal and Confirmatory Sample Locations

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Dispose of soil overlying distribution box cover containing de minimis pieces of black tar-like material

DBOX** (abandon in-place)

DBOX2**

DBOX3**

3' 6" bgs

LF-1

LF-2

LF-3

LF-4

TANK2-NW (abandon in-place)

TANK2-NW

TANK1-NW (previously abandoned, no action required)

TANK1-NW

B-14/MW-5

GRASS/ LAWN

GRASS/ LAWN

4' 4" bgs

Concrete septic tank lid at 3' bgs; contained thin layer of soil

Concrete septic tank (lid missing); filled with soil

Seal end of pipe entering tank with concrete grout plug

Newport Building

N

Stantec

Legend

- Location ID for Septic Tank Contents Characterization Sampling
- Grab Sample
- Soil Boring
- Approximate Location of Tank (exposed and sampled during SRI)
- Approximate Location of Distribution Box (uncovered and sampled during SRI)
- Approximate Location of Septic Drain Tiles (based on historical sketches; see Note 5**)
- Approximate Location of Tank Connection Piping (based on historical sketches)
- Exterior Sewer Lines
- Sewer Cleanout
- Sewer Line (location identified during RI sewer video survey; approximate depth of sewer line depicted, if known)
- Monitoring Well (2016 Investigation)
- Site
- JML Optical tenant space
- Newport tenant space
- Approximate Western Edge of Picnic Table Area
- Approximate Treeline

0 10 20 Feet

1 inch = 10 feet

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. All locations based on approximate field observations and measurements.
3. The depiction of septic tanks, distribution boxes, and associated piping is largely based on historical drawings (gray) supplemented by SRI field activities (black). Locations shown are approximate.
4. *DBOX is a solids sample from within distribution box for waste characterization, as depicted. DBOX2 and DBOX3 are solids samples analyzed as part of the investigation dataset: DBOX2 is in situ soil in the vicinity of the distribution box excavation backfill area; DBOX3 is a bulk sample of black tar-like material encountered in a discrete occurrence while digging to the distribution box.
5. **Inlet/outlet holes observed in distribution box roughly align with historical sketch and provided approximate depth below ground surface for sampling reference.

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820 Linden Ave Site
BCP Site #C828200
IRM #2 Work Plan

Figure No.
7

Title
RAOC-3: Northwest Septic System Proposed Abandonment In-Place and Removal of Black Tar-Like Material

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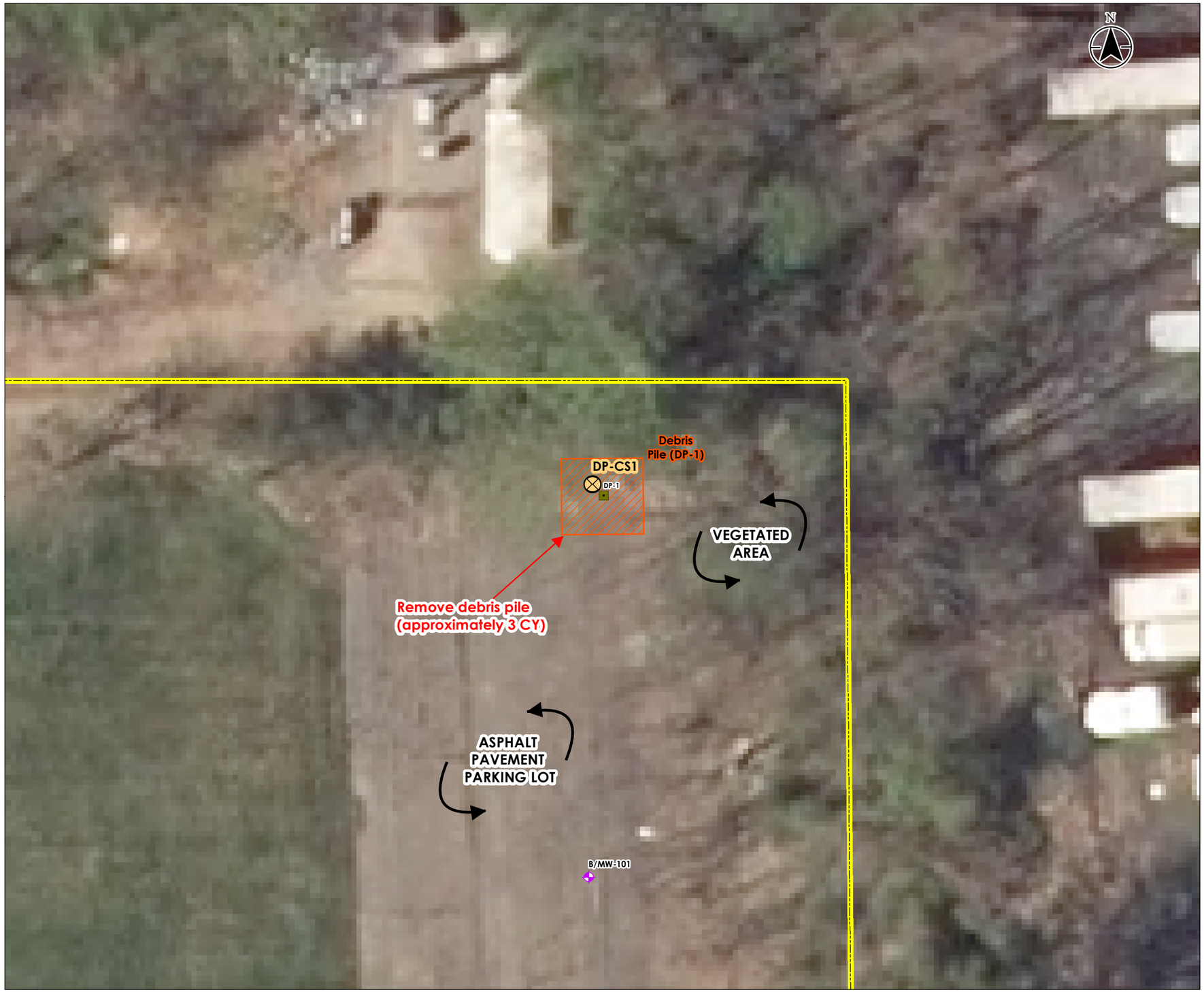

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Legend

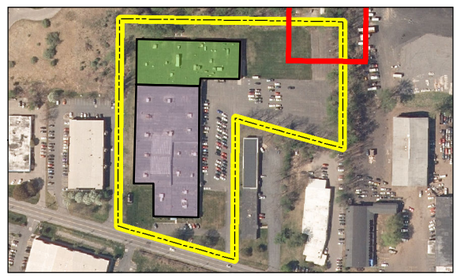
- RI Debris Pile Sample
- Proposed bottom confirmatory sample location
- RAOC-4
- Site
- Building Outline
- JML Optical tenant space
- Newport tenant space

0 20 40 Feet

1 inch = 20 feet

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. 2015 Orthoimagery from gis.ny.gov.
3. All locations based on approximate field observations and measurements. Monitoring wells surveyed by Stantec in 2018 RI.



Project Location:
820 Linden Avenue
Pittsford, Monroe Co., NY

Prepared by LB on 2019-10-18
Technical Review by KI on 2019-10-31
Independent Review by MS/SRS on 2019-11-08

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Client/Project
820 Linden Ave Site
BCP Site #C828200
IRM #2 Work Plan

Figure No.
8

Title
RAOC-4: Debris Pile
Proposed Removal and Confirmatory Sample Location

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TABLES

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B-1	B-2		B-3	B-4	B-5	B-6	B-7	B-8		B-9		B-10	B-11
Sample Date				20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	21-Jun-16	21-Jun-16	24-Jun-16	24-Jun-16	28-Jun-16	29-Jun-16	5-Jul-16	5-Jul-16
Sample ID				B-1	B-2	DUP-01	B-3	B-4	B-5	B-6	B-7	B-8 (3.5-4.5)	B-8 (60-61)	B-9 (23-24)	B-9 (85-86)	B-10 (3-4)	B-11 (8-9)
Sample Depth				4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	3.5 - 4.5 ft	60 - 61 ft	23 - 24 ft	85 - 86 ft	3 - 4 ft	8 - 9 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102302-1	480-102302-1	480-102302-1	480-102302-1	480-102705-1	480-102705-1
Laboratory Sample ID				480-102053-1	480-102053-2	480-102053-7	480-102053-3	480-102053-4	480-102053-5	480-102053-6	480-102053-8	480-102302-1	480-102302-2	480-102382-1	480-102510-1	480-102705-1	480-102705-2
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51			Field Duplicate											
General Chemistry																	
Cyanide	mg/kg	27[rs] 10,000$_a$[C] 40[D]	n/v	1.1 U	1.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1 U	1.2 U	1.1 U	1.1 U	1.0 U	1.2 U	0.99 U	0.92 U
Metals																	
Aluminum	mg/kg	10,000$_a$[ABCD]	10,000$_a$[EFG]	**12,800**[ABCDEFG]	6,250	7,000	8,420	7,620	5,600	8,340 J	2,600	8,730	2,350	2,970 J	3,670	4,600	5,080
Antimony	mg/kg	10,000$_a$[ABCD]	10,000$_a$[EFG]	16.1 U	15.3 U	15.9 U	17.0 U	16.6 U	16.1 U	18.5 UJ	17.5 U	17.6 U	18.7 U	18.1 U	18.9 U	16.6 U	15.0 U
Arsenic	mg/kg	13$_n$[A] 16$_a$[BCD]	n/v	3.6	2.0 U	2.1 U	2.3 U	2.2 U	2.2 U	2.5 U	2.3 U	3.3	2.5 U	2.4 U	2.5 U	2.2 U	2.0
Barium	mg/kg	350$_a$[A] 400[B] 10,000$_a$[C] 820[D]	n/v	35.9	12.9	13.8	22.6	17.7	13.4	29.7	12.7	85.7	12.1	12.1	30.3	12.6	14.6
Beryllium	mg/kg	7.2[A] 590[B] 2,700[C] 47[D]	n/v	0.51	0.20 U	0.23	0.23 U	0.22 U	0.22 U	0.26	0.23 U	0.31	0.25 U	0.24 U	0.25 U	0.22 U	0.20
Cadmium	mg/kg	2.5$_n$[A] 9.3[B] 60[C] 7.5[D]	n/v	0.21 U	0.20 U	0.21 U	0.23 U	0.22 U	0.22 U	0.36	0.23 U	0.23 U	0.25 U	0.24 U	0.25 U	0.22 U	0.20 U
Calcium	mg/kg	10,000$_a$[ABCD]	10,000$_a$[EFG]	1,550	9,060 J	1,740 J	4,900	3,870	4,940	3,720 J	**24,400**[ABCDEFG]	**22,900**[ABCDEFG]	**21,500**[ABCDEFG]	**26,300**[ABCDEFG]	**27,800**[ABCDEFG]	1,550	3,020
Chromium	mg/kg	30$_{h,i}$[A] 1,500[B] 6,800$_i$[C] $_{NS,o}$[D]	n/v	14.7	7.8	8.5	9.5	9.3	10.6	11.0	5.4	11.6	5.9	4.7	7.1	8.3	7.9
Cobalt	mg/kg	10,000$_a$[ABCD]	10,000$_a$[EFG]	6.8	2.5 J	3.8 J	2.6	2.6	2.5	4.2	1.9	6.0	1.6	2.0	2.7	3.1	3.6
Copper	mg/kg	50[A] 270[B] 10,000$_e$[C] 1,720[D]	n/v	17.5	4.5 J	9.1 J	3.9	4.6	5.5	18.0	4.3	25.7	3.6	4.1	5.4	4.2	6.8
Iron	mg/kg	10,000$_a$[ABCD]	10,000$_a$[EFG]	**19,400**[ABCDEFG]	7,380	**10,900**[ABCDEFG]	8,710	8,650	6,950	**12,200**[ABCDEFG]	6,270	**15,100**[ABCDEFG]	5,420	5,880 J	7,600	**12,300**[ABCDEFG]	**10,200**[ABCDEFG]
Lead	mg/kg	63$_n$[A] 1,000[B] 3,900[C] 450[D]	n/v	5.9	3.1	2.6	4.3	3.0	2.5	15.5	1.5	9.0	1.5	1.3	2.0	1.8	2.3
Magnesium	mg/kg	10,000$_a$[ABCD]	n/v	2,320	5,560 J	1,890 J	3,040	2,530	2,360	2,080 J	4,980	9,780	3,830	5,550	7,420	1,240	1,810
Manganese	mg/kg	1,600$_n$[A] 10,000$_a$[BC] 2,000$_e$[D]	n/v	382	125 J	298 J	172	121	115	313	146	646	126	177 J	199	232	268
Mercury	mg/kg	0.18$_n$[A] 2.8$_a$[B] 5.7$_x$[C] 0.73[D]	n/v	0.022 U	0.020 U	0.021 U	0.044	0.022 U	0.021 U	0.022 U	0.023 U	0.065	0.023 U	0.024 U	0.022 U	0.021 U	0.021 U
Nickel	mg/kg	30[A] 310[B] 10,000$_e$[C] 130[D]	n/v	15.4	5.6	8.0	6.0	6.1	6.1	9.0	5.8 U	12.9	6.2 U	6.0 U	6.3 U	5.9	6.5
Potassium	mg/kg	10,000$_a$[ABCD]	n/v	1,890	754	1,040	755	705	740	981	570	1,400	551	650 J	1,000	764	1,030
Selenium	mg/kg	3.9$_n$[A] 1,500[B] 6,800[C] 4$_a$[D]	n/v	4.3 U	4.1 U	4.2 U	4.5 U	4.4 U	4.3 U	4.9 U	4.7 U	4.7 U	5.0 U	4.8 U	5.0 U	4.4 U	4.0 U
Silver	mg/kg	2[A] 1,500[B] 6,800[C] 8.3[D]	n/v	0.54 U	0.51 U	0.53 U	0.57 U	0.55 U	0.54 U	0.62 U	0.58 U	0.59 U	0.62 U	0.60 U	0.63 U	0.55 U	0.50 U
Sodium	mg/kg	10,000$_a$[ABCD]	n/v	419	601	922	266	220	151 U	300	173	164 U	175 U	169 U	251	155 U	140 U
Thallium	mg/kg	10,000$_a$[ABCD]	10,000$_a$[EFG]	6.4 U	6.1 U	6.3 U	6.8 U	6.6 U	6.5 U	7.4 U	7.0 U	7.0 U	7.5 U	7.3 U	7.6 U	6.6 U	6.0 U
Vanadium	mg/kg	10,000$_a$[ABCD]	10,000$_a$[EFG]	27.0	13.7	17.8	15.7	15.6	12.2	19.1	10.7	19.6	9.1	9.5	12.2	23.3	16.4
Zinc	mg/kg	109$_n$[A] 10,000$_a$[BC] 2,480[D]	n/v	31.7	16.9	18.1	22.4	18.2	14.3	35.1	10.3	34.3	9.6	11.3	13.6	12.8	19.8
Polychlorinated Biphenyls																	
Aroclor 1016	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Aroclor 1221	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Aroclor 1232	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Aroclor 1242	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Aroclor 1248	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Aroclor 1254	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Aroclor 1260	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Aroclor 1262	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Aroclor 1268	µg/kg	[ABCD]	n/v	240 U	210 U	250 U	260 U	240 U	210 U	250 U	230 U	240 U	210 U	260 U	240 U	260 U	200 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100[A] 1,000[B] 25,000[C] 3,200[D]	n/v	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides																	
Aldrin	µg/kg	5$_n$[A] 680[B] 1,400[C] 190[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
BHC, alpha-	µg/kg	20[KO] 3,400[B] 6,800[C]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
BHC, beta-	µg/kg	36[A] 3,000[B] 14,000[C] 90[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
BHC, delta-	µg/kg	40$_n$[A] 500,000$_c$[B] 1,000,000$_d$[C] 250[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Camphechlor (Toxaphene)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	18 U	350 U	350 U	360 U	170 U	350 U	390 U	20 U	20 U	20 U	20 U	19 U	18 U	17 U
Chlordane, alpha-	µg/kg	94[A] 24,000[B] 47,000[C] 2,900[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000$_a$[A] 1,000,000$_d$[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
DDD (p,p'-DDD)	µg/kg	3.3$_m$[A] 92,000[B] 180,000[C] 14,000[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
DDE (p,p'-DDE)	µg/kg	3.3$_m$[A] 62,000[B] 120,000[C] 17,000[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
DDT (p,p'-DDT)	µg/kg	3.3$_m$[A] 47,000[B] 94,000[C] 136,000[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Dieldrin	µg/kg	5$_n$[A] 1,400[B] 2,800[C] 100[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Endosulfan I	µg/kg	2,400[A] 200,000[B] 920,000[C] 102,000[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Endosulfan II	µg/kg	2,400[A] 200,000[B] 920,000[C] 102,000[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Endosulfan Sulfate	µg/kg	2,400$_i$[A] 200,000[B] 920,000$_i$[C] 1,000,000$_d$[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Endrin	µg/kg	14[A] 89,000[B] 410,000[C] 60[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Endrin Aldehyde	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Endrin Ketone	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Heptachlor	µg/kg	42[A] 15,000[B] 29,000[C] 380[D]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Heptachlor Epoxide	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 20[G]	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100[AG] 9,200[B] 23,000[C]	n/v	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 900,000[G]	1.8 U	35 U	35 U	36 U	17 U	35 U	39 U	2.0 U	2.0 U	2.0 U	2.0 U	1.9 U	1.8 U	1.7 U

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B-1	B-2		B-3	B-4	B-5	B-6	B-7	B-8		B-9		B-10	B-11
Sample Date				20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	21-Jun-16	21-Jun-16	24-Jun-16	24-Jun-16	28-Jun-16	29-Jun-16	5-Jul-16	5-Jul-16
Sample ID				B-1	B-2	DUP-01	B-3	B-4	B-5	B-6	B-7	B-8 (3.5-4.5)	B-8 (60-61)	B-9 (23-24)	B-9 (85-86)	B-10 (3-4)	B-11 (8-9)
Sample Depth				4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	3.5 - 4.5 ft	60 - 61 ft	23 - 24 ft	85 - 86 ft	3 - 4 ft	8 - 9 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102302-1	480-102302-1	480-102302-1	480-102302-1	480-102705-1	480-102705-1
Laboratory Sample ID				480-102053-1	480-102053-2	480-102053-7	480-102053-3	480-102053-4	480-102053-5	480-102053-6	480-102053-8	480-102302-1	480-102302-2	480-102382-1	480-102510-1	480-102705-1	480-102705-2
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51			Field Duplicate											
Semi-Volatile Organic Compounds																	
Acenaphthene	µg/kg	20,000[A] 500,000[B] 1,000,000[C] 98,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Acenaphthylene	µg/kg	100,000[A] 500,000[B] 1,000,000[C] 107,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Acetophenone	µg/kg	100,000[A] 1,000,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Anthracene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Atrazine	µg/kg	100,000[A] 1,000,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Benzaldehyde	µg/kg	100,000[A] 1,000,000[D]	n/v	180 UJ	900 UJ	1,800 UJ	900 UJ	890 UJ	870 UJ	2,000 UJ	200 UJ	210 U	200 U	200 U	200 U	180 U	170 U
Benzo(a)anthracene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Benzo(a)pyrene	µg/kg	1,000[A] 1,000[B] 1,100[C] 22,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Benzo(b)fluoranthene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,700[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Benzo(g,h,i)perylene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Benzo(k)fluoranthene	µg/kg	800[A] 56,000[B] 110,000[C] 1,700[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Biphenyl, 1,1'- (Biphenyl)	µg/kg	100,000[A] 1,000,000[D]	500,000[E] 1,000,000[F]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Bis(2-Chloroethoxy)methane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Bis(2-Chloroethyl)ether	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropane))	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 435,000[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Bromophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Butyl Benzyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 122,000[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Caprolactam	µg/kg	100,000[A] 1,000,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Carbazole	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Chloro-3-methyl phenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Chloroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 220[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Chloronaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Chlorophenol, 2- (ortho-Chlorophenol)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Chlorophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Chrysene	µg/kg	1,000[A] 56,000[B] 110,000[C] 1,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Cresol, o- (Methylphenol, 2-)	µg/kg	330[m][A] 500,000[B] 1,000,000[C] 330[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Cresol, p- (Methylphenol, 4-)	µg/kg	330[m][A] 500,000[B] 1,000,000[C] 330[D]	n/v	360 U	1,700 U	3,500 U	1,800 U	1,700 U	1,700 U	3,900 U	390 U	400 U	390 U	400 U	380 U	360 U	330 U
Dibenzo(a,h)anthracene	µg/kg	330[m][A] 560[B] 1,100[C] 1,000,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Dibenzofuran	µg/kg	7,000[A] 350,000[B] 1,000,000[C] 210,000[D]	500,000[E] 1,000,000[F] 6,200[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Dibutyl Phthalate (DBP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 8,100[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Dichlorobenzidine, 3,3'-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Dichlorophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Diethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 7,100[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Dimethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 27,000[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Dimethylphenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Dinitro-o-cresol, 4,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	360 U	1,700 U	3,500 U	1,800 U	1,700 U	1,700 U	3,900 U	390 U	400 U	390 U	400 U	380 U	360 U	330 U
Dinitrophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 200[G]	360 U	1,700 U	3,500 U	1,800 U	1,700 U	1,700 U	3,900 U	390 U	400 U	390 U	400 U	380 U	360 U	330 U
Dinitrotoluene, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Dinitrotoluene, 2,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000/170[b,s1][G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Di-n-Octyl phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 120,000[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Fluoranthene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Fluorene	µg/kg	30,000[A] 500,000[B] 1,000,000[C] 386,000[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Hexachlorobenzene	µg/kg	330[A] 6,000[B] 12,000[C] 3,200[D]	500,000[E] 1,000,000[F] 1,400[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Hexachlorocyclopentadiene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Hexachloroethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Indeno(1,2,3-cd)pyrene	µg/kg	500[A] 5,600[B] 11,000[C] 8,200[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Isophorone	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 4,400[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Methylnaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 36,400[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Nitroaniline, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	360 U	1,700 U	3,500 U	1,800 U	1,700 U	1,700 U	3,900 U	390 U	400 U	390 U	400 U	380 U	360 U	330 U
Nitroaniline, 3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 500[G]	360 U	1,700 U	3,500 U	1,800 U	1,700 U	1,700 U	3,900 U	390 U	400 U	390 U	400 U	380 U	360 U	330 U
Nitroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	360 U	1,700 U	3,500 U	1,800 U	1,700 U	1,700 U	3,900 U	390 U	400 U	390 U	400 U	380 U	360 U	330 U
Nitrobenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	69,000[E] 140,000[F] 170[b,G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Nitrophenol, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 300[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Nitrophenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	360 U	1,700 U	3,500 U	1,800 U	1,700 U	1,700 U	3,900 U	390 U	400 U	390 U	400 U	380 U	360 U	330 U
N-Nitrosodi-n-Propylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
n-Nitrosodiphenylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Pentachlorophenol	µg/kg	800[A] 6,700[B] 55,000[C] 800[D]	n/v	360 U	1,700 U	3,500 U	1,800 U	1,700 U	1,700 U	3,900 U	390 U	400 U	390 U	400 U	380 U	360 U	330 U
Phenanthrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Phenol	µg/kg	330[p][A] 500,000[B] 1,000,000[C] 330[D]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Pyrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Trichlorophenol, 2,4,5-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Trichlorophenol, 2,4,6-	µg/kg	100,000[a][A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	180 U	900 U	1,800 U	900 U	890 U	870 U	2,000 U	200 U	210 U	200 U	200 U	200 U	180 U	170 U
Total SVOC	µg/kg	n/v	n/v	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVOC - Tentatively Identified Compounds																	
Total SVOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	-	-	ND	260	ND	ND	ND	ND

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B-1	B-2		B-3	B-4	B-5	B-6	B-7	B-8		B-9		B-10	B-11
Sample Date				20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	20-Jun-16	21-Jun-16	21-Jun-16	24-Jun-16	24-Jun-16	28-Jun-16	29-Jun-16	5-Jul-16	5-Jul-16
Sample ID				B-1	B-2	DUP-01	B-3	B-4	B-5	B-6	B-7	B-8 (3.5-4.5)	B-8 (60-61)	B-9 (23-24)	B-9 (85-86)	B-10 (3-4)	B-11 (8-9)
Sample Depth				4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	3.5 - 4.5 ft	60 - 61 ft	23 - 24 ft	85 - 86 ft	3 - 4 ft	8 - 9 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102053-1	480-102302-1	480-102302-1	480-102302-1	480-102302-1	480-102705-1	480-102705-1
Laboratory Sample ID				480-102053-1	480-102053-2	480-102053-7	480-102053-3	480-102053-4	480-102053-5	480-102053-6	480-102053-8	480-102302-1	480-102302-2	480-102382-1	480-102510-1	480-102705-1	480-102705-2
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51			Field Duplicate											
Volatile Organic Compounds																	
Acetone	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	27 U	26 U	26 U	26 U	26 U	26 U	29 U	30 U	30 U	30 U	30 U	28 U	98[AD]	25 U
Benzene	µg/kg	60[AD] 44,000[B] 89,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Bromodichloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Bromoform (Tribromomethane)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Bromomethane (Methyl bromide)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Butylbenzene, n-	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Butylbenzene, tert-	µg/kg	5,900[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Carbon Disulfide	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,700[G]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760[AD] 22,000[B] 44,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Chloroethane (Ethyl Chloride)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,900[G]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Chloroform (Trichloromethane)	µg/kg	370[AD] 350,000[B] 700,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Chloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Cyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dibromochloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichlorobenzene, 1,2-	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichlorobenzene, 1,3-	µg/kg	2,400[AD] 280,000[B] 560,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichlorobenzene, 1,4-	µg/kg	1,800[AD] 130,000[B] 250,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichloroethane, 1,1-	µg/kg	270[AD] 240,000[B] 480,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichloroethane, 1,2-	µg/kg	20[m][A] 30,000[B] 60,000[C] 20[D]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichloroethene, 1,1-	µg/kg	330[AD] 500,000[C] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichloroethene, cis-1,2-	µg/kg	250[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichloroethene, trans-1,2-	µg/kg	190[AD] 500,000[C] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichloropropane, 1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichloropropene, cis-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Dichloropropene, trans-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Ethylbenzene	µg/kg	1,000[AD] 390,000[B] 780,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	27 U	26 U	26 U	26 U	26 U	26 U	29 UJ	30 U	30 U	30 U	30 U	28 U	27 U	25 U
Isopropylbenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,300[G]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Isopropyltoluene, p- (Cymene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 10,000[G]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Methyl Acetate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120[AD] 500,000[B] 1,000,000[C]	500,000[E] 1,000,000[F] 300[G]	27 U	26 U	26 U	26 U	26 U	26 U	29 UJ	30 U	30 U	30 U	30 U	28 U	27 U	25 U
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000[G]	27 U	26 U	26 U	26 U	26 U	26 U	29 UJ	30 U	30 U	30 U	30 U	28 U	27 U	25 U
Methyl tert-butyl ether (MTBE)	µg/kg	930[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Methylcyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Methylene Chloride (Dichloromethane)	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Propylbenzene, n-	µg/kg	3,900[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Styrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 600[G]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 UJ	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Tetrachloroethene (PCE)	µg/kg	1,300[AD] 150,000[B] 300,000[C]	500,000[E] 1,000,000[F]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Toluene	µg/kg	700[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Trichlorobenzene, 1,2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 3,400[G]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Trichloroethane, 1,1,1-	µg/kg	680[AD] 500,000[B] 1,000,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Trichloroethane, 1,1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 UJ	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Trichloroethene (TCE)	µg/kg	470[AD] 200,000[B] 400,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Trichlorofluoromethane (Freon 11)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 6,000[G]	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Trimethylbenzene, 1,2,4-	µg/kg	3,600[AD] 190,000[B] 380,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Trimethylbenzene, 1,3,5-	µg/kg	8,400[AD] 190,000[B] 380,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Vinyl Chloride	µg/kg	20[AD] 13,000[B] 27,000[C]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 UJ	5.0 UJ
Xylene, m & p-	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	11 U	11 U	11 U	11 U	10 U	10 U	11 U	12 U	12 U	12 U	12 U	11 U	11 U	10 U
Xylene, o-	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	5.4 U	5.3 U	5.3 U	5.3 U	5.2 U	5.2 U	5.7 U	6.0 U	5.9 U	5.9 U	6.0 U	5.5 U	5.4 U	5.0 U
Xylenes, Total	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	11 U	11 U	11 U	11 U	10 U	10 U	11 U	12 U	12 U	12 U	12 U	11 U	11 U	10 U
Total VOC	µg/kg	n/v	n/v	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	98	ND
VOC - Tentatively Identified Compounds																	
Total VOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	-	-	62.2	36	-	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B-11D		B-12	B-12D				B-13		B-13D		B-14 (MW-5)		
Sample Date				12-Jan-17	12-Jan-17	5-Jul-16	11-Jan-17	11-Jan-17	11-Jan-17	11-Jan-17	5-Jul-16	5-Jul-16	12-Jan-17	12-Jan-17	13-Sep-16	13-Sep-16	14-Sep-16
Sample ID				LIN-B11D-S1	LIN-B11D-S2	B-12 (8-9)	LIN-B12D-S1	LIN-B12D-S2	LIN-B12D-S3	LIN-DUP-S	B-13 (2-3)	B-13 (7-8)	LIN-B13D-S1	LIN-B13D-S2	B-10 (3-4)	DUP0916	B-10 (62-63)
Sample Depth				28 - 29 ft	60 - 60.5 ft	8 - 9 ft	28 - 28.5 ft	40.5 - 41.5 ft	58 - 58.5 ft	58 - 58.5 ft	2 - 3 ft	7 - 8 ft	48 - 48.5 ft	54.5 - 55.5 ft	3 - 4 ft	3 - 4 ft	62 - 63 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-112267-1	480-112267-1	480-102705-1	480-112267-1	480-112267-1	480-112267-1	480-112267-1	480-102705-1	480-102705-1	480-112267-1	480-112267-1	480-106008-1	480-106008-1	480-106008-1
Laboratory Sample ID				480-112267-6	480-112267-7	480-102705-3	480-112267-8	480-112267-9	480-112267-10	480-112267-11	480-102705-4	480-102705-5	480-112267-12	480-112267-13	480-106008-1	480-106008-3	480-106008-2
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51							Field Duplicate						Field Duplicate	
General Chemistry																	
Cyanide	mg/kg	27[rsg] 10,000[a] [C] 40[D]	n/v	-	-	0.93 U	-	-	-	-	0.99 U	0.98 U	-	-	-	-	-
Metals																	
Aluminum	mg/kg	10,000[a] [ABCD]	10,000[a] [EFG]	-	-	3,610	-	-	-	-	5,320	4,720	-	-	-	-	-
Antimony	mg/kg	10,000[a] [ABCD]	10,000[a] [EFG]	-	-	15.1 U	-	-	-	-	16.8 U	16.5 U	-	-	-	-	-
Arsenic	mg/kg	13[A] 16[a] [BCD]	n/v	-	-	2.0 U	-	-	-	-	2.2 U	2.2 U	-	-	-	-	-
Barium	mg/kg	350[A] 400[B] 10,000[a] [C] 820[D]	n/v	-	-	11.2	-	-	-	-	37.9	34.1	-	-	-	-	-
Beryllium	mg/kg	7.2[A] 590[B] 2,700[C] 47[D]	n/v	-	-	0.20 U	-	-	-	-	0.24	0.22	-	-	-	-	-
Cadmium	mg/kg	2.5[h] [A] 9.3[B] 60[C] 7.5[D]	n/v	-	-	0.20 U	-	-	-	-	0.22 U	0.22 U	-	-	-	-	-
Calcium	mg/kg	10,000[a] [ABCD]	10,000[a] [EFG]	-	-	1,910	-	-	-	-	**84,300 [ABCDEFG]**	**101,000 [ABCDEFG]**	-	-	-	-	-
Chromium	mg/kg	30[h] [A] 1,500[B] 6,800[i] [C] [NS.o] [D]	n/v	-	-	6.9	-	-	-	-	6.9	6.8	-	-	-	-	-
Cobalt	mg/kg	10,000[a] [ABCD]	10,000[a] [EFG]	-	-	2.1	-	-	-	-	2.3	2.2	-	-	-	-	-
Copper	mg/kg	50[A] 270[B] 10,000[e] [C] 1,720[D]	n/v	-	-	3.6	-	-	-	-	7.2	10.5	-	-	-	-	-
Iron	mg/kg	10,000[a] [ABCD]	10,000[a] [EFG]	-	-	7,350	-	-	-	-	7,020	6,670	-	-	-	-	-
Lead	mg/kg	63[h] [A] 1,000[B] 3,900[C] 450[D]	n/v	-	-	1.4	-	-	-	-	10.7	13.1	-	-	-	-	-
Magnesium	mg/kg	10,000[a] [ABCD]	n/v	-	-	1,140	-	-	-	-	**28,600 [ABCD]**	**39,200 [ABCD]**	-	-	-	-	-
Manganese	mg/kg	1,600[h] [A] 10,000[a] [BC] 2,000[p] [D]	n/v	-	-	169	-	-	-	-	271	302	-	-	-	-	-
Mercury	mg/kg	0.18[h] [A] 2.8[B] 5.7[k] [C] 0.73[D]	n/v	-	-	0.018 U	-	-	-	-	0.021 U	0.020 U	-	-	-	-	-
Nickel	mg/kg	30[A] 310[B] 10,000[c] [C] 130[D]	n/v	-	-	5.0 U	-	-	-	-	5.6 U	5.7	-	-	-	-	-
Potassium	mg/kg	10,000[a] [ABCD]	n/v	-	-	694	-	-	-	-	1,230	1,100	-	-	-	-	-
Selenium	mg/kg	3.9[n] [A] 1,500[B] 6,800[C] 4[p] [D]	n/v	-	-	4.0 U	-	-	-	-	4.5 U	4.4 U	-	-	-	-	-
Silver	mg/kg	2[A] 1,500[B] 6,800[C] 8.3[D]	n/v	-	-	0.50 U	-	-	-	-	0.56 U	0.55 U	-	-	-	-	-
Sodium	mg/kg	10,000[a] [ABCD]	n/v	-	-	141 U	-	-	-	-	270	238	-	-	-	-	-
Thallium	mg/kg	10,000[a] [ABCD]	10,000[a] [EFG]	-	-	6.0 U	-	-	-	-	6.7 U	6.6 U	-	-	-	-	-
Vanadium	mg/kg	10,000[a] [ABCD]	10,000[a] [EFG]	-	-	13.0	-	-	-	-	10.4	8.6	-	-	-	-	-
Zinc	mg/kg	109[h] [A] 10,000[a] [BC] 2,480[D]	n/v	-	-	10.7	-	-	-	-	37.7	37.2	-	-	-	-	-
Polychlorinated Biphenyls																	
Aroclor 1016	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Aroclor 1221	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Aroclor 1232	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Aroclor 1242	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Aroclor 1248	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Aroclor 1254	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Aroclor 1260	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Aroclor 1262	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Aroclor 1268	µg/kg	[ABCD]	n/v	-	-	220 U	-	-	-	-	230 U	260 U	-	-	-	-	-
Polychlorinated Biphenyls (PCBs)	µg/kg	100[A] 1,000[B] 25,000[C] 3,200[D]	n/v	-	-	ND	-	-	-	-	ND	ND	-	-	-	-	-
Pesticides																	
Aldrin	µg/kg	5[h] [A] 680[B] 1,400[C] 190[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
BHC, alpha-	µg/kg	20[KO] 3,400[B] 6,800[C]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
BHC, beta-	µg/kg	36[h] [A] 3,000[B] 14,000[C] 90[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
BHC, delta-	µg/kg	40[h] [A] 500,000[b] [B] 1,000,000[a] [C] 250[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Camphechlor (Toxaphene)	µg/kg	100,000[a] [A] 500,000[b] [B] 1,000,000[d] [CD]	n/v	-	-	17 U	-	-	-	-	36 U	17 U	-	-	-	-	-
Chlordane, alpha-	µg/kg	94[A] 24,000[B] 47,000[C] 2,900[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000[a] [A] 1,000,000[d] [D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
DDD (p,p'-DDD)	µg/kg	3.3[m] [A] 92,000[B] 180,000[C] 14,000[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
DDE (p,p'-DDE)	µg/kg	3.3[m] [A] 62,000[B] 120,000[C] 17,000[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
DDT (p,p'-DDT)	µg/kg	3.3[m] [A] 47,000[B] 94,000[C] 136,000[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Dieldrin	µg/kg	5[h] [A] 1,400[B] 2,800[C] 100[D]	n/v	-	-	1.7 U	-	-	-	-	4.0	1.7 U	-	-	-	-	-
Endosulfan I	µg/kg	2,400[A] 200,000[B] 920,000[C] 102,000[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Endosulfan II	µg/kg	2,400[A] 200,000[B] 920,000[C] 102,000[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Endosulfan Sulfate	µg/kg	2,400[A] 200,000[B] 920,000[C] 1,000,000[d] [D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Endrin	µg/kg	14[A] 89,000[B] 410,000[C] 60[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Endrin Aldehyde	µg/kg	100,000[a] [A] 500,000[b] [B] 1,000,000[d] [CD]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Endrin Ketone	µg/kg	100,000[a] [A] 500,000[b] [B] 1,000,000[d] [CD]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Heptachlor	µg/kg	42[A] 15,000[B] 29,000[C] 380[D]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Heptachlor Epoxide	µg/kg	100,000[a] [A] 500,000[b] [B] 1,000,000[d] [CD]	500,000[a] [E] 1,000,000[a] [F] 20[G]	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100[AD] 9,200[B] 23,000[C]	n/v	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000[a] [A] 500,000[b] [B] 1,000,000[d] [CD]	500,000[a] [E] 1,000,000[a] [F] 900,000[G]	-	-	1.7 U	-	-	-	-	3.6 U	1.7 U	-	-	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B-11D		B-12	B-12D				B-13		B-13D		B-14 (MW-5)		
Sample Date				12-Jan-17	12-Jan-17	5-Jul-16	11-Jan-17	11-Jan-17	11-Jan-17	11-Jan-17	5-Jul-16	5-Jul-16	12-Jan-17	12-Jan-17	13-Sep-16	13-Sep-16	14-Sep-16
Sample ID				LIN-B11D-S1	LIN-B11D-S2	B-12 (8-9)	LIN-B12D-S1	LIN-B12D-S2	LIN-B12D-S3	LIN-DUP-S	B-13 (2-3)	B-13 (7-8)	LIN-B13D-S1	LIN-B13D-S2	B-10 (3-4)	DUP0916	B-10 (62-63)
Sample Depth				28 - 29 ft	60 - 60.5 ft	8 - 9 ft	28 - 28.5 ft	40.5 - 41.5 ft	58 - 58.5 ft	58 - 58.5 ft	2 - 3 ft	7 - 8 ft	48 - 48.5 ft	54.5 - 55.5 ft	3 - 4 ft	3 - 4 ft	62 - 63 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-112267-1	480-112267-1	480-102705-1	480-112267-1	480-112267-1	480-112267-1	480-112267-1	480-102705-1	480-102705-1	480-112267-1	480-112267-1	480-106008-1	480-106008-1	480-106008-1
Laboratory Sample ID				480-112267-6	480-112267-7	480-102705-3	480-112267-8	480-112267-9	480-112267-10	480-112267-11	480-102705-4	480-102705-5	480-112267-12	480-112267-13	480-106008-1	480-106008-3	480-106008-2
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51							Field Duplicate						Field Duplicate	
Semi-Volatile Organic Compounds																	
Acenaphthene	µg/kg	20,000[A] 500,000[B] 1,000,000[C] 98,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Acenaphthylene	µg/kg	100,000[A] 500,000[B] 1,000,000[C] 107,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Acetophenone	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Anthracene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Atrazine	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Benzaldehyde	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Benzo(a)anthracene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Benzo(a)pyrene	µg/kg	1,000[A] 1,000[B] 1,100[C] 22,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Benzo(b)fluoranthene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,700[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Benzo(g,h,i)perylene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Benzo(k)fluoranthene	µg/kg	800[A] 56,000[B] 110,000[C] 1,700[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Biphenyl, 1,1'- (Biphenyl)	µg/kg	100,000[A] 1,000,000[D]	500,000[E] 1,000,000[F]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Bis(2-Chloroethoxy)methane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Bis(2-Chloroethyl)ether	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropane))	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 435,000[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Bromophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Butyl Benzyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 122,000[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Caprolactam	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Carbazole	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Chloro-3-methyl phenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Chloroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 220[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Chloronaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Chlorophenol, 2- (ortho-Chlorophenol)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Chlorophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Chrysene	µg/kg	1,000[A] 56,000[B] 110,000[C] 1,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Cresol, o- (Methylphenol, 2-)	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Cresol, p- (Methylphenol, 4-)	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	330 U	-	-	-	-	350 U	350 U	-	-	-	-	-
Dibenzo(a,h)anthracene	µg/kg	330[A] 560[B] 1,100[C] 1,000,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Dibenzofuran	µg/kg	7,000[A] 350,000[B] 1,000,000[C] 210,000[D]	500,000[E] 1,000,000[F] 6,200[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Dibutyl Phthalate (DBP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 8,100[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Dichlorobenzidine, 3,3'-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Dichlorophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Diethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 7,100[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Dimethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 27,000[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Dimethylphenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Dinitro-o-cresol, 4,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	330 U	-	-	-	-	350 U	350 U	-	-	-	-	-
Dinitrophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 200[G]	-	-	330 U	-	-	-	-	350 U	350 U	-	-	-	-	-
Dinitrotoluene, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Dinitrotoluene, 2,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000/170[b,s1,G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Di-n-Octyl phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 120,000[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Fluoranthene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Fluorene	µg/kg	30,000[A] 500,000[B] 1,000,000[C] 386,000[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Hexachlorobenzene	µg/kg	330[A] 6,000[B] 12,000[C] 3,200[D]	500,000[E] 1,000,000[F] 1,400[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Hexachlorocyclopentadiene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Hexachloroethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/kg	500[A] 5,600[B] 11,000[C] 8,200[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Isophorone	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 4,400[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Methylnaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 36,400[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Nitroaniline, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	-	-	330 U	-	-	-	-	350 U	350 U	-	-	-	-	-
Nitroaniline, 3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 500[G]	-	-	330 U	-	-	-	-	350 U	350 U	-	-	-	-	-
Nitroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	330 U	-	-	-	-	350 U	350 U	-	-	-	-	-
Nitrobenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	69,000[E] 140,000[F] 170[b,G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Nitrophenol, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 300[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Nitrophenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	-	-	330 U	-	-	-	-	350 U	350 U	-	-	-	-	-
N-Nitrosodi-n-Propylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
n-Nitrosodiphenylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Pentachlorophenol	µg/kg	800[A] 6,700[B] 55,000[C] 800[D]	n/v	-	-	330 U	-	-	-	-	350 U	350 U	-	-	-	-	-
Phenanthrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Phenol	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Pyrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Trichlorophenol, 2,4,5-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Trichlorophenol, 2,4,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	170 U	-	-	-	-	180 U	180 U	-	-	-	-	-
Total SVOC	µg/kg	n/v	n/v	-	-	ND	-	-	-	-	ND	ND	-	-	-	-	-
SVOC - Tentatively Identified Compounds																	
Total SVOC TICs	µg/kg	n/v	n/v	-	-	ND	-	-	-	-	1,300	9,050	-	-	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B-11D		B-12	B-12D				B-13		B-13D		B-14 (MW-5)		
Sample Date				12-Jan-17	12-Jan-17	5-Jul-16	11-Jan-17	11-Jan-17	11-Jan-17	11-Jan-17	5-Jul-16	5-Jul-16	12-Jan-17	12-Jan-17	13-Sep-16	13-Sep-16	14-Sep-16
Sample ID				LIN-B11D-S1	LIN-B11D-S2	B-12 (8-9)	LIN-B12D-S1	LIN-B12D-S2	LIN-B12D-S3	LIN-DUP-S	B-13 (2-3)	B-13 (7-8)	LIN-B13D-S1	LIN-B13D-S2	B-10 (3-4)	DUP0916	B-10 (62-63)
Sample Depth				28 - 29 ft	60 - 60.5 ft	8 - 9 ft	28 - 28.5 ft	40.5 - 41.5 ft	58 - 58.5 ft	58 - 58.5 ft	2 - 3 ft	7 - 8 ft	48 - 48.5 ft	54.5 - 55.5 ft	3 - 4 ft	3 - 4 ft	62 - 63 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-112267-1	480-112267-1	480-102705-1	480-112267-1	480-112267-1	480-112267-1	480-112267-1	480-102705-1	480-102705-1	480-112267-1	480-112267-1	480-106008-1	480-106008-1	480-106008-1
Laboratory Sample ID				480-112267-6	480-112267-7	480-102705-3	480-112267-8	480-112267-9	480-112267-10	480-112267-11	480-102705-4	480-102705-5	480-112267-12	480-112267-13	480-106008-1	480-106008-3	480-106008-2
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51							Field Duplicate						Field Duplicate	
Volatile Organic Compounds																	
Acetone	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	26 U	**53[AD]**	25 U	42	35	**95[AD]**	**92[AD]**	28	**70 J[AD]**	**120[AD]**	550 U	31 U	25 U	30 U
Benzene	µg/kg	60[AD] 44,000[B] 89,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Bromodichloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Bromoform (Tribromomethane)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Bromomethane (Methyl bromide)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Butylbenzene, n-	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Butylbenzene, tert-	µg/kg	5,900[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Carbon Disulfide	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,700[G]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760[AD] 22,000[B] 44,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Chloroethane (Ethyl Chloride)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,900[G]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Chloroform (Trichloromethane)	µg/kg	370[AD] 350,000[B] 700,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Chloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Cyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dibromochloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichlorobenzene, 1,2-	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichlorobenzene, 1,3-	µg/kg	2,400[AD] 280,000[B] 560,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichlorobenzene, 1,4-	µg/kg	1,800[AD] 130,000[B] 250,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichloroethane, 1,1-	µg/kg	270[AD] 240,000[B] 480,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichloroethane, 1,2-	µg/kg	20[m][A] 30,000[B] 60,000[C] 20[D]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichloroethene, 1,1-	µg/kg	330[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichloroethene, cis-1,2-	µg/kg	250[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichloroethene, trans-1,2-	µg/kg	190[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichloropropane, 1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichloropropene, cis-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Dichloropropene, trans-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Ethylbenzene	µg/kg	1,000[AD] 390,000[B] 780,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	26 U	28 U	25 U	25 U	26 U	26 U	27 U	27 U	26 U	26 U	550 U	31 U	25 U	30 U
Isopropylbenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,300[G]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Isopropyltoluene, p- (Cymene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 10,000[G]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Methyl Acetate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	26 U	28 U	5.0 U	25 U	26 U	26 U	27 U	5.5 U	5.2 U	26 U	550 U	31 U	25 U	30 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120[AD] 500,000[B] 1,000,000[C]	500,000[E] 1,000,000[F] 300[G]	26 U	28 U	25 U	25 U	26 U	26 U	27 U	27 U	26 UJ	26 U	550 U	31 U	25 U	30 UJ
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000[G]	26 U	28 U	25 U	25 U	26 U	26 U	27 U	27 U	26 UJ	26 U	550 U	31 U	25 U	30 U
Methyl tert-butyl ether (MTBE)	µg/kg	930[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Methylcyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Methylene Chloride (Dichloromethane)	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Propylbenzene, n-	µg/kg	3,900[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Styrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 600[G]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 UJ	5.1 U	110 U	6.2 U	5.1 U	6.0 UJ
Tetrachloroethene (PCE)	µg/kg	1,300[AD] 150,000[B] 300,000[C]	500,000[E] 1,000,000[F]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Toluene	µg/kg	700[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Trichlorobenzene, 1,2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 3,400[G]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Trichloroethane, 1,1,1-	µg/kg	680[AD] 500,000[B] 1,000,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Trichloroethane, 1,1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Trichloroethene (TCE)	µg/kg	470[AD] 200,000[B] 400,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Trichlorofluoromethane (Freon 11)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 6,000[G]	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Trimethylbenzene, 1,2,4-	µg/kg	3,600[AD] 190,000[B] 380,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Trimethylbenzene, 1,3,5-	µg/kg	8,400[AD] 190,000[B] 380,000[C]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Vinyl Chloride	µg/kg	20[AD] 13,000[B] 27,000[C]	n/v	5.2 U	5.6 U	5.0 UJ	5.1 U	5.1 U	5.2 U	5.3 U	5.5 UJ	5.2 UJ	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Xylene, m & p-	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	10 U	220 U	12 U	10 U	12 U
Xylene, o-	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	5.2 U	5.6 U	5.0 U	5.1 U	5.1 U	5.2 U	5.3 U	5.5 U	5.2 U	5.1 U	110 U	6.2 U	5.1 U	6.0 U
Xylenes, Total	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	10 U	220 U	12 U	10 U	12 U
Total VOC	µg/kg	n/v	n/v	ND	53	ND	42	35	95	92	28	70	120	110	ND	ND	ND
VOC - Tentatively Identified Compounds																	
Total VOC TICs	µg/kg	n/v	n/v	-	-	-	5.4	-	-	-	-	-	8.7	20,880	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-101			B/MW-102		B-102a	B/MW-103			B/MW-104			
Sample Date				25-Jul-18	25-Jul-18	25-Jul-18	23-Jul-18	23-Jul-18	24-Jul-18	24-Jul-18	24-Jul-18	24-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18
Sample ID				LIN-B101-S1	LIN-FD1-S	LIN-B101-S2	LIN-B102-S1	LIN-B102-S2	LIN-B102a-S	LIN-B103-S1	LIN-B103-S3	LIN-B103-S2	LIN-B104-S2	LIN-FD2-S	LIN-B104-S1	LIN-B104-S3
Sample Depth				15 - 17 ft	15 - 17 ft	57 - 60 ft	2 - 3.5 ft	50.5 - 52 ft	7 - 8 ft	8 - 10 ft	19 - 19.5 ft	49 - 51 ft	4 - 8 ft	4 - 8 ft	10.5 - 11 ft	45 - 49 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161448-1	460-161448-1	460-161448-1	460-161196-1	460-161196-1	460-161196-1	460-161196-1	460-161448-1	460-161196-1	460-161448-1	460-161448-1	460-161448-1	460-161448-1
Laboratory Sample ID				460-161448-1	460-161448-3	460-161448-2	460-161196-1	460-161196-2	460-161196-3	460-161196-4	460-161448-4	460-161196-5	460-161448-8	460-161448-6	460-161448-7	460-161448-9
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51		Field Duplicate									Field Duplicate		
General Chemistry																
Cyanide	mg/kg	27^{AB} $10{,}000_a^{C}$ 40^{D}	n/v	-	-	-	-	-	-	1.1 U	-	1.2 U	0.27 U	0.28 U	-	0.25 U
Metals																
Aluminum	mg/kg	$10{,}000_a^{ABCD}$	$10{,}000_a^{EFG}$	3,450	4,030	2,000	4,900	2,720	-	3,260	-	2,060	**10,400**^{ABCDEFG}	-	-	1,820
Antimony	mg/kg	$10{,}000_a^{ABCD}$	$10{,}000_a^{EFG}$	32.0 U	29.1 U	37.8 U	33.6 UJ	36.0 U	-	30.2 U	-	37.0 U	34.2 U	-	-	30.1 U
Arsenic	mg/kg	13_n^{A} 16_a^{BCD}	n/v	4.3 U	3.9 U	5.0 U	1.1 J	1.3 J	-	1.2 J	-	1.4 J	4.7	-	-	4.0 U
Barium	mg/kg	350_n^{A} 400^{B} $10{,}000_a^{C}$ 820^{D}	n/v	12.2	14.0	21.8	13.2	18.9	-	9.0	-	21.5	53.8	-	-	13.6
Beryllium	mg/kg	7.2^{A} 590^{B} $2{,}700^{C}$ 47^{D}	n/v	0.43 U	0.39 U	0.50 U	0.27 J	0.22 J	-	0.25 J	-	0.15 J	0.63	-	-	0.40 U
Cadmium	mg/kg	2.5_n^{A} 9.3^{B} 60^{C} 7.5^{D}	n/v	0.43 U	0.39 U	0.50 U	0.45 U	0.48 U	-	0.40 U	-	0.49 U	0.46 U	-	-	0.40 U
Calcium	mg/kg	$10{,}000_a^{ABCD}$	$10{,}000_a^{EFG}$	**30,400**^{ABCDEFG}	**26,000**^{ABCDEFG}	**27,800**^{ABCDEFG}	1,730	**34,600**^{ABCDEFG}	-	1,610	-	**25,000**^{ABCDEFG}	3,220	-	-	**26,600**^{ABCDEFG}
Chromium	mg/kg	$30_{n,i}^{A}$ $1{,}500_i^{B}$ $6{,}800_i^{C}$ $_{NS,o}^{D}$	n/v	6.4	7.4	4.9	7.1	5.7	-	5.3	-	3.5	15.4	-	-	3.1
Cobalt	mg/kg	$10{,}000_a^{ABCD}$	$10{,}000_a^{EFG}$	3.1	3.6	1.8	3.7	2.4	-	2.9	-	1.8	9.0	-	-	1.9
Copper	mg/kg	50^{A} 270^{B} $10{,}000_e^{C}$ $1{,}720^{D}$	n/v	6.3	7.9	4.2	8.2	6.1	-	6.4	-	4.3	18.5	-	-	4.2
Iron	mg/kg	$10{,}000_a^{ABCD}$	$10{,}000_a^{EFG}$	8,580	9,880	5,520	**10,800**^{ABCDEFG}	8,260	-	8,030	-	5,520	**22,700**^{ABCDEFG}	-	-	4,920
Lead	mg/kg	63_n^{A} $1{,}000^{B}$ $3{,}900^{C}$ 450^{D}	n/v	2.5	3.0	2.5 U	2.5	2.4	-	2.4	-	1.3 J	8.2	-	-	2.0 U
Magnesium	mg/kg	$10{,}000_a^{ABCD}$	n/v	6,100	6,460	6,290	1,410	8,260	-	1,210	-	5,480	3,800	-	-	5,110
Manganese	mg/kg	$1{,}600_n^{A}$ $10{,}000_a^{BC}$ $2{,}000_o^{D}$	n/v	267	310	171	305	221	-	234	-	162	551	-	-	157
Mercury	mg/kg	0.18_n^{A} 2.8_s^{B} 5.7_t^{C} 0.73^{D}	n/v	0.018 U	0.018 U	0.021 U	0.019 U	0.020 U	-	0.017 U	-	0.021 U	0.020 U	-	-	0.017 U
Nickel	mg/kg	30^{A} 310^{B} $10{,}000_i^{C}$ 130^{D}	n/v	10.7 U	9.7 U	12.6 U	7.1 J	5.1 J	-	5.7 J	-	4.5 J	21.2	-	-	10.0 U
Potassium	mg/kg	$10{,}000_a^{ABCD}$	n/v	533	595	356	452	445	-	379	-	340	1,310	-	-	284
Selenium	mg/kg	3.9_n^{A} $1{,}500^{B}$ $6{,}800^{C}$ 4_a^{D}	n/v	8.5 U	7.8 U	10.1 U	8.9 U	9.6 U	-	8.1 U	-	9.9 U	9.1 U	-	-	8.0 U
Silver	mg/kg	2^{A} $1{,}500^{B}$ $6{,}800^{C}$ 8.3^{D}	n/v	1.1 U	0.97 U	1.3 U	1.1 U	1.2 U	-	1.0 U	-	1.2 U	1.1 U	-	-	1.0 U
Sodium	mg/kg	$10{,}000_a^{ABCD}$	n/v	298 U	272 U	353 U	313 U	119 J	-	111 J	-	100 J	319 U	-	-	281 U
Thallium	mg/kg	$10{,}000_a^{ABCD}$	$10{,}000_a^{EFG}$	12.8 U	11.6 U	15.1 U	13.4 U	14.4 U	-	12.1 U	-	14.8 U	13.7 U	-	-	12.0 U
Vanadium	mg/kg	$10{,}000_a^{ABCD}$	$10{,}000_a^{EFG}$	10.0	11.6	6.6	13.8	11.6	-	9.8	-	6.8	23.1	-	-	6.7
Zinc	mg/kg	109_n^{A} $10{,}000_a^{BC}$ $2{,}480^{D}$	n/v	14.2	16.6	8.7	16.7	12.0	-	14.2	-	8.4	41.4	-	-	12.9
Polychlorinated Biphenyls																
Aroclor 1016	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1221	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1232	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1242	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1248	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1254	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1260	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1262	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Aroclor 1268	µg/kg	^{ABCD}	n/v	-	-	-	-	-	-	36 U	-	41 U	44 U	42 U	-	35 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100^{A} $1{,}000^{B}$ $25{,}000^{C}$ $3{,}200^{D}$	n/v	-	-	-	-	-	-	ND	-	ND	ND	ND	-	ND
Pesticides																
Aldrin	µg/kg	5_n^{A} 680^{B} $1{,}400^{C}$ 190^{D}	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
BHC, alpha-	µg/kg	20^{AO} $3{,}400^{B}$ $6{,}800^{C}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
BHC, beta-	µg/kg	36^{A} $3{,}000^{B}$ $14{,}000^{C}$ 90^{D}	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
BHC, delta-	µg/kg	40_n^{A} $500{,}000_s^{B}$ $1{,}000{,}000_d^{C}$ 250^{D}	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Camphechlor (Toxaphene)	µg/kg	$100{,}000_a^{A}$ $500{,}000_s^{B}$ $1{,}000{,}000_d^{CD}$	n/v	-	-	-	-	-	-	36 U	-	41 UJ	44 U	42 U	-	35 U
Chlordane, alpha-	µg/kg	94^{A} $24{,}000^{B}$ $47{,}000^{C}$ $2{,}900^{D}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Chlordane, trans- (gamma-Chlordane)	µg/kg	$100{,}000_a^{A}$ $1{,}000{,}000_d^{D}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
DDD (p,p'-DDD)	µg/kg	3.3_m^{A} $92{,}000^{B}$ $180{,}000^{C}$ $14{,}000^{D}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
DDE (p,p'-DDE)	µg/kg	3.3_m^{A} $62{,}000^{B}$ $120{,}000^{C}$ $17{,}000^{D}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
DDT (p,p'-DDT)	µg/kg	3.3_m^{A} $47{,}000^{B}$ $94{,}000^{C}$ $136{,}000^{D}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Dieldrin	µg/kg	5_n^{A} $1{,}400^{B}$ $2{,}800^{C}$ 100^{D}	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endosulfan I	µg/kg	$2{,}400_i^{A}$ $200{,}000_s^{B}$ $920{,}000_i^{C}$ $102{,}000^{D}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endosulfan II	µg/kg	$2{,}400_i^{A}$ $200{,}000_s^{B}$ $920{,}000_i^{C}$ $102{,}000^{D}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endosulfan Sulfate	µg/kg	$2{,}400_i^{A}$ $200{,}000_s^{B}$ $920{,}000_i^{C}$ $1{,}000{,}000_d^{D}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endrin	µg/kg	14^{A} $89{,}000^{B}$ $410{,}000^{C}$ 60^{D}	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endrin Aldehyde	µg/kg	$100{,}000_a^{A}$ $500{,}000_s^{B}$ $1{,}000{,}000_d^{CD}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Endrin Ketone	µg/kg	$100{,}000_a^{A}$ $500{,}000_s^{B}$ $1{,}000{,}000_d^{CD}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Heptachlor	µg/kg	42^{A} $15{,}000^{B}$ $29{,}000^{C}$ 380^{D}	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Heptachlor Epoxide	µg/kg	$100{,}000_a^{A}$ $500{,}000_s^{B}$ $1{,}000{,}000_d^{CD}$	$500{,}000_a^{E}$ $1{,}000{,}000_a^{F}$ 20^{G}	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100^{AO} $9{,}200^{B}$ $23{,}000^{C}$	n/v	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	$100{,}000_a^{A}$ $500{,}000_s^{B}$ $1{,}000{,}000_d^{CD}$	$500{,}000_a^{E}$ $1{,}000{,}000_a^{F}$ $900{,}000^{G}$	-	-	-	-	-	-	3.6 U	-	4.1 UJ	4.4 U	4.2 U	-	3.5 U

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-101			B/MW-102		B-102a	B/MW-103			B/MW-104			
Sample Date				25-Jul-18	25-Jul-18	25-Jul-18	23-Jul-18	23-Jul-18	24-Jul-18	24-Jul-18	24-Jul-18	24-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18
Sample ID				LIN-B101-S1	LIN-FD1-S	LIN-B101-S2	LIN-B102-S1	LIN-B102-S2	LIN-B102a-S	LIN-B103-S1	LIN-B103-S3	LIN-B103-S2	LIN-B104-S2	LIN-FD2-S	LIN-B104-S1	LIN-B104-S3
Sample Depth				15 - 17 ft	15 - 17 ft	57 - 60 ft	2 - 3.5 ft	50.5 - 52 ft	7 - 8 ft	8 - 10 ft	19 - 19.5 ft	49 - 51 ft	4 - 8 ft	4 - 8 ft	10.5 - 11 ft	45 - 49 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161448-1	460-161448-1	460-161448-1	460-161196-1	460-161196-1	460-161196-1	460-161196-1	460-161448-1	460-161196-1	460-161448-1	460-161448-1	460-161448-1	460-161448-1
Laboratory Sample ID				460-161448-1	460-161448-3	460-161448-2	460-161196-1	460-161196-2	460-161196-3	460-161196-4	460-161448-4	460-161196-5	460-161448-8	460-161448-6	460-161448-7	460-161448-9
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51		Field Duplicate									Field Duplicate		
Semi-Volatile Organic Compounds																
Acenaphthene	µg/kg	20,000[A] 500,000[B] 1,000,000[C] 98,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Acenaphthylene	µg/kg	100,000[A] 500,000[B] 1,000,000[C] 107,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Acetophenone	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Anthracene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Atrazine	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	-	-	-	-	370 UJ	-	420 UJ	450 U	420 U	-	360 U
Benzaldehyde	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Benzo(a)anthracene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Benzo(a)pyrene	µg/kg	1,000[A] 1,000[B] 1,100[C] 22,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Benzo(b)fluoranthene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,700[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Benzo(g,h,i)perylene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Benzo(k)fluoranthene	µg/kg	800[A] 56,000[B] 110,000[C] 1,700[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Biphenyl, 1,1'- (Biphenyl)	µg/kg	100,000[A] 1,000,000[D]	500,000[E] 1,000,000[F]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Bis(2-Chloroethoxy)methane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Bis(2-Chloroethyl)ether	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropane))	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 435,000[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Bromophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Butyl Benzyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 122,000[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Caprolactam	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Carbazole	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Chloro-3-methyl phenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Chloroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 220[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Chloronaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Chlorophenol, 2- (ortho-Chlorophenol)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Chlorophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Chrysene	µg/kg	1,000[A] 56,000[B] 110,000[C] 1,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Cresol, o- (Methylphenol, 2-)	µg/kg	330[m,A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Cresol, p- (Methylphenol, 4-)	µg/kg	330[m,A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	-	-	-	-	710 U	-	810 U	860 U	820 U	-	700 U
Dibenzo(a,h)anthracene	µg/kg	330[m,A] 560[B] 1,100[C] 1,000,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Dibenzofuran	µg/kg	7,000[A] 350,000[B] 1,000,000[C] 210,000[D]	500,000[E] 1,000,000[F] 6,200[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Dibutyl Phthalate (DBP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 8,100[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Dichlorobenzidine, 3,3'-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Dichlorophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Diethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 7,100[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Dimethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 27,000[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Dimethylphenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Dinitro-o-cresol, 4,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	710 U	-	810 U	860 U	820 U	-	700 U
Dinitrophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 200[G]	-	-	-	-	-	-	710 U	-	810 U	860 U	820 U	-	700 U
Dinitrotoluene, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Dinitrotoluene, 2,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000/170[b,s1,G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Di-n-Octyl phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 120,000[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Fluoranthene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Fluorene	µg/kg	30,000[A] 500,000[B] 1,000,000[C] 386,000[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Hexachlorobenzene	µg/kg	330[A] 6,000[B] 12,000[C] 3,200[D]	500,000[E] 1,000,000[F] 1,400[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Hexachlorocyclopentadiene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Hexachloroethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Indeno(1,2,3-cd)pyrene	µg/kg	500[A] 5,600[B] 11,000[C] 8,200[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Isophorone	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 4,400[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Methylnaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 36,400[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Nitroaniline, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	-	-	-	-	-	-	710 U	-	810 U	860 U	820 U	-	700 U
Nitroaniline, 3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 500[G]	-	-	-	-	-	-	710 U	-	810 U	860 U	820 U	-	700 U
Nitroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	710 U	-	810 U	860 U	820 U	-	700 U
Nitrobenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	69,000[E] 140,000[F] 170[b,G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Nitrophenol, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 300[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Nitrophenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	-	-	-	-	-	-	710 U	-	810 U	860 U	820 U	-	700 U
N-Nitrosodi-n-Propylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
n-Nitrosodiphenylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Pentachlorophenol	µg/kg	800[A] 6,700[B] 55,000[C] 800[D]	n/v	-	-	-	-	-	-	710 U	-	810 U	860 U	820 U	-	700 U
Phenanthrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Phenol	µg/kg	330[p,A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Pyrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Trichlorophenol, 2,4,5-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Trichlorophenol, 2,4,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	-	-	-	-	370 U	-	420 U	450 U	420 U	-	360 U
Total SVOC	µg/kg	n/v	n/v	-	-	-	-	-	-	ND	-	ND	ND	ND	-	ND
SVOC - Tentatively Identified Compounds																
Total SVOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	350 JN	-	6,300 J	-	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-101			B/MW-102		B-102a	B/MW-103			B/MW-104			
Sample Date				25-Jul-18	25-Jul-18	25-Jul-18	23-Jul-18	23-Jul-18	24-Jul-18	24-Jul-18	24-Jul-18	24-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18	26-Jul-18
Sample ID				LIN-B101-S1	LIN-FD1-S	LIN-B101-S2	LIN-B102-S1	LIN-B102-S2	LIN-B102a-S	LIN-B103-S1	LIN-B103-S3	LIN-B103-S2	LIN-B104-S2	LIN-FD2-S	LIN-B104-S1	LIN-B104-S3
Sample Depth				15 - 17 ft	15 - 17 ft	57 - 60 ft	2 - 3.5 ft	50.5 - 52 ft	7 - 8 ft	8 - 10 ft	19 - 19.5 ft	49 - 51 ft	4 - 8 ft	4 - 8 ft	10.5 - 11 ft	45 - 49 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161448-1	460-161448-1	460-161448-1	460-161196-1	460-161196-1	460-161196-1	460-161196-1	460-161448-1	460-161196-1	460-161448-1	460-161448-1	460-161448-1	460-161448-1
Laboratory Sample ID				460-161448-1	460-161448-3	460-161448-2	460-161196-1	460-161196-2	460-161196-3	460-161196-4	460-161448-4	460-161196-5	460-161448-8	460-161448-6	460-161448-7	460-161448-9
Sample Type					Field Duplicate									Field Duplicate		
Volatile Organic Compounds																
Acetone	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	5.3 U	7.3	**63[AD]**	23 J-	50 J-	49 J-	5.2 UJ	5.8 UJ	**61 J-[AD]**	-	-	10	**59[AD]**
Benzene	µg/kg	60[AD] 44,000[B] 89,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Bromodichloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Bromoform (Tribromomethane)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Bromomethane (Methyl bromide)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Butylbenzene, n-	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Butylbenzene, tert-	µg/kg	5,900[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Carbon Disulfide	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,700[G]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760[AD] 22,000[B] 44,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Chloroethane (Ethyl Chloride)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,900[G]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Chloroform (Trichloromethane)	µg/kg	370[AD] 350,000[B] 700,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Chloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Cyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dibromochloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichlorobenzene, 1,2-	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichlorobenzene, 1,3-	µg/kg	2,400[AD] 280,000[B] 560,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichlorobenzene, 1,4-	µg/kg	1,800[AD] 130,000[B] 250,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichloroethane, 1,1-	µg/kg	270[AD] 240,000[B] 480,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichloroethane, 1,2-	µg/kg	20[m][A] 30,000[B] 60,000[C] 20[D]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichloroethene, 1,1-	µg/kg	330[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichloroethene, cis-1,2-	µg/kg	250[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichloroethene, trans-1,2-	µg/kg	190[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichloropropane, 1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichloropropene, cis-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Dichloropropene, trans-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Ethylbenzene	µg/kg	1,000[AD] 390,000[B] 780,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.3 U	5.2 U	6.2 U	5.1 UJ	6.0 UJ	5.0 UJ	5.2 UJ	5.8 UJ	5.6 UJ	-	-	6.1 U	5.0 U
Isopropylbenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,300[G]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Isopropyltoluene, p- (Cymene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 10,000[G]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Methyl Acetate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.3 U	5.2 U	6.2 U	5.1 UJ	6.0 UJ	5.0 UJ	5.2 UJ	5.8 UJ	5.6 UJ	-	-	6.1 U	5.0 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120[AD] 500,000[B] 1,000,000[C]	500,000[E] 1,000,000[F] 300[G]	5.3 U	5.2 U	6.2 U	5.1 UJ	6.0 UJ	5.0 UJ	5.2 UJ	5.8 UJ	5.6 UJ	-	-	6.1 U	5.0 U
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000[G]	5.3 U	5.2 U	6.2 U	5.1 UJ	6.0 UJ	5.0 UJ	5.2 UJ	5.8 UJ	5.6 UJ	-	-	6.1 U	5.0 U
Methyl tert-butyl ether (MTBE)	µg/kg	930[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Methylcyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Methylene Chloride (Dichloromethane)	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	2.6	1.8	5.6	3.8 UJ	16 J-	1.0 UJ	1.4 UJ	5.5 J-	8.5 UJ	-	-	12	1.1
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	0.22 J-	0.21 J-	1.2 UJ	0.21 J-	-	-	1.2 U	0.99 U
Propylbenzene, n-	µg/kg	3,900[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Styrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 600[G]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Tetrachloroethene (PCE)	µg/kg	1,300[AD] 150,000[B] 300,000[C]	500,000[E] 1,000,000[F]	1.1 U	1.0 U	1.2 U	1.0 UJ	0.62 J-	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Toluene	µg/kg	700[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Trichlorobenzene, 1,2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 3,400[G]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Trichloroethane, 1,1,1-	µg/kg	680[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Trichloroethane, 1,1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Trichloroethene (TCE)	µg/kg	470[AD] 200,000[B] 400,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	0.21 J-	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Trichlorofluoromethane (Freon 11)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	0.64 J-	0.65 J-	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 6,000[G]	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Trimethylbenzene, 1,2,4-	µg/kg	3,600[AD] 190,000[B] 380,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	0.10 J-	0.12 J-	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Trimethylbenzene, 1,3,5-	µg/kg	8,400[AD] 190,000[B] 380,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Vinyl Chloride	µg/kg	20[AD] 13,000[B] 27,000[C]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Xylene, m & p-	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Xylene, o-	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	1.1 U	1.0 U	1.2 U	1.0 UJ	1.2 UJ	1.0 UJ	1.0 UJ	1.2 UJ	1.1 UJ	-	-	1.2 U	0.99 U
Xylenes, Total	µg/kg	260[A] 500,000[B] 1,000,000[C] 1,600[D]	n/v	2.1 U	2.1 U	2.5 U	2.0 UJ	2.4 UJ	2.0 UJ	2.1 UJ	2.3 UJ	2.3 UJ	-	-	2.5 U	2.0 U
Total VOC	µg/kg	n/v	n/v	2.6	9.1	68.6	23	67.47	49.97	0.33	5.5	61.21	-	-	22	60.1
VOC - Tentatively Identified Compounds																
Total VOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-105			B-106	B-107	B-108	B-109		DP-1	SS-1a		SS-1abc		SS-1c	
Sample Date				27-Jul-18	27-Jul-18	27-Jul-18	31-Jul-18	31-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18
Sample ID				LIN-B105-S1	LIN-B105-S3	LIN-B105-S2	LIN-B106-S	LIN-B107-S	LIN-B108-s	LIN-B109-s	LIN-FD3-s	LIN-DP-s	LIN-SS1a-t-s	LIN-SS1a-b-s	LIN-SS1-t-s	LIN-SS1-b-s	LIN-SS1c-t-s	LIN-SS1c-b-s
Sample Depth				4 - 8 ft	15 - 16 ft	35 - 38 ft	7 - 7.5 ft	3.2 - 3.7 ft	5 - 8 ft	5 - 8 ft	5 - 8 ft		0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161452-1	460-161452-1	460-161452-1	460-161797-1	460-161797-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1
Laboratory Sample ID				460-161452-1	460-161452-3	460-161452-2	460-161797-2	460-161797-3	460-161576-27	460-161576-28	460-161576-26	460-161576-17	460-161576-1	460-161576-2	460-161576-18	460-161576-19	460-161576-3	460-161576-4
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51								Field Duplicate							
General Chemistry																		
Cyanide	mg/kg	27_{n}^{AB} $10{,}000_{a}^{C}$ 40_{d}^{D}	n/v	0.23 U	-	0.22 U	-	-	-	0.25 U	-	0.54	-	-	-	-	-	-
Metals																		
Aluminum	mg/kg	$10{,}000_{a}^{ABCD}$	$10{,}000_{a}^{EFG}$	5,470	-	2,350	-	-	3,260	2,580	2,820	3,520	-	-	6,190	6,360	-	-
Antimony	mg/kg	$10{,}000_{a}^{ABCD}$	$10{,}000_{a}^{EFG}$	29.0 UJ	-	28.0 U	-	-	32.1 U	28.3 U	32.8 U	31.4 U	-	-	33.7 U	32.6 U	-	-
Arsenic	mg/kg	13_{n}^{A} 16_{a}^{BCD}	n/v	3.9 U	-	3.7 U	-	-	4.3 U	3.8 U	4.4 U	4.2 U	-	-	4.5 U	4.4 U	-	-
Barium	mg/kg	350_{n}^{A} 400^{B} $10{,}000_{a}^{C}$ 820^{D}	n/v	10.5	-	8.8	-	-	13.6	8.9	9.9	31.2	-	-	35.1	30.3	-	-
Beryllium	mg/kg	7.2^{A} 590^{B} $2{,}700^{C}$ 47^{D}	n/v	0.39 U	-	0.37 U	-	-	0.43 U	0.38 U	0.44 U	0.42 U	-	-	0.45 U	0.44 U	-	-
Cadmium	mg/kg	2.5_{n}^{A} 9.3^{B} 60^{C} 7.5^{D}	n/v	0.39 U	-	0.37 U	-	-	0.43 U	0.38 U	0.44 U	0.42 U	-	-	0.45 U	0.44 U	-	-
Calcium	mg/kg	$10{,}000_{a}^{ABCD}$	$10{,}000_{a}^{EFG}$	882	-	**27,300**^{ABCDEFG}	-	-	1,790	1,370	1,510	**61,300**^{ABCDEFG}	-	-	3,800	4,280	-	-
Chromium	mg/kg	$30_{n,i}^{A}$ $1{,}500_{i}^{B}$ $6{,}800_{i}^{C}$ $_{NS,o}^{D}$	n/v	6.0	-	4.0	-	-	5.9	4.7	5.3	17.0	-	-	11.0	9.2	-	-
Cobalt	mg/kg	$10{,}000_{a}^{ABCD}$	$10{,}000_{a}^{EFG}$	3.0	-	2.3	-	-	3.0	2.5	2.7	2.8	-	-	2.6	2.5	-	-
Copper	mg/kg	50^{A} 270^{B} $10{,}000_{e}^{C}$ $1{,}720^{D}$	n/v	6.0	-	5.5	-	-	12.1	5.6	5.8	22.9	-	-	13.5	9.3	-	-
Iron	mg/kg	$10{,}000_{a}^{ABCD}$	$10{,}000_{a}^{EFG}$	8,020	-	6,580	-	-	8,810	7,040	7,760	**11,100**^{ABCDEFG}	-	-	9,020	8,630	-	-
Lead	mg/kg	63_{n}^{A} $1{,}000^{B}$ $3{,}900^{C}$ 450^{D}	n/v	2.5	-	1.9 U	-	-	3.1	2.3	3.3	42.1	-	-	29.5	17.2	-	-
Magnesium	mg/kg	$10{,}000_{a}^{ABCD}$	n/v	1,290 J	-	5,470	-	-	1,460	1,020	1,080	**24,600**^{ABCD}	-	-	2,060	2,230	-	-
Manganese	mg/kg	$1{,}600_{n}^{A}$ $10{,}000_{a}^{BC}$ $2{,}000_{a}^{D}$	n/v	143 J	-	211	-	-	95.1	211	219	365	-	-	250	217	-	-
Mercury	mg/kg	0.18_{n}^{A} 2.8_{n}^{B} 5.7_{x}^{C} 0.73^{D}	n/v	0.019 U	-	0.018 U	-	-	0.024	0.018 U	0.018 U	0.048	-	-	0.057	0.042	-	-
Nickel	mg/kg	30^{A} 310^{B} $10{,}000_{i}^{C}$ 130^{D}	n/v	9.7 U	-	9.3 U	-	-	10.7 U	9.4 U	10.9 U	12.5	-	-	11.2 U	10.9 U	-	-
Potassium	mg/kg	$10{,}000_{a}^{ABCD}$	n/v	317	-	334	-	-	413	345	376	888	-	-	357	353	-	-
Selenium	mg/kg	3.9_{n}^{A} $1{,}500^{B}$ $6{,}800^{C}$ 4_{d}^{D}	n/v	7.7 U	-	7.5 U	-	-	8.6 U	7.6 U	8.8 U	8.4 U	-	-	9.0 U	8.7 U	-	-
Silver	mg/kg	2^{A} $1{,}500^{B}$ $6{,}800^{C}$ 8.3^{D}	n/v	0.97 U	-	0.93 U	-	-	1.1 U	0.94 U	1.1 U	1.0 U	-	-	1.1 U	1.1 U	-	-
Sodium	mg/kg	$10{,}000_{a}^{ABCD}$	n/v	271 U	-	261 U	-	-	300 U	264 U	306 U	293 U	-	-	314 U	305 U	-	-
Thallium	mg/kg	$10{,}000_{a}^{ABCD}$	$10{,}000_{a}^{EFG}$	11.6 U	-	11.2 U	-	-	12.9 U	11.3 U	13.1 U	12.6 U	-	-	13.5 U	13.1 U	-	-
Vanadium	mg/kg	$10{,}000_{a}^{ABCD}$	$10{,}000_{a}^{EFG}$	12.0	-	8.6	-	-	11.2	9.5	10.7	12.1	-	-	12.3	12.2	-	-
Zinc	mg/kg	109_{n}^{A} $10{,}000_{a}^{BC}$ $2{,}480^{D}$	n/v	14.6	-	12.9	-	-	**153**^{A}	14.9	15.8	**178**^{A}	-	-	42.7	37.5	-	-
Polychlorinated Biphenyls																		
Aroclor 1016	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Aroclor 1221	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Aroclor 1232	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Aroclor 1242	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Aroclor 1248	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Aroclor 1254	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Aroclor 1260	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Aroclor 1262	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Aroclor 1268	µg/kg	^{ABCD}	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Polychlorinated Biphenyls (PCBs)	µg/kg	100^{A} $1{,}000^{B}$ $25{,}000^{C}$ $3{,}200^{D}$	n/v	ND	-	ND	-	-	-	ND	-	ND	-	-	-	-	-	-
Pesticides																		
Aldrin	µg/kg	5_{n}^{A} 680^{B} $1{,}400^{C}$ 190^{D}	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
BHC, alpha-	µg/kg	20^{AG} $3{,}400^{B}$ $6{,}800^{C}$	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
BHC, beta-	µg/kg	36^{A} $3{,}000^{B}$ $14{,}000^{C}$ 90^{D}	n/v	3.6 UJ	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
BHC, delta-	µg/kg	40_{n}^{A} $500{,}000_{a}^{B}$ $1{,}000{,}000_{d}^{C}$ 250^{D}	n/v	3.6 UJ	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Camphechlor (Toxaphene)	µg/kg	$100{,}000_{a}^{A}$ $500{,}000_{c}^{B}$ $1{,}000{,}000_{d}^{CD}$	n/v	36 U	-	36 U	-	-	-	37 U	-	38 U	-	-	-	-	-	-
Chlordane, alpha-	µg/kg	94^{A} $24{,}000^{B}$ $47{,}000^{C}$ $2{,}900^{D}$	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Chlordane, trans- (gamma-Chlordane)	µg/kg	$100{,}000_{a}^{A}$ $1{,}000{,}000_{d}^{D}$	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
DDD (p,p'-DDD)	µg/kg	3.3_{m}^{A} $92{,}000^{B}$ $180{,}000^{C}$ $14{,}000^{D}$	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
DDE (p,p'-DDE)	µg/kg	3.3_{m}^{A} $62{,}000^{B}$ $120{,}000^{C}$ $17{,}000^{D}$	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
DDT (p,p'-DDT)	µg/kg	3.3_{m}^{A} $47{,}000^{B}$ $94{,}000^{C}$ $136{,}000^{D}$	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Dieldrin	µg/kg	5_{n}^{A} $1{,}400^{B}$ $2{,}800^{C}$ 100^{D}	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Endosulfan I	µg/kg	$2{,}400_{i}^{A}$ $200{,}000_{i}^{B}$ $920{,}000_{i}^{C}$ $102{,}000^{D}$	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Endosulfan II	µg/kg	$2{,}400_{i}^{A}$ $200{,}000_{i}^{B}$ $920{,}000_{i}^{C}$ $102{,}000^{D}$	n/v	3.6 UJ	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Endosulfan Sulfate	µg/kg	$2{,}400_{i}^{A}$ $200{,}000_{i}^{B}$ $920{,}000_{i}^{C}$ $1{,}000{,}000_{d}^{D}$	n/v	R	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Endrin	µg/kg	14^{A} $89{,}000^{B}$ $410{,}000^{C}$ 60^{D}	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Endrin Aldehyde	µg/kg	$100{,}000_{a}^{A}$ $500{,}000_{c}^{B}$ $1{,}000{,}000_{d}^{CD}$	n/v	R	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Endrin Ketone	µg/kg	$100{,}000_{a}^{A}$ $500{,}000_{c}^{B}$ $1{,}000{,}000_{d}^{CD}$	n/v	R	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Heptachlor	µg/kg	42^{A} $15{,}000^{B}$ $29{,}000^{C}$ 380^{D}	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Heptachlor Epoxide	µg/kg	$100{,}000_{a}^{A}$ $500{,}000_{c}^{B}$ $1{,}000{,}000_{d}^{CD}$	$500{,}000_{a}^{E}$ $1{,}000{,}000_{a}^{F}$ 20^{G}	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100^{AG} $9{,}200^{B}$ $23{,}000^{C}$	n/v	3.6 U	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-
Methoxychlor (4,4'-Methoxychlor)	µg/kg	$100{,}000_{a}^{A}$ $500{,}000_{c}^{B}$ $1{,}000{,}000_{d}^{CD}$	$500{,}000_{a}^{E}$ $1{,}000{,}000_{a}^{F}$ $900{,}000^{G}$	3.6 UJ	-	3.6 U	-	-	-	3.7 U	-	3.8 U	-	-	-	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-105			B-106	B-107	B-108	B-109		DP-1	SS-1a		SS-1abc		SS-1c	
Sample Date				27-Jul-18	27-Jul-18	27-Jul-18	31-Jul-18	31-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18
Sample ID				LIN-B105-S1	LIN-B105-S3	LIN-B105-S2	LIN-B106-S	LIN-B107-S	LIN-B108-s	LIN-B109-s	LIN-FD3-s	LIN-DP-s	LIN-SS1a-t-s	LIN-SS1a-b-s	LIN-SS1-t-s	LIN-SS1-b-s	LIN-SS1c-t-s	LIN-SS1c-b-s
Sample Depth				4 - 8 ft	15 - 16 ft	35 - 38 ft	7 - 7.5 ft	3.2 - 3.7 ft	5 - 8 ft	5 - 8 ft	5 - 8 ft		0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161452-1	460-161452-1	460-161452-1	460-161797-1	460-161797-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1
Laboratory Sample ID				460-161452-1	460-161452-3	460-161452-2	460-161797-2	460-161797-3	460-161576-27	460-161576-28	460-161576-26	460-161576-17	460-161576-1	460-161576-2	460-161576-18	460-161576-19	460-161576-3	460-161576-4
Sample Type											Field Duplicate							
Semi-Volatile Organic Compounds																		
Acenaphthene	µg/kg	20,000[A] 500,000[B] 1,000,000[C] 98,000[D]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Acenaphthylene	µg/kg	100,000[A] 500,000[B] 1,000,000[C] 107,000[D]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Acetophenone	µg/kg	100,000[A] 1,000,000[D]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Anthracene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Atrazine	µg/kg	100,000[A] 1,000,000[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Benzaldehyde	µg/kg	100,000[A] 1,000,000[D]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Benzo(a)anthracene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,000[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	**29,000[ABCD]**	-	-	-	-	-	-
Benzo(a)pyrene	µg/kg	1,000[A] 1,000[B] 1,100[C] 22,000[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	**31,000[ABCD]**	-	-	-	-	-	-
Benzo(b)fluoranthene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,700[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	**49,000[ABCD]**	-	-	-	-	-	-
Benzo(g,h,i)perylene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	24,000	-	-	-	-	-	-
Benzo(k)fluoranthene	µg/kg	800[A] 56,000[B] 110,000[C] 1,700[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	**20,000[AD]**	-	-	-	-	-	-
Biphenyl, 1,1'- (Biphenyl)	µg/kg	100,000[A] 1,000,000[D]	500,000[E] 1,000,000[F]	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Bis(2-Chloroethoxy)methane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Bis(2-Chloroethyl)ether	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropane))	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 435,000[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Bromophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Butyl Benzyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 122,000[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Caprolactam	µg/kg	100,000[A] 1,000,000[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Carbazole	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Chloro-3-methyl phenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Chloroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 220[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Chloronaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Chlorophenol, 2- (ortho-Chlorophenol)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Chlorophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Chrysene	µg/kg	1,000[A] 56,000[B] 110,000[C] 1,000[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	**41,000[AD]**	-	-	-	-	-	-
Cresol, o- (Methylphenol, 2-)	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Cresol, p- (Methylphenol, 4-)	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	720 UJ	-	720 U	-	-	-	730 U	-	15,000 U	-	-	-	-	-	-
Dibenzo(a,h)anthracene	µg/kg	330[A] 560[B] 1,100[C] 1,000,000[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Dibenzofuran	µg/kg	7,000[A] 350,000[B] 1,000,000[C] 210,000[D]	500,000[E] 1,000,000[F] 6,200[G]	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Dibutyl Phthalate (DBP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 8,100[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Dichlorobenzidine, 3,3'-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Dichlorophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Diethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 7,100[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Dimethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 27,000[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Dimethylphenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Dinitro-o-cresol, 4,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	720 UJ	-	720 U	-	-	-	730 U	-	15,000 U	-	-	-	-	-	-
Dinitrophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 200[G]	720 UJ	-	720 U	-	-	-	730 U	-	15,000 U	-	-	-	-	-	-
Dinitrotoluene, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Dinitrotoluene, 2,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000/170[b,s1,G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Di-n-Octyl phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 120,000[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Fluoranthene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	81,000	-	-	-	-	-	-
Fluorene	µg/kg	30,000[A] 500,000[B] 1,000,000[C] 386,000[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Hexachlorobenzene	µg/kg	330[A] 6,000[B] 12,000[C] 3,200[D]	500,000[E] 1,000,000[F] 1,400[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Hexachlorocyclopentadiene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Hexachloroethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	µg/kg	500[A] 5,600[B] 11,000[C] 8,200[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	**28,000[ABCD]**	-	-	-	-	-	-
Isophorone	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 4,400[G]	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Methylnaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 36,400[G]	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Nitroaniline, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	720 U	-	720 U	-	-	-	730 U	-	15,000 U	-	-	-	-	-	-
Nitroaniline, 3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 500[G]	720 U	-	720 U	-	-	-	730 U	-	15,000 U	-	-	-	-	-	-
Nitroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	720 U	-	720 U	-	-	-	730 U	-	15,000 U	-	-	-	-	-	-
Nitrobenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	69,000[E] 140,000[F] 170[b,G]	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Nitrophenol, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 300[G]	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Nitrophenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	720 U	-	720 U	-	-	-	730 U	-	15,000 U	-	-	-	-	-	-
N-Nitrosodi-n-Propylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 UJ	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
n-Nitrosodiphenylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Pentachlorophenol	µg/kg	800[A] 6,700[B] 55,000[C] 800[D]	n/v	720 U	-	720 U	-	-	-	730 U	-	15,000 U	-	-	-	-	-	-
Phenanthrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	29,000	-	-	-	-	-	-
Phenol	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Pyrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	370 U	-	370 U	-	-	-	380 U	-	64,000	-	-	-	-	-	-
Trichlorophenol, 2,4,5-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Trichlorophenol, 2,4,6-	µg/kg	100,000[a] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	370 U	-	370 U	-	-	-	380 U	-	7,800 U	-	-	-	-	-	-
Total SVOC	µg/kg	n/v	n/v	ND	-	ND	-	-	-	ND	-	396,000	-	-	-	-	-	-
SVOC - Tentatively Identified Compounds																		
Total SVOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	-	-	91,000 JN	-	-	-	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				B/MW-105			B-106	B-107	B-108	B-109		DP-1	SS-1a		SS-1abc		SS-1c	
Sample Date				27-Jul-18	27-Jul-18	27-Jul-18	31-Jul-18	31-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18
Sample ID				LIN-B105-S1	LIN-B105-S3	LIN-B105-S2	LIN-B106-S	LIN-B107-S	LIN-B108-s	LIN-B109-s	LIN-FD3-s	LIN-DP-s	LIN-SS1a-t-s	LIN-SS1a-b-s	LIN-SS1-t-s	LIN-SS1-b-s	LIN-SS1c-t-s	LIN-SS1c-b-s
Sample Depth				4 - 8 ft	15 - 16 ft	35 - 38 ft	7 - 7.5 ft	3.2 - 3.7 ft	5 - 8 ft	5 - 8 ft	5 - 8 ft		0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161452-1	460-161452-1	460-161452-1	460-161797-1	460-161797-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1
Laboratory Sample ID				460-161452-1	460-161452-3	460-161452-2	460-161797-2	460-161797-3	460-161576-27	460-161576-28	460-161576-26	460-161576-17	460-161576-1	460-161576-2	460-161576-18	460-161576-19	460-161576-3	460-161576-4
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51								Field Duplicate							
Volatile Organic Compounds																		
Acetone	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	6.2	22	11	5.1 U	11	5.5 U	5.3 U	5.3 U	5.3 U	5.5 U	4.9 U	-	-	5.4 U	5.3 U
Benzene	µg/kg	60[AD] 44,000[B] 89,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Bromodichloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	8.2	0.98 U	-	-	1.1 U	1.1 U
Bromoform (Tribromomethane)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 UJ
Bromomethane (Methyl bromide)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Butylbenzene, n-	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Butylbenzene, tert-	µg/kg	5,900[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Carbon Disulfide	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,700[G]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760[AD] 22,000[B] 44,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Chloroethane (Ethyl Chloride)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,900[G]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Chloroform (Trichloromethane)	µg/kg	370[AD] 350,000[B] 700,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	26	0.98 U	-	-	1.1 U	1.1 U
Chloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Cyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dibromochloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	2.4	0.98 U	-	-	1.1 U	1.1 U
Dichlorobenzene, 1,2-	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichlorobenzene, 1,3-	µg/kg	2,400[AD] 280,000[B] 560,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichlorobenzene, 1,4-	µg/kg	1,800[AD] 130,000[B] 250,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichloroethane, 1,1-	µg/kg	270[AD] 240,000[B] 480,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichloroethane, 1,2-	µg/kg	20[m][A] 30,000[B] 60,000[C] 20[D]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichloroethene, 1,1-	µg/kg	330[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichloroethene, cis-1,2-	µg/kg	250[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichloroethene, trans-1,2-	µg/kg	190[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichloropropane, 1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichloropropene, cis-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Dichloropropene, trans-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Ethylbenzene	µg/kg	1,000[AD] 390,000[B] 780,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.6 U	6.1 U	6.1 U	5.1 U	4.8 U	5.5 U	5.3 U	5.3 U	5.3 U	5.5 U	4.9 U	-	-	5.4 U	5.3 U
Isopropylbenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,300[G]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Isopropyltoluene, p- (Cymene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 10,000[G]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Methyl Acetate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.6 U	6.1 U	6.1 U	5.1 U	4.8 U	5.5 U	5.3 U	5.3 U	5.3 U	5.5 U	4.9 U	-	-	5.4 U	5.3 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120[AD] 500,000[B] 1,000,000[C]	500,000[E] 1,000,000[F] 300[G]	5.6 U	6.1 U	6.1 U	5.1 U	4.8 U	5.5 U	5.3 U	5.3 U	5.3 U	5.5 U	4.9 U	-	-	5.4 U	5.3 U
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000[G]	5.6 U	6.1 U	6.1 U	5.1 U	4.8 U	5.5 U	5.3 U	5.3 U	5.3 U	5.5 U	4.9 U	-	-	5.4 U	5.3 U
Methyl tert-butyl ether (MTBE)	µg/kg	930[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Methylcyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Methylene Chloride (Dichloromethane)	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	2.5	2.4	3.3	1.6	2.1	1.1 U	1.2	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Propylbenzene, n-	µg/kg	3,900[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Styrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 600[G]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Tetrachloroethene (PCE)	µg/kg	1,300[AD] 150,000[B] 300,000[C]	500,000[E] 1,000,000[F]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Toluene	µg/kg	700[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Trichlorobenzene, 1,2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 3,400[G]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Trichloroethane, 1,1,1-	µg/kg	680[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Trichloroethane, 1,1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Trichloroethene (TCE)	µg/kg	470[AD] 200,000[B] 400,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Trichlorofluoromethane (Freon 11)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 6,000[G]	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Trimethylbenzene, 1,2,4-	µg/kg	3,600[AD] 190,000[B] 380,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Trimethylbenzene, 1,3,5-	µg/kg	8,400[AD] 190,000[B] 380,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Vinyl Chloride	µg/kg	20[AD] 13,000[B] 27,000[C]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Xylene, m & p-	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Xylene, o-	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	1.1 U	1.2 U	1.2 U	1.0 U	0.96 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Xylenes, Total	µg/kg	260[A] 500,000[B] 1,000,000[C] 1,600[D]	n/v	2.3 U	2.4 U	2.5 U	2.1 U	1.9 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U	2.0 U	-	-	2.2 U	2.1 U
Total VOC	µg/kg	n/v	n/v	8.7	24.4	14.3	1.6	13.1	ND	1.2	ND	ND	36.6	ND	-	-	ND	ND
VOC - Tentatively Identified Compounds																		
Total VOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	-	-	10 JN	-	-	-	-	-	7.7 J

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-2a		SS-2abc		SS-2c		SS-3a		SS-3abc		SS-3b		SS-4abc	
Sample Date				30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18
Sample ID				LIN-SS2a-t-s	LIN-SS2a-b-s	LIN-SS2-t-s	LIN-SS2-b-s	LIN-SS2c-t-s	LIN-SS2c-b-s	LIN-SS3a-t-s	LIN-SS3a-b-s	LIN-SS3-t-s	LIN-SS3-b-s	LIN-SS3b-t-s	LIN-SS3b-b-s	LIN-SS4-t-s	LIN-SS4-b-s
Sample Depth				0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1
Laboratory Sample ID				460-161576-5	460-161576-6	460-161576-20	460-161576-21	460-161576-7	460-161576-8	460-161576-9	460-161576-10	460-161576-22	460-161576-23	460-161576-11	460-161576-12	460-161576-24	460-161576-25
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51														
General Chemistry																	
Cyanide	mg/kg	27[rs]^A 10,000[s]^C 40[s]^D	n/v	-	-	0.26 U	0.26 U	-	-	-	-	-	-	-	-	0.27 U	1.0
Metals																	
Aluminum	mg/kg	10,000[s]^ABCD	10,000[s]^EFG	-	-	7,380	6,160	-	-	-	-	7,290	5,850	-	-	5,930	6,580
Antimony	mg/kg	10,000[s]^ABCD	10,000[s]^EFG	-	-	31.5 U	32.1 U	-	-	-	-	32.4 UJ	29.5 U	-	-	32.9 U	32.7 U
Arsenic	mg/kg	13[s]^A 16[s]^BCD	n/v	-	-	4.2 U	4.3 U	-	-	-	-	4.3 U	3.9 U	-	-	4.4 U	4.4 U
Barium	mg/kg	350[s]^A 400[rs]^B 10,000[s]^C 820[rs]^D	n/v	-	-	24.8	24.8	-	-	-	-	27.9	23.3	-	-	27.4	26.2
Beryllium	mg/kg	7.2[rs]^A 590[rs]^B 2,700[rs]^C 47[rs]^D	n/v	-	-	0.42 U	0.43 U	-	-	-	-	0.43 U	0.39 U	-	-	0.44 U	0.44 U
Cadmium	mg/kg	2.5[rs]^A 9.3[rs]^B 60[rs]^C 7.5[rs]^D	n/v	-	-	0.42 U	0.43 U	-	-	-	-	0.43 U	0.39 U	-	-	0.44 U	0.44 U
Calcium	mg/kg	10,000[s]^ABCD	10,000[s]^EFG	-	-	2,120	2,200	-	-	-	-	2,260	1,850	-	-	4,590	3,010
Chromium	mg/kg	30[h,i]^A 1,500[rs]^B 6,800[rs]^C [NS,o]^D	n/v	-	-	9.7	8.2	-	-	-	-	9.6	7.7	-	-	16.4	19.4
Cobalt	mg/kg	10,000[s]^ABCD	10,000[s]^EFG	-	-	4.8	3.7	-	-	-	-	4.0	2.9	-	-	2.4	2.7
Copper	mg/kg	50^A 270^B 10,000[e]^C 1,720^D	n/v	-	-	11.2	8.5	-	-	-	-	10.4	8.8	-	-	8.4	8.5
Iron	mg/kg	10,000[s]^ABCD	10,000[s]^EFG	-	-	**13,100^ABCDEFG**	**10,900^ABCDEFG**	-	-	-	-	**10,800^ABCDEFG**	8,240	-	-	7,410	8,080
Lead	mg/kg	63[h]^A 1,000^B 3,900^C 450^D	n/v	-	-	7.5	12.3	-	-	-	-	24.2	17.8	-	-	26.3	28.4
Magnesium	mg/kg	10,000[s]^ABCD	n/v	-	-	1,940	1,670	-	-	-	-	1,690	1,310	-	-	2,030	1,550
Manganese	mg/kg	1,600[s]^A 10,000[s]^BC 2,000[s]^D	n/v	-	-	356	310	-	-	-	-	283	205	-	-	181	170
Mercury	mg/kg	0.18[s]^A 2.8[s]^B 5.7[s]^C 0.73^D	n/v	-	-	0.030	0.034	-	-	-	-	0.039	0.040	-	-	0.064	0.069
Nickel	mg/kg	30^A 310^B 10,000[s]^C 130^D	n/v	-	-	11.2	10.7 U	-	-	-	-	10.8 U	9.8 U	-	-	11.0 U	10.9 U
Potassium	mg/kg	10,000[s]^ABCD	n/v	-	-	672	502	-	-	-	-	654	374	-	-	454	440
Selenium	mg/kg	3.9[rs]^A 1,500^B 6,800^C 4[s]^D	n/v	-	-	8.4 U	8.6 U	-	-	-	-	8.6 U	7.9 U	-	-	8.8 U	8.7 U
Silver	mg/kg	2^A 1,500^B 6,800^C 8.3^D	n/v	-	-	1.1 U	1.1 U	-	-	-	-	1.1 U	0.98 U	-	-	1.1 U	1.1 U
Sodium	mg/kg	10,000[s]^ABCD	n/v	-	-	294 U	300 U	-	-	-	-	302 U	275 U	-	-	307 U	305 U
Thallium	mg/kg	10,000[s]^ABCD	10,000[s]^EFG	-	-	12.6 U	12.9 U	-	-	-	-	12.9 U	11.8 U	-	-	13.2 U	13.1 U
Vanadium	mg/kg	10,000[s]^ABCD	10,000[s]^EFG	-	-	17.7	14.7	-	-	-	-	14.9	11.5	-	-	10.9	11.8
Zinc	mg/kg	109[rs]^A 10,000[s]^BC 2,480^D	n/v	-	-	30.2	31.2	-	-	-	-	43.9	44.5	-	-	47.2	46.7
Polychlorinated Biphenyls																	
Aroclor 1016	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Aroclor 1221	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Aroclor 1232	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Aroclor 1242	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Aroclor 1248	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Aroclor 1254	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Aroclor 1260	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Aroclor 1262	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Aroclor 1268	µg/kg	[o]^ABCD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100^A 1,000^B 25,000^C 3,200^D	n/v	-	-	ND	ND	-	-	-	-	-	-	-	-	ND	ND
Pesticides																	
Aldrin	µg/kg	5[h]^A 680^B 1,400^C 190^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
BHC, alpha-	µg/kg	20^KO 3,400^B 6,800^C	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
BHC, beta-	µg/kg	36^A 3,000^B 14,000^C 90^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
BHC, delta-	µg/kg	40[h]^A 500,000[s]^B 1,000,000[d]^C 250^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Camphechlor (Toxaphene)	µg/kg	100,000[s]^A 500,000[s]^B 1,000,000[d]^CD	n/v	-	-	37 U	37 U	-	-	-	-	-	-	-	-	38 U	37 U
Chlordane, alpha-	µg/kg	94^A 24,000^B 47,000^C 2,900^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000[s]^A 1,000,000[d]^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
DDD (p,p'-DDD)	µg/kg	3.3[m]^A 92,000^B 180,000^C 14,000^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
DDE (p,p'-DDE)	µg/kg	3.3[m]^A 62,000^B 120,000^C 17,000^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
DDT (p,p'-DDT)	µg/kg	3.3[m]^A 47,000^B 94,000^C 136,000^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Dieldrin	µg/kg	5[h]^A 1,400^B 2,800^C 100^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	**63^A**	**52^A**
Endosulfan I	µg/kg	2,400^A 200,000^B 920,000[i]^C 102,000^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Endosulfan II	µg/kg	2,400^A 200,000^B 920,000[i]^C 102,000^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Endosulfan Sulfate	µg/kg	2,400[i]^A 200,000^B 920,000[i]^C 1,000,000[d]^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Endrin	µg/kg	14^A 89,000^B 410,000^C 60^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Endrin Aldehyde	µg/kg	100,000[s]^A 500,000[s]^B 1,000,000[d]^CD	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Endrin Ketone	µg/kg	100,000[s]^A 500,000[s]^B 1,000,000[d]^CD	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Heptachlor	µg/kg	42^A 15,000^B 29,000^C 380^D	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Heptachlor Epoxide	µg/kg	100,000[s]^A 500,000[s]^B 1,000,000[d]^CD	500,000[s]^E 1,000,000[s]^F 20^G	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100^AO 9,200^B 23,000^C	n/v	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000[s]^A 500,000[s]^B 1,000,000[d]^CD	500,000[s]^E 1,000,000[s]^F 900,000^G	-	-	3.7 U	3.7 U	-	-	-	-	-	-	-	-	3.8 U	3.7 U

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-2a		SS-2abc		SS-2c		SS-3a		SS-3abc		SS-3b		SS-4abc	
Sample Date				30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18
Sample ID				LIN-SS2a-t-s	LIN-SS2a-b-s	LIN-SS2-t-s	LIN-SS2-b-s	LIN-SS2c-t-s	LIN-SS2c-b-s	LIN-SS3a-t-s	LIN-SS3a-b-s	LIN-SS3-t-s	LIN-SS3-b-s	LIN-SS3b-t-s	LIN-SS3b-b-s	LIN-SS4-t-s	LIN-SS4-b-s
Sample Depth				0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1
Laboratory Sample ID				460-161576-5	460-161576-6	460-161576-20	460-161576-21	460-161576-7	460-161576-8	460-161576-9	460-161576-10	460-161576-22	460-161576-23	460-161576-11	460-161576-12	460-161576-24	460-161576-25
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51														
Semi-Volatile Organic Compounds																	
Acenaphthene	µg/kg	20,000[A] 500,000[B] 1,000,000[C] 98,000[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Acenaphthylene	µg/kg	100,000[A] 500,000[B] 1,000,000[C] 107,000[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Acetophenone	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Anthracene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Atrazine	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Benzaldehyde	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Benzo(a)anthracene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,000[D]	n/v	-	-	380 U	540	-	-	-	-	-	-	-	-	1,600[AD]	560
Benzo(a)pyrene	µg/kg	1,000[A] 1,000[B] 1,100[C] 22,000[D]	n/v	-	-	380 U	430	-	-	-	-	-	-	-	-	1,800[ABC]	630
Benzo(b)fluoranthene	µg/kg	1,000[A] 5,600[B] 11,000[C] 1,700[D]	n/v	-	-	380 U	560	-	-	-	-	-	-	-	-	2,600[AD]	930
Benzo(g,h,i)perylene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	1,200	450
Benzo(k)fluoranthene	µg/kg	800[A] 56,000[B] 110,000[C] 1,700[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	1,000[A]	380 U
Biphenyl, 1,1'- (Biphenyl)	µg/kg	100,000[A] 1,000,000[D]	500,000[E] 1,000,000[F]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Bis(2-Chloroethoxy)methane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Bis(2-Chloroethyl)ether	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropane))	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 435,000[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Bromophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Butyl Benzyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 122,000[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Caprolactam	µg/kg	100,000[A] 1,000,000[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Carbazole	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Chloro-3-methyl phenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Chloroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 220[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Chloronaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Chlorophenol, 2- (ortho-Chlorophenol)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Chlorophenyl Phenyl Ether, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Chrysene	µg/kg	1,000[A] 56,000[B] 110,000[C] 1,000[D]	n/v	-	-	380 U	480	-	-	-	-	-	-	-	-	2,000[AD]	680
Cresol, o- (Methylphenol, 2-)	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Cresol, p- (Methylphenol, 4-)	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	730 U	730 U	-	-	-	-	-	-	-	-	760 U	740 U
Dibenzo(a,h)anthracene	µg/kg	330[A] 560[B] 1,100[C] 1,000,000[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Dibenzofuran	µg/kg	7,000[A] 350,000[B] 1,000,000[C] 210,000[D]	500,000[E] 1,000,000[F] 6,200[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Dibutyl Phthalate (DBP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 8,100[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Dichlorobenzidine, 3,3'-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Dichlorophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Diethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 7,100[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Dimethyl Phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 27,000[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Dimethylphenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Dinitro-o-cresol, 4,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	730 U	730 U	-	-	-	-	-	-	-	-	760 U	740 U
Dinitrophenol, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 200[G]	-	-	730 U	730 U	-	-	-	-	-	-	-	-	760 U	740 U
Dinitrotoluene, 2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Dinitrotoluene, 2,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000/170$_{b,s1}$[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Di-n-Octyl phthalate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 120,000[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Fluoranthene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	1,100	-	-	-	-	-	-	-	-	4,000	1,500
Fluorene	µg/kg	30,000[A] 500,000[B] 1,000,000[C] 386,000[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Hexachlorobenzene	µg/kg	330[A] 6,000[B] 12,000[C] 3,200[D]	500,000[E] 1,000,000[F] 1,400[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Hexachlorocyclopentadiene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Hexachloroethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Indeno(1,2,3-cd)pyrene	µg/kg	500[A] 5,600[B] 11,000[C] 8,200[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	1,400[A]	510[A]
Isophorone	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 4,400[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Methylnaphthalene, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 36,400[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Nitroaniline, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 400[G]	-	-	730 U	730 U	-	-	-	-	-	-	-	-	760 U	740 U
Nitroaniline, 3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 500[G]	-	-	730 U	730 U	-	-	-	-	-	-	-	-	760 U	740 U
Nitroaniline, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	730 U	730 U	-	-	-	-	-	-	-	-	760 U	740 U
Nitrobenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	69,000[E] 140,000[F] 170$_{b}$[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Nitrophenol, 2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 300[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Nitrophenol, 4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	-	-	730 U	730 U	-	-	-	-	-	-	-	-	760 U	740 U
N-Nitrosodi-n-Propylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
n-Nitrosodiphenylamine	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Pentachlorophenol	µg/kg	800[A] 6,700[B] 55,000[C] 800[D]	n/v	-	-	730 U	730 U	-	-	-	-	-	-	-	-	760 U	740 U
Phenanthrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	530	-	-	-	-	-	-	-	-	1,400	550
Phenol	µg/kg	330[A] 500,000[B] 1,000,000[C] 330[D]	n/v	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Pyrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	-	-	380 U	950	-	-	-	-	-	-	-	-	3,300	1,200
Trichlorophenol, 2,4,5-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 100[G]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Trichlorophenol, 2,4,6-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	-	-	380 U	370 U	-	-	-	-	-	-	-	-	390 U	380 U
Total SVOC	µg/kg	n/v	n/v	-	-	ND	4,590	-	-	-	-	-	-	-	-	20,300	7,010
SVOC - Tentatively Identified Compounds																	
Total SVOC TICs	µg/kg	n/v	n/v	-	-	860 JN	2,540 JN	-	-	-	-	-	-	-	-	11,180 JN	4,960 JN

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-2a		SS-2abc		SS-2c		SS-3a		SS-3abc		SS-3b		SS-4abc	
Sample Date				30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18
Sample ID				LIN-SS2a-t-s	LIN-SS2a-b-s	LIN-SS2-t-s	LIN-SS2-b-s	LIN-SS2c-t-s	LIN-SS2c-b-s	LIN-SS3a-t-s	LIN-SS3a-b-s	LIN-SS3-t-s	LIN-SS3-b-s	LIN-SS3b-t-s	LIN-SS3b-b-s	LIN-SS4-t-s	LIN-SS4-b-s
Sample Depth				0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-161576-1
Laboratory Sample ID				460-161576-5	460-161576-6	460-161576-20	460-161576-21	460-161576-7	460-161576-8	460-161576-9	460-161576-10	460-161576-22	460-161576-23	460-161576-11	460-161576-12	460-161576-24	460-161576-25
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51														
Volatile Organic Compounds																	
Acetone	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	4.9 U	5.3 U	-	-	5.4 U	5.7 U	5.3 U	5.1 U	-	-	5.4 U	4.9 U	-	-
Benzene	µg/kg	60[AD] 44,000[B] 89,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Bromodichloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Bromoform (Tribromomethane)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Bromomethane (Methyl bromide)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Butylbenzene, n-	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Butylbenzene, tert-	µg/kg	5,900[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Carbon Disulfide	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,700[G]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760[AD] 22,000[B] 44,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Chloroethane (Ethyl Chloride)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,900[G]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Chloroform (Trichloromethane)	µg/kg	370[AD] 350,000[B] 700,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Chloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Cyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dibromochloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichlorobenzene, 1,2-	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichlorobenzene, 1,3-	µg/kg	2,400[AD] 280,000[B] 560,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichlorobenzene, 1,4-	µg/kg	1,800[AD] 130,000[B] 250,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichloroethane, 1,1-	µg/kg	270[AD] 240,000[B] 480,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichloroethane, 1,2-	µg/kg	20[m][A] 30,000[B] 60,000[C] 20[D]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichloroethene, 1,1-	µg/kg	330[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichloroethene, cis-1,2-	µg/kg	250[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichloroethene, trans-1,2-	µg/kg	190[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichloropropane, 1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichloropropene, cis-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Dichloropropene, trans-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Ethylbenzene	µg/kg	1,000[AD] 390,000[B] 780,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	4.9 U	5.3 U	-	-	5.4 U	5.7 U	5.3 U	5.1 U	-	-	5.4 U	4.9 U	-	-
Isopropylbenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,300[G]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Isopropyltoluene, p- (Cymene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 10,000[G]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Methyl Acetate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	4.9 U	5.3 U	-	-	5.4 U	5.7 U	5.3 U	5.1 U	-	-	5.4 U	4.9 U	-	-
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120[AD] 500,000[B] 1,000,000[C]	500,000[E] 1,000,000[F] 300[G]	4.9 U	5.3 U	-	-	5.4 U	5.7 U	5.3 U	5.1 U	-	-	5.4 U	4.9 U	-	-
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000[G]	4.9 U	5.3 U	-	-	5.4 U	5.7 U	5.3 U	5.1 U	-	-	5.4 U	4.9 U	-	-
Methyl tert-butyl ether (MTBE)	µg/kg	930[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Methylcyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Methylene Chloride (Dichloromethane)	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	1.4	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Propylbenzene, n-	µg/kg	3,900[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Styrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 600[G]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Tetrachloroethene (PCE)	µg/kg	1,300[AD] 150,000[B] 300,000[C]	500,000[E] 1,000,000[F]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Toluene	µg/kg	700[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Trichlorobenzene, 1,2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 3,400[G]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Trichloroethane, 1,1,1-	µg/kg	680[AD] 500,000[B] 1,000,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Trichloroethane, 1,1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Trichloroethene (TCE)	µg/kg	470[AD] 200,000[B] 400,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Trichlorofluoromethane (Freon 11)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 6,000[G]	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Trimethylbenzene, 1,2,4-	µg/kg	3,600[AD] 190,000[B] 380,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Trimethylbenzene, 1,3,5-	µg/kg	8,400[AD] 190,000[B] 380,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Vinyl Chloride	µg/kg	20[AD] 13,000[B] 27,000[C]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Xylene, m & p-	µg/kg	260[A] 500,000[cs][B] 1,000,000[cd][C] 1,600[D]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Xylene, o-	µg/kg	260[A] 500,000[cs][B] 1,000,000[cd][C] 1,600[D]	n/v	0.98 U	1.1 U	-	-	1.1 U	1.1 U	1.1 U	1.0 U	-	-	1.1 U	0.98 U	-	-
Xylenes, Total	µg/kg	260[A] 500,000[B] 1,000,000[C] 1,600[D]	n/v	2.0 U	2.1 U	-	-	2.2 U	2.3 U	2.1 U	2.1 U	-	-	2.2 U	2.0 U	-	-
Total VOC	µg/kg	n/v	n/v	1.4	ND	-	-	ND	ND	ND	ND	-	-	ND	ND	-	-
VOC - Tentatively Identified Compounds																	
Total VOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	-	-	-	-	10 J	-	-	-

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-4b		SS-4c		TP-1a	TP-2a	TP-4	TP-5a	TP-6	TP-7	TP-8a	TP-8c
Sample Date				30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	16-Aug-18	16-Aug-18	17-Aug-18	17-Aug-18	17-Aug-18	16-Aug-18	17-Aug-18	17-Aug-18
Sample ID				LIN-SS4b-t-s	LIN-SS4b-b-s	LIN-SS4c-t-s	LIN-SS4c-b-s	LIN-TP1-S	LIN-TP2a-s	LIN-TP4-s	LIN-TP5a-s	LIN-TP6-s	LIN-TP7-S	LIN-TP8a-s	LIN-TP8c-s
Sample Depth				0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	3 ft	2.5 ft	3.5 ft	3 - 3.5 ft	2 ft	6 ft	2.4 ft	1 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1
Laboratory Sample ID				460-161576-13	460-161576-14	460-161576-15	460-161576-16	460-162801-2	460-162872-1	460-162872-3	460-162872-2	460-162872-4	460-162801-3	460-162872-5	460-162872-6
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51												
General Chemistry															
Cyanide	mg/kg	27$_{n}^{AB}$ 10,000$_{a}^{C}$ 40^{D}	n/v	-	-	-	-	0.24 U	0.23 U	0.25 U	0.25 U	0.26 U	0.23 U	-	0.29 U
Metals															
Aluminum	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	-	-	-	-	5,450	5,500	5,490	7,230	6,070	3,600	-	5,200
Antimony	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	-	-	-	-	31.3 U	30.4 U	31.2 U	34.1 U	31.7 U	30.4 U	-	36.5 U
Arsenic	mg/kg	13$_{n}^{A}$ 16$_{a}^{BCD}$	n/v	-	-	-	-	4.2 U	4.1 U	4.2 U	5.8	4.2 U	4.1 U	-	4.9 U
Barium	mg/kg	350$_{n}^{A}$ 400^{B} 10,000$_{a}^{C}$ 820^{D}	n/v	-	-	-	-	23.4	19.3	32.2	91.0	78.6	8.3	-	19.3
Beryllium	mg/kg	7.2^{A} 590^{B} 2,700^{C} 47^{D}	n/v	-	-	-	-	0.42 U	0.41 U	0.42 U	0.45 U	0.42 U	0.41 U	-	0.49 U
Cadmium	mg/kg	2.5$_{n}^{A}$ 9.3^{B} 60^{C} 7.5^{D}	n/v	-	-	-	-	0.42 U	0.41 U	0.42 U	0.45 U	0.42 U	0.41 U	-	0.49 U
Calcium	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	-	-	-	-	1,760	1,200	1,210	3,910	1,850	570	-	1,480
Chromium	mg/kg	30$_{h,i}^{A}$ 1,500^{B} 6,800$_{i}^{C}$ $_{NS,o}^{D}$	n/v	-	-	-	-	6.5	6.5	6.1	14.2	6.7	3.0	-	5.2
Cobalt	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	-	-	-	-	3.5	2.8	2.5	4.3	2.1	2.0	-	2.2
Copper	mg/kg	50^{A} 270^{B} 10,000$_{e}^{C}$ 1,720^{D}	n/v	-	-	-	-	12.2	4.7	8.0	15.8	13.7	3.9	-	12.1
Iron	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	-	-	-	-	8,050	6,120	7,350	**12,100^{ABCDEFG}**	8,500	3,940	-	6,610
Lead	mg/kg	63$_{n}^{A}$ 1,000^{B} 3,900^{C} 450^{D}	n/v	-	-	-	-	7.7	3.0	22.4	**207^{A}**	49.9	2.0 U	-	14.0
Magnesium	mg/kg	10,000$_{a}^{ABCD}$	n/v	-	-	-	-	1,350	1,040	998	2,510	805	876	-	1,100
Manganese	mg/kg	1,600$_{n}^{A}$ 10,000$_{a}^{BC}$ 2,000$_{e}^{D}$	n/v	-	-	-	-	191	75.8	227	431	503	118	-	112
Mercury	mg/kg	0.18$_{n}^{A}$ 2.8$_{s}^{B}$ 5.7$_{t}^{C}$ 0.73^{D}	n/v	-	-	-	-	0.019	0.016 U	0.033	0.088	0.043	0.016 U	-	0.031
Nickel	mg/kg	30^{A} 310^{B} 10,000$_{i}^{C}$ 130^{D}	n/v	-	-	-	-	10.4 U	10.1 U	10.4 U	11.4 U	10.6 U	10.1 U	-	12.2 U
Potassium	mg/kg	10,000$_{a}^{ABCD}$	n/v	-	-	-	-	348	209	230	317	207	143	-	249
Selenium	mg/kg	3.9$_{n}^{A}$ 1,500^{B} 6,800^{C} 4$_{a}^{D}$	n/v	-	-	-	-	8.4 U	8.1 U	8.3 U	9.1 U	8.5 U	8.1 U	-	9.7 U
Silver	mg/kg	2^{A} 1,500^{B} 6,800^{C} 8.3^{D}	n/v	-	-	-	-	1.0 U	1.0 U	1.0 U	1.1 U	1.1 U	1.0 U	-	1.2 U
Sodium	mg/kg	10,000$_{a}^{ABCD}$	n/v	-	-	-	-	293 U	284 U	291 U	318 U	296 U	284 U	-	340 U
Thallium	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	-	-	-	-	12.5 U	12.2 U	12.5 U	13.6 U	12.7 U	12.2 U	-	14.6 U
Vanadium	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	-	-	-	-	8.7	11.5	8.0	12.9	8.1	5.1	-	7.4
Zinc	mg/kg	109$_{n}^{A}$ 10,000$_{a}^{BC}$ 2,480^{D}	n/v	-	-	-	-	24.3	14.8	49.4	**187^{A}**	**156^{A}**	10.4	-	36.3
Polychlorinated Biphenyls															
Aroclor 1016	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1221	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1232	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1242	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1248	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1254	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1260	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1262	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Aroclor 1268	µg/kg	^{ABCD}	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100^{A} 1,000^{B} 25,000^{C} 3,200^{D}	n/v	-	-	-	-	ND	ND	ND	ND	ND	ND	-	ND
Pesticides															
Aldrin	µg/kg	5$_{n}^{A}$ 680^{B} 1,400^{C} 190^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
BHC, alpha-	µg/kg	20^{AD} 3,400^{B} 6,800^{C}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
BHC, beta-	µg/kg	36^{A} 3,000^{B} 14,000^{C} 90^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
BHC, delta-	µg/kg	40$_{n}^{A}$ 500,000$_{a}^{B}$ 1,000,000$_{d}^{C}$ 250^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Camphechlor (Toxaphene)	µg/kg	100,000$_{a}^{A}$ 500,000$_{a}^{B}$ 1,000,000$_{d}^{CD}$	n/v	-	-	-	-	35 U	35 U	36 U	39 U	36 U	35 U	-	41 U
Chlordane, alpha-	µg/kg	94^{A} 24,000^{B} 47,000^{C} 2,900^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000$_{a}^{A}$ 1,000,000$_{d}^{D}$	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	8.6	3.6 U	3.5 U	-	4.1 U
DDD (p,p'-DDD)	µg/kg	3.3$_{m}^{A}$ 92,000^{B} 180,000^{C} 14,000^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
DDE (p,p'-DDE)	µg/kg	3.3$_{m}^{A}$ 62,000^{B} 120,000^{C} 17,000^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	**39^{A}**	3.6 U	3.5 U	-	4.1 U
DDT (p,p'-DDT)	µg/kg	3.3$_{m}^{A}$ 47,000^{B} 94,000^{C} 136,000^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	**13^{A}**	3.6 U	3.5 U	-	4.1 U
Dieldrin	µg/kg	5$_{n}^{A}$ 1,400^{B} 2,800^{C} 100^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	**35^{A}**	3.6 U	3.5 U	-	5.0
Endosulfan I	µg/kg	2,400^{A} 200,000^{B} 920,000$_{i}^{C}$ 102,000^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endosulfan II	µg/kg	2,400^{A} 200,000^{B} 920,000$_{i}^{C}$ 102,000^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endosulfan Sulfate	µg/kg	2,400$_{i}^{A}$ 200,000^{B} 920,000$_{i}^{C}$ 1,000,000$_{d}^{D}$	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endrin	µg/kg	14^{A} 89,000^{B} 410,000^{C} 60^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endrin Aldehyde	µg/kg	100,000$_{a}^{A}$ 500,000$_{c}^{B}$ 1,000,000$_{d}^{CD}$	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Endrin Ketone	µg/kg	100,000$_{a}^{A}$ 500,000$_{c}^{B}$ 1,000,000$_{d}^{CD}$	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Heptachlor	µg/kg	42^{A} 15,000^{B} 29,000^{C} 380^{D}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Heptachlor Epoxide	µg/kg	100,000$_{a}^{A}$ 500,000$_{c}^{B}$ 1,000,000$_{d}^{CD}$	500,000$_{a}^{E}$ 1,000,000$_{a}^{F}$ 20^{G}	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100^{AD} 9,200^{B} 23,000^{C}	n/v	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000$_{a}^{A}$ 500,000$_{c}^{B}$ 1,000,000$_{d}^{CD}$	500,000$_{a}^{E}$ 1,000,000$_{a}^{F}$ 900,000^{G}	-	-	-	-	3.5 U	3.5 U	3.6 U	3.9 U	3.6 U	3.5 U	-	4.1 U

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-4b		SS-4c		TP-1a	TP-2a	TP-4	TP-5a	TP-6	TP-7	TP-8a	TP-8c
Sample Date				30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	16-Aug-18	16-Aug-18	17-Aug-18	17-Aug-18	17-Aug-18	16-Aug-18	17-Aug-18	17-Aug-18
Sample ID				LIN-SS4b-t-s	LIN-SS4b-b-s	LIN-SS4c-t-s	LIN-SS4c-b-s	LIN-TP1-S	LIN-TP2a-s	LIN-TP4-s	LIN-TP5a-s	LIN-TP6-s	LIN-TP7-S	LIN-TP8a-s	LIN-TP8c-s
Sample Depth				0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	3 ft	2.5 ft	3.5 ft	3 - 3.5 ft	2 ft	6 ft	2.4 ft	1 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1
Laboratory Sample ID				460-161576-13	460-161576-14	460-161576-15	460-161576-16	460-162801-2	460-162872-1	460-162872-3	460-162872-2	460-162872-4	460-162801-3	460-162872-5	460-162872-6
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51												
Semi-Volatile Organic Compounds															
Acenaphthene	µg/kg	20,000[A] 500,000$_c$[B] 1,000,000$_d$[C] 98,000[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Acenaphthylene	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[C] 107,000[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Acetophenone	µg/kg	100,000$_a$[A] 1,000,000$_d$[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Anthracene	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Atrazine	µg/kg	100,000$_a$[A] 1,000,000$_d$[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Benzaldehyde	µg/kg	100,000$_a$[A] 1,000,000$_d$[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Benzo(a)anthracene	µg/kg	1,000$_h$[A] 5,600[B] 11,000[C] 1,000$_a$[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Benzo(a)pyrene	µg/kg	1,000$_h$[A] 1,000$_a$[B] 1,100[C] 22,000[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Benzo(b)fluoranthene	µg/kg	1,000$_h$[A] 5,600[B] 11,000[C] 1,700[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Benzo(g,h,i)perylene	µg/kg	100,000[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Benzo(k)fluoranthene	µg/kg	800$_h$[A] 56,000[B] 110,000[C] 1,700[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Biphenyl, 1,1'- (Biphenyl)	µg/kg	100,000$_a$[A] 1,000,000$_d$[D]	500,000$_a$[E] 1,000,000$_a$[F]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Bis(2-Chloroethoxy)methane	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Bis(2-Chloroethyl)ether	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropane))	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 435,000[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Bromophenyl Phenyl Ether, 4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Butyl Benzyl Phthalate	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 122,000[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Caprolactam	µg/kg	100,000$_a$[A] 1,000,000$_d$[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Carbazole	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Chloro-3-methyl phenol, 4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Chloroaniline, 4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 220[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Chloronaphthalene, 2-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Chlorophenol, 2- (ortho-Chlorophenol)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Chlorophenyl Phenyl Ether, 4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Chrysene	µg/kg	1,000$_h$[A] 56,000[B] 110,000[C] 1,000$_a$[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Cresol, o- (Methylphenol, 2-)	µg/kg	330$_m$[A] 500,000$_c$[B] 1,000,000$_d$[C] 330[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Cresol, p- (Methylphenol, 4-)	µg/kg	330$_m$[A] 500,000$_c$[B] 1,000,000$_d$[C] 330[D]	n/v	-	-	-	-	700 U	680 U	710 U	780 U	700 U	680 U	-	800 U
Dibenzo(a,h)anthracene	µg/kg	330$_m$[A] 560[B] 1,100[C] 1,000,000$_d$[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Dibenzofuran	µg/kg	7,000[A] 350,000[B] 1,000,000$_d$[C] 210,000[D]	500,000$_a$[E] 1,000,000$_a$[F] 6,200[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Dibutyl Phthalate (DBP)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 8,100[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Dichlorobenzidine, 3,3'-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Dichlorophenol, 2,4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 400[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Diethyl Phthalate	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 7,100[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Dimethyl Phthalate	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 27,000[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Dimethylphenol, 2,4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Dinitro-o-cresol, 4,6-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	700 U	680 U	710 U	780 U	700 U	680 U	-	800 U
Dinitrophenol, 2,4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 200[G]	-	-	-	-	700 U	680 U	710 U	780 U	700 U	680 U	-	800 U
Dinitrotoluene, 2,4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Dinitrotoluene, 2,6-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 1,000/170$_{b,s1}$[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Di-n-Octyl phthalate	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 120,000[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Fluoranthene	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Fluorene	µg/kg	30,000[A] 500,000$_c$[B] 1,000,000$_d$[C] 386,000[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Hexachlorobenzene	µg/kg	330$_m$[A] 6,000[B] 12,000[C] 3,200[D]	500,000$_a$[E] 1,000,000$_a$[F] 1,400[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Hexachlorocyclopentadiene	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Hexachloroethane	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Indeno(1,2,3-cd)pyrene	µg/kg	500$_h$[A] 5,600[B] 11,000[C] 8,200[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Isophorone	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 4,400[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Methylnaphthalene, 2-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 36,400[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Naphthalene	µg/kg	12,000[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Nitroaniline, 2-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 400[G]	-	-	-	-	700 U	680 U	710 U	780 U	700 U	680 U	-	800 U
Nitroaniline, 3-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 500[G]	-	-	-	-	700 U	680 U	710 U	780 U	700 U	680 U	-	800 U
Nitroaniline, 4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	700 U	680 U	710 U	780 U	700 U	680 U	-	800 U
Nitrobenzene	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	69,000[E] 140,000[F] 170$_b$[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Nitrophenol, 2-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 300[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Nitrophenol, 4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 100[G]	-	-	-	-	700 U	680 U	710 U	780 U	700 U	680 U	-	800 U
N-Nitrosodi-n-Propylamine	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
n-Nitrosodiphenylamine	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Pentachlorophenol	µg/kg	800$_a$[A] 6,700[B] 55,000[C] 800[D]	n/v	-	-	-	-	700 U	680 U	710 U	780 U	700 U	680 U	-	800 U
Phenanthrene	µg/kg	100,000[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Phenol	µg/kg	330$_m$[A] 500,000$_c$[B] 1,000,000$_d$[C] 330[D]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Pyrene	µg/kg	100,000[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Trichlorophenol, 2,4,5-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 100[G]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Trichlorophenol, 2,4,6-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	-	-	-	-	360 U	350 U	360 U	400 U	360 U	350 U	-	410 U
Total SVOC	µg/kg	n/v	n/v	-	-	-	-	ND	ND	ND	ND	ND	ND	-	ND
SVOC - Tentatively Identified Compounds															
Total SVOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	-	800 JN	340 JN	-	-	350 JN

See notes on last page.

Table 1
Summary of Analytical Results for RI Soil Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				SS-4b		SS-4c		TP-1a	TP-2a	TP-4	TP-5a	TP-6	TP-7	TP-8a	TP-8c
Sample Date				30-Jul-18	30-Jul-18	30-Jul-18	30-Jul-18	16-Aug-18	16-Aug-18	17-Aug-18	17-Aug-18	17-Aug-18	16-Aug-18	17-Aug-18	17-Aug-18
Sample ID				LIN-SS4b-t-s	LIN-SS4b-b-s	LIN-SS4c-t-s	LIN-SS4c-b-s	LIN-TP1-S	LIN-TP2a-s	LIN-TP4-s	LIN-TP5a-s	LIN-TP6-s	LIN-TP7-S	LIN-TP8a-s	LIN-TP8c-s
Sample Depth				0 - 2 in	2 - 12 in	0 - 2 in	2 - 12 in	3 ft	2.5 ft	3.5 ft	3 - 3.5 ft	2 ft	6 ft	2.4 ft	1 ft
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				460-161576-1	460-161576-1	460-161576-1	460-161576-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1	460-162801-1
Laboratory Sample ID				460-161576-13	460-161576-14	460-161576-15	460-161576-16	460-162801-2	460-162872-1	460-162872-3	460-162872-2	460-162872-4	460-162801-3	460-162872-5	460-162872-6
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51												
Volatile Organic Compounds															
Acetone	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.2 U	7.7	5.0 U	4.9 U	4.6 U	5.5 U	5.2 U	4.7 U	4.7 U	5.6 U	5.5 U
Benzene	µg/kg	60[AD] 44,000[B] 89,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Bromodichloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	7.1	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Bromoform (Tribromomethane)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 UJ	1.0 U	0.94 UJ	0.95 U	1.1 UJ	1.1 UJ
Bromomethane (Methyl bromide)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Butylbenzene, n-	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Butylbenzene, tert-	µg/kg	5,900[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Carbon Disulfide	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,700[G]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760[AD] 22,000[B] 44,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Chloroethane (Ethyl Chloride)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,900[G]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Chloroform (Trichloromethane)	µg/kg	370[AD] 350,000[B] 700,000[C]	n/v	1.1 U	1.0 U	1.1 U	23	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Chloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Cyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dibromochloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.0 U	1.1 U	1.9	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichlorobenzene, 1,2-	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichlorobenzene, 1,3-	µg/kg	2,400[AD] 280,000[B] 560,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichlorobenzene, 1,4-	µg/kg	1,800[AD] 130,000[B] 250,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichloroethane, 1,1-	µg/kg	270[AD] 240,000[B] 480,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichloroethane, 1,2-	µg/kg	20[m][A] 30,000[B] 60,000[C] 20[D]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichloroethene, 1,1-	µg/kg	330[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichloroethene, cis-1,2-	µg/kg	250[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichloroethene, trans-1,2-	µg/kg	190[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichloropropane, 1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichloropropene, cis-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Dichloropropene, trans-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Ethylbenzene	µg/kg	1,000[AD] 390,000[B] 780,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.2 U	5.7 U	5.0 U	4.9 U	4.6 U	5.5 U	5.2 U	4.7 U	4.7 U	5.6 U	5.5 U
Isopropylbenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,300[G]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Isopropyltoluene, p- (Cymene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 10,000[G]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Methyl Acetate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.2 U	5.7 U	5.0 U	4.9 U	4.6 U	5.5 U	5.2 U	4.7 U	4.7 U	5.6 U	5.5 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120[AD] 500,000[B] 1,000,000[C]	500,000[E] 1,000,000[F] 300[G]	5.5 U	5.2 U	5.7 U	5.0 U	4.9 U	4.6 U	5.5 U	5.2 U	4.7 U	4.7 U	5.6 U	5.5 U
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000[G]	5.5 U	5.2 U	5.7 U	5.0 U	4.9 U	4.6 U	5.5 U	5.2 U	4.7 U	4.7 U	5.6 U	5.5 U
Methyl tert-butyl ether (MTBE)	µg/kg	930[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Methylcyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Methylene Chloride (Dichloromethane)	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.3	4.1
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Propylbenzene, n-	µg/kg	3,900[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Styrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 600[G]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Tetrachloroethene (PCE)	µg/kg	1,300[AD] 150,000[B] 300,000[C]	500,000[E] 1,000,000[F]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Toluene	µg/kg	700[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Trichlorobenzene, 1,2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 3,400[G]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Trichloroethane, 1,1,1-	µg/kg	680[AD] 500,000[B] 1,000,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Trichloroethane, 1,1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Trichloroethene (TCE)	µg/kg	470[AD] 200,000[B] 400,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Trichlorofluoromethane (Freon 11)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 6,000[G]	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Trimethylbenzene, 1,2,4-	µg/kg	3,600[AD] 190,000[B] 380,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Trimethylbenzene, 1,3,5-	µg/kg	8,400[AD] 190,000[B] 380,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Vinyl Chloride	µg/kg	20[AD] 13,000[B] 27,000[C]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Xylene, m & p-	µg/kg	260[A] 500,000[cs][B] 1,000,000[d,o][C] 1,600[D]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Xylene, o-	µg/kg	260[A] 500,000[cs][B] 1,000,000[d,o][C] 1,600[D]	n/v	1.1 U	1.0 U	1.1 U	0.99 U	0.98 U	0.91 U	1.1 U	1.0 U	0.94 U	0.95 U	1.1 U	1.1 U
Xylenes, Total	µg/kg	260[A] 500,000[cs][B] 1,000,000[d,o][C] 1,600[D]	n/v	2.2 U	2.1 U	2.3 U	2.0 U	2.0 U	1.8 U	2.2 U	2.1 U	1.9 U	1.9 U	2.2 U	2.2 U
Total VOC	µg/kg	n/v	n/v	ND	ND	7.7	32	ND	ND	ND	ND	ND	ND	1.3	4.1
VOC - Tentatively Identified Compounds															
Total VOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 2
Summary of Analytical Results for SRI Solid Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				DBOX-NW		LF-1	LF-2	LF-3		LF-4	TANK1-NW	TANK2-NW
Sample Date				25-Jul-19	26-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19
Sample ID				LIN-DBOX2-NW-S	LIN-DB0X3-NW-SLD	LIN-LF1-S	LIN-LF2-S	LIN-LF3-S	LIN-LFDUP-S	LIN-LF4-S	LIN-TANK1NW-S	LIN-TANK2NW-S
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-156805-1	480-156805-1	480-156805-1	480-156805-1	480-156805-1	480-156805-10	480-156805-1	480-156805-1	480-156805-1
Laboratory Sample ID				480-156805-9	480-156853-1	480-156805-3	480-156805-4	480-156805-5	Field Duplicate	480-156805-6	480-156805-7	480-156805-8
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51									
General Chemistry												
Cyanide	mg/kg	27$_{l}^{AB}$ 10,000$_{fl}$^{C} 40$_{i}^{D}$	n/v	0.96 U	0.95 U	1.0 U	1.1 U	1.1 U	1.0 U	1.2 U	1.0 U	1.2 U
Flashpoint	deg F	n/v	n/v	-	> 180	-	-	-	-	-	-	-
pH, lab	S.U.	n/v	n/v	-	7.6	-	-	-	-	-	-	-
Temperature, Lab	deg C	n/v	n/v	-	21.1	-	-	-	-	-	-	-
Metals												
Aluminum	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	7,060	1,680	7,380	4,120	4,530	4,220	9,670	6,680 J	8,560
Antimony	mg/kg	10,000$_{n}^{ABCD}$	10,000$_{n}^{EFG}$	16.2 U	15.3 U	16.2 U	15.8 U	17.7 U	16.1 U	17.7 U	16.3 UJ	18.3 U
Arsenic	mg/kg	13$_{n}^{A}$ 16$_{n}^{BCD}$	n/v	3.0	2.0 U	2.8	2.6	2.5	2.7	5.7	2.7 J	3.3
Barium	mg/kg	350$_{n}^{A}$ 400^{B} 10,000$_{n}^{C}$ 820^{D}	n/v	22.8	7.2	24.2	15.0	16.6	15.6	38.4	20.1	26.2
Beryllium	mg/kg	7.2^{A} 590^{B} 2,700^{C} 47^{D}	n/v	0.30	0.20 U	0.28	0.23	0.24 U	0.21	0.49	0.28 J	0.51
Cadmium	mg/kg	2.5$_{n}^{A}$ 9.3^{B} 60^{C} 7.5^{D}	n/v	0.22 U	0.20 U	0.22 U	0.21 U	0.24 U	0.21 U	0.24 U	0.22 UJ	0.80
Calcium	mg/kg	10,000^{ABCD}	10,000$_{a}^{EFG}$	1,890	468	1,690	**23,200^{ABCDEFG}**	**26,400^{ABCDEFG}**	**29,200^{ABCDEFG}**	2,340	6,050 J	3,740
Chromium	mg/kg	30$_{n,i}^{A}$ 1,500^{B} 6,800$_{NR,n}^{C}$ ^{D}	n/v	8.9	2.6	9.9	6.3	7.3	6.6	14.1	9.4	13.8
Cobalt	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	4.0	0.76	3.2	3.2	3.7	3.5	7.1	3.5	10.8
Copper	mg/kg	50^{A} 270^{B} 10,000$_{n}^{C}$ 1,720^{D}	n/v	8.9	3.2	7.7	5.3	6.0	6.7	11.6	10.1	30.3
Iron	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	**10,600^{ABCDEFG}**	2,380	9,700	8,360	9,650	8,740	**19,000^{ABCDEFG}**	9,880	**12,100^{ABCDEFG}**
Lead	mg/kg	63$_{n}^{A}$ 1,000^{B} 3,900^{C} 450^{D}	n/v	6.4	5.9	5.9	1.9	2.1	2.2	5.3	4.2	6.8
Magnesium	mg/kg	10,000$_{a}^{ABCD}$	n/v	1,660	392	1,500	5,110	6,270	7,560	2,600	2,480 J	1,930
Manganese	mg/kg	1,600$_{n}^{A}$ 10,000$_{a}^{BC}$ 2,000$_{n}^{D}$	n/v	239 B	52.8 B	206 B	227 B	317 B	324 B	187 B	213 B	162 B
Mercury	mg/kg	0.18$_{n}^{A}$ 2.8$_{n}^{B}$ 5.7$_{n}^{C}$ 0.73^{D}	n/v	0.021 U	0.021 U	0.035	0.022 U	0.024 U	0.021 U	0.025 U	0.022 U	**3.2^{ABD}**
Nickel	mg/kg	30^{A} 310^{B} 10,000$_{n}^{C}$ 130^{D}	n/v	8.9	5.1 U	7.6	6.6	7.4	6.7	15.0	8.0	11.5
Potassium	mg/kg	10,000$_{a}^{ABCD}$	n/v	1,040	241	781	969	1,040	943	1,590	816	1,430
Selenium	mg/kg	3.9$_{n}^{A}$ 1,500^{B} 6,800^{C} 4$_{n}^{D}$	n/v	4.3 U	4.1 U	4.3 U	4.2 U	4.7 U	4.3 U	4.7 U	4.3 UJ	4.9 U
Silver	mg/kg	2^{A} 1,500^{B} 6,800^{C} 8.3^{D}	n/v	0.54 U	0.51 U	0.54 U	0.53 U	0.59 U	0.54 U	0.59 U	0.54 U	0.61 U
Sodium	mg/kg	10,000$_{a}^{ABCD}$	n/v	151 U	143 U	152 U	153	165 U	165	165 U	152 UJ	580
Thallium	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	6.5 U	6.1 U	6.5 U	6.3 U	7.1 U	6.4 U	7.1 U	6.5 U	7.3 U
Vanadium	mg/kg	10,000$_{a}^{ABCD}$	10,000$_{a}^{EFG}$	17.2	19.9	16.4	12.8	15.0	13.3	26.9	15.9	18.6
Zinc	mg/kg	109$_{n}^{A}$ 10,000$_{n}^{BC}$ 2,480^{D}	n/v	22.2	10.6	23.8	14.8	17.3	17.0	25.5	20.2 J-	77.6
Polychlorinated Biphenyls												
Aroclor 1016	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Aroclor 1221	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Aroclor 1232	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Aroclor 1242	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Aroclor 1248	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Aroclor 1254	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Aroclor 1260	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Aroclor 1262	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Aroclor 1268	µg/kg	^{ABCD}	n/v	190 U	11,000 U	260 U	250 U	270 U	240 U	270 U	230 U	280 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100^{A} 1,000^{B} 25,000^{C} 3,200^{D}	n/v	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides												
Aldrin	µg/kg	5$_{n}^{A}$ 680^{B} 1,400^{C} 190^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
BHC, alpha-	µg/kg	20^{AD} 3,400^{B} 6,800^{C}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
BHC, beta-	µg/kg	36^{A} 3,000^{B} 14,000^{C} 90^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
BHC, delta-	µg/kg	40$_{n}^{A}$ 500,000$_{s}^{B}$ 1,000,000$_{d}^{C}$ 250^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Camphechlor (Toxaphene)	µg/kg	100,000$_{n}^{A}$ 500,000$_{n}^{B}$ 1,000,000$_{n}^{CD}$	n/v	18 U	68,000 U	1,800 U	18 U	19 U	17 U	20 U	18 U	40 U
Chlordane, alpha-	µg/kg	94^{A} 24,000^{B} 47,000^{C} 2,900^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.5
Chlordane, trans- (gamma-Chlordane)	µg/kg	100,000$_{n}^{A}$ 1,000,000$_{d}^{D}$	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
DDD (p,p'-DDD)	µg/kg	3.3$_{m}^{A}$ 92,000^{B} 180,000^{C} 14,000^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
DDE (p,p'-DDE)	µg/kg	3.3$_{m}^{A}$ 62,000^{B} 120,000^{C} 17,000^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
DDT (p,p'-DDT)	µg/kg	3.3$_{m}^{A}$ 47,000^{B} 94,000^{C} 136,000^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Dieldrin	µg/kg	5$_{n}^{A}$ 1,400^{B} 2,800^{C} 100^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Endosulfan I	µg/kg	2,400^{A} 200,000^{B} 920,000^{C} 102,000^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Endosulfan II	µg/kg	2,400^{A} 200,000^{B} 920,000^{C} 102,000^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Endosulfan Sulfate	µg/kg	2,400^{A} 200,000^{B} 920,000^{C} 1,000,000$_{d}^{D}$	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Endrin	µg/kg	14^{A} 89,000^{B} 410,000^{C} 60^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Endrin Aldehyde	µg/kg	100,000$_{n}^{A}$ 500,000$_{n}^{B}$ 1,000,000$_{d}^{CD}$	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	10 J
Endrin Ketone	µg/kg	100,000$_{n}^{A}$ 500,000$_{n}^{B}$ 1,000,000$_{d}^{CD}$	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Heptachlor	µg/kg	42^{A} 15,000^{B} 29,000^{C} 380^{D}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Heptachlor Epoxide	µg/kg	100,000$_{n}^{A}$ 500,000$_{n}^{B}$ 1,000,000$_{n}^{CD}$	500,000$_{n}^{E}$ 1,000,000$_{n}^{F}$ 20^{G}	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100^{AD} 9,200^{B} 23,000^{C}	n/v	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	100,000$_{n}^{A}$ 500,000$_{n}^{B}$ 1,000,000$_{n}^{CD}$	500,000$_{n}^{E}$ 1,000,000$_{n}^{F}$ 900,000^{G}	1.8 U	6,800 U	180 U	1.8 U	1.9 U	1.7 U	2.0 U	1.8 U	4.0 U
Per- and Polyfluoroalkyl Substances (PFAS)												
2-(N-methyl perfluorooctanesulfonamido) acetic acid (NMeFOSAA)	µg/kg	n/v	n/v	-	-	-	-	2.3 U	2.1 U	-	2.3 U	-
6:2 Fluorotelomer sulfonic acid	µg/kg	n/v	n/v	-	-	-	-	2.3 U	2.1 U	-	2.3 U	-
8:2 Fluorotelomer sulfonic acid	µg/kg	n/v	n/v	-	-	-	-	2.3 U	2.1 U	-	2.3 U	-
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	µg/kg	n/v	n/v	-	-	-	-	2.8	2.1 U	-	2.8	-
Perfluorobutane Sulfonate (PFBS)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorobutanoic Acid (PFBA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorodecane Sulfonate (PFDS)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorodecanoic Acid (PFDA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorododecanoic Acid (PFDoA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluoroheptane Sulfonate (PFHpS)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluoroheptanoic Acid (PFHpA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorohexanesulfonic acid (PFHxS)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorohexanoic Acid (PFHxA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluoro-n-Octanoic Acid (PFOA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.58 U	-
Perfluorononanoic Acid (PFNA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorooctane Sulfonate (PFOS)	µg/kg	n/v	n/v	-	-	-	-	0.57 U	0.53 U	-	1.5 J	-
Perfluorooctanesulfonamide (PFOSA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.74 J	-
Perfluoropentanoic Acid (PFPeA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorotetradecanoic Acid (PFTeA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluorotridecanoic Acid (PFTriA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Perfluoroundecanoic Acid (PFUnA)	µg/kg	n/v	n/v	-	-	-	-	0.23 U	0.21 U	-	0.23 U	-
Sum of PFAS Analyte List	µg/kg	n/v	n/v	-	-	-	-	2.8	ND	-	5.04	-
Sum of PFOS & PFOA Ratios	µg/kg	n/v	n/v	-	-	-	-	ND	ND	-	1.5 J	-

See notes on last page.

Table 2
Summary of Analytical Results for SRI Solid Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				DBOX-NW		LF-1	LF-2	LF-3		LF-4	TANK1-NW	TANK2-NW
Sample Date				25-Jul-19	26-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19
Sample ID				LIN-DBOX2-NW-S	LIN-DB0X3-NW-SLD	LIN-LF1-S	LIN-LF2-S	LIN-LF3-S	LIN-LFDUP-S	LIN-LF4-S	LIN-TANK1NW-S	LIN-TANK2NW-S
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-156805-1	480-156805-1	480-156805-1	480-156805-1	480-156805-1	480-156805-10	480-156805-1	480-156805-1	480-156805-1
Laboratory Sample ID				480-156805-9	480-156853-1	480-156805-3	480-156805-4	480-156805-5	Field Duplicate	480-156805-6	480-156805-7	480-156805-8
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51									
Semi-Volatile Organic Compounds												
Acenaphthene	µg/kg	20,000[A] 500,000[B] 1,000,000$_a$[C] 98,000[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Acenaphthylene	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[C] 107,000[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Acetophenone	µg/kg	100,000$_a$[A] 1,000,000$_a$[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Anthracene	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Atrazine	µg/kg	100,000$_a$[A] 1,000,000$_a$[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Benzaldehyde	µg/kg	100,000$_a$[A] 1,000,000$_a$[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Benzo(a)anthracene	µg/kg	1,000$_a$[A] 5,600[B] 11,000[C] 1,000$_a$[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Benzo(a)pyrene	µg/kg	1,000$_a$[A] 1,000$_a$[B] 1,100[C] 22,000[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Benzo(b)fluoranthene	µg/kg	1,000$_a$[A] 5,600[B] 11,000[C] 1,700[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Benzo(g,h,i)perylene	µg/kg	100,000[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Benzo(k)fluoranthene	µg/kg	800$_a$[A] 56,000[B] 110,000[C] 1,700[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Biphenyl	µg/kg	100,000$_a$[A] 1,000,000$_a$[D]	500,000$_a$[E] 1,000,000$_a$[F]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Bis(2-Chloroethoxy)methane	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Bis(2-Chloroethyl)ether	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropane))	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 435,000[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	280	420	8,000 U
Bromophenyl Phenyl Ether, 4-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Butyl Benzyl Phthalate	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 122,000[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Caprolactam	µg/kg	100,000$_a$[A] 1,000,000$_a$[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Carbazole	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Chloro-3-methyl phenol, 4-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Chloroaniline, 4-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 220[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Chloronaphthalene, 2-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Chlorophenol, 2- (ortho-Chlorophenol)	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Chlorophenyl Phenyl Ether, 4-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Chrysene	µg/kg	1,000$_a$[A] 56,000[B] 110,000[C] 1,000$_a$[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Cresol, o- (Methylphenol, 2-)	µg/kg	330$_m$[A] 500,000$_a$[B] 1,000,000$_a$[C] 330[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Cresol, p- (Methylphenol, 4-)	µg/kg	330$_m$[A] 500,000$_a$[B] 1,000,000$_a$[C] 330[D]	n/v	1,700 U	500,000 U	350 U	350 U	390 U	350 U	400 U	350 U	16,000 U
Dibenzo(a,h)anthracene	µg/kg	330$_m$[A] 560[B] 1,100[C] 1,000,000$_a$[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dibenzofuran	µg/kg	7,000[A] 350,000[B] 1,000,000$_a$[C] 210,000[D]	500,000$_a$[E] 1,000,000$_a$[F] 6,200[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dibutyl Phthalate (DBP)	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 8,100[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dichlorobenzidine, 3,3'-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dichlorophenol, 2,4-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 400[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Diethyl Phthalate	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 7,100[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dimethyl Phthalate	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 27,000[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dimethylphenol, 2,4-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dinitro-o-cresol, 4,6-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	1,700 U	500,000 U	350 U	350 U	390 U	350 U	400 U	350 U	16,000 U
Dinitrophenol, 2,4-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 200[G]	1,700 U	500,000 U	350 U	350 U	390 U	350 U	400 U	350 U	16,000 U
Dinitrotoluene, 2,4-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dinitrotoluene, 2,6-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 1,000/170$_{n,s1}$[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Di-n-Octyl phthalate	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 120,000[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Dioxane, 1,4-	µg/kg	100$_m$[A] 130,000[B] 250,000[C] 100[D]	n/v	1,000 U	300,000 U	210 U	210 U	230 U	210 U	240 U	210 U	9,400 U
Fluoranthene	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	890 U	**530,000[AB]**	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Fluorene	µg/kg	30,000[A] 500,000$_a$[B] 1,000,000$_a$[C] 386,000[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Hexachlorobenzene	µg/kg	330$_m$[A] 6,000[B] 12,000[C] 3,200[D]	500,000$_a$[E] 1,000,000$_a$[F] 1,400[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Hexachlorocyclopentadiene	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Hexachloroethane	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Indeno(1,2,3-cd)pyrene	µg/kg	500$_a$[A] 5,600[B] 11,000[C] 8,200[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Isophorone	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 4,400[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Methylnaphthalene, 2-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 36,400[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Naphthalene	µg/kg	12,000[NQ] 500,000[B] 1,000,000$_a$[C]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Nitroaniline, 2-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 400[G]	1,700 U	500,000 U	350 U	350 U	390 U	350 U	400 U	350 U	16,000 U
Nitroaniline, 3-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 500[G]	1,700 U	500,000 U	350 U	350 U	390 U	350 U	400 U	350 U	16,000 U
Nitroaniline, 4-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	1,700 U	500,000 U	350 U	350 U	390 U	350 U	400 U	350 U	16,000 U
Nitrobenzene	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	69,000[E] 140,000[F] 170$_n$[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Nitrophenol, 2-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 300[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Nitrophenol, 4-	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 100[G]	1,700 U	500,000 U	350 U	350 U	390 U	350 U	400 U	350 U	16,000 U
N-Nitrosodi-n-Propylamine	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
n-Nitrosodiphenylamine	µg/kg	100,000$_a$[A] 500,000[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Pentachlorophenol	µg/kg	800$_m$[A] 6,700[B] 55,000[C] 800[D]	n/v	1,700 U	500,000 U	350 U	350 U	390 U	350 U	400 U	350 U	16,000 U
Phenanthrene	µg/kg	100,000[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	**550,000[AB]**	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Phenol	µg/kg	330$_m$[A] 500,000$_a$[B] 1,000,000$_a$[C] 330[D]	n/v	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Pyrene	µg/kg	100,000[A] 500,000$_a$[B] 1,000,000$_a$[CD]	n/v	890 U	**440,000[A]**	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Trichlorophenol, 2,4,5-	µg/kg	100,000$_a$[A] 500,000$_a$[B] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 100[G]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Trichlorophenol, 2,4,6-	µg/kg	100,000$_a$[A] 500,000[C] 1,000,000$_a$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	890 U	260,000 U	180 U	180 U	200 U	180 U	210 U	180 U	8,000 U
Total SVOC	µg/kg	n/v	n/v	ND	1,520,000	ND	ND	ND	ND	280	420	ND

See notes on last page.

Table 2
Summary of Analytical Results for SRI Solid Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				DBOX-NW		LF-1	LF-2	LF-3		LF-4	TANK1-NW	TANK2-NW
Sample Date				25-Jul-19	26-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19	25-Jul-19
Sample ID				LIN-DBOX2-NW-S	LIN-DB0X3-NW-SLD	LIN-LF1-S	LIN-LF2-S	LIN-LF3-S	LIN-LFDUP-S	LIN-LF4-S	LIN-TANK1NW-S	LIN-TANK2NW-S
Sampling Company				STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC	STANTEC
Laboratory				TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL	TAL
Laboratory Work Order				480-156805-1	480-156805-1	480-156805-1	480-156805-1	480-156805-1	480-156805-10	480-156805-1	480-156805-1	480-156805-1
Laboratory Sample ID				480-156805-9	480-156853-1	480-156805-3	480-156805-4	480-156805-5	Field Duplicate	480-156805-6	480-156805-7	480-156805-8
Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51									
Volatile Organic Compounds												
Acetone	µg/kg	50[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	27 U	25 UJ	27 U	27 U	29 U	27 U	29 U	26 U	30 U
Benzene	µg/kg	60[AD] 44,000[B] 89,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Bromodichloromethane	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Bromoform (Tribromomethane)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Bromomethane (Methyl bromide)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Butylbenzene, n-	µg/kg	12,000[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Butylbenzene, tert-	µg/kg	5,900[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Carbon Disulfide	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 2,700[G]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760[AD] 22,000[B] 44,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Chloroethane (Ethyl Chloride)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 1,900[G]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Chloroform (Trichloromethane)	µg/kg	370[AD] 350,000[B] 700,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Chloromethane	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Cyclohexane	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	10 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 UJ	6.0 U
Dibromochloromethane	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichlorobenzene, 1,2-	µg/kg	1,100[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichlorobenzene, 1,3-	µg/kg	2,400[AD] 280,000[B] 560,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichlorobenzene, 1,4-	µg/kg	1,800[AD] 130,000[B] 250,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichloroethane, 1,1-	µg/kg	270[AD] 240,000[B] 480,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichloroethane, 1,2-	µg/kg	20$_a$[A] 30,000[B] 60,000[C] 20$_b$[D]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichloroethene, 1,1-	µg/kg	330[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichloroethene, cis-1,2-	µg/kg	250[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichloroethene, trans-1,2-	µg/kg	190[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichloropropane, 1,2-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichloropropene, cis-1,3-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Dichloropropene, trans-1,3-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Ethylbenzene	µg/kg	1,000[AD] 390,000[B] 780,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	27 U	25 UJ	27 U	27 U	29 U	27 U	29 U	26 U	30 U
Isopropylbenzene	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 2,300[G]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Isopropyltoluene, p- (Cymene)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 10,000[G]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Methyl Acetate	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	27 U	25 UJ	27 U	27 U	29 U	27 U	29 U	26 U	30 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120[AD] 500,000$_c$[B] 1,000,000$_d$[C]	500,000$_a$[E] 1,000,000$_a$[F] 300[G]	27 U	25 UJ	27 U	27 U	29 U	27 U	29 U	26 UJ	30 U
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 1,000[G]	27 U	25 UJ	27 U	27 U	29 U	27 U	29 U	26 UJ	30 U
Methyl tert-butyl ether (MTBE)	µg/kg	930[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Methylcyclohexane	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.4 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Methylene Chloride (Dichloromethane)	µg/kg	50[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.2 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Naphthalene	µg/kg	12,000[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	33 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Propylbenzene, n-	µg/kg	3,900[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Styrene	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 600[G]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 UJ	6.0 U
Tetrachloroethene (PCE)	µg/kg	1,300[AD] 150,000[B] 300,000[C]	500,000$_a$[E] 1,000,000$_a$[F]	5.3 U	9.7 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Toluene	µg/kg	700[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.2 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Trichlorobenzene, 1,2,4-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 3,400[G]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Trichloroethane, 1,1,1-	µg/kg	680[AD] 500,000$_c$[B] 1,000,000$_d$[C]	n/v	5.3 U	5.0 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Trichloroethane, 1,1,2-	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Trichloroethene (TCE)	µg/kg	470[AD] 200,000[B] 400,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Trichlorofluoromethane (Freon 11)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000$_a$[A] 500,000$_c$[B] 1,000,000$_d$[CD]	500,000$_a$[E] 1,000,000$_a$[F] 6,000[G]	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Trimethylbenzene, 1,2,4-	µg/kg	3,600[AD] 190,000[B] 380,000[C]	n/v	5.3 U	38 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Trimethylbenzene, 1,3,5-	µg/kg	8,400[AD] 190,000[B] 380,000[C]	n/v	5.3 U	22 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Vinyl Chloride	µg/kg	20[AD] 13,000[B] 27,000[C]	n/v	5.3 U	5.0 UJ	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Xylene, m & p-	µg/kg	260$_a$[A] 500,000$_{a,o}$[B] 1,000,000$_{d,o}$[C] 1,600$_b$[D]	n/v	11 U	10 UJ	11 U	11 U	12 U	11 U	12 U	10 U	12 U
Xylene, o-	µg/kg	260$_a$[A] 500,000$_{a,o}$[B] 1,000,000$_{d,o}$[C] 1,600$_b$[D]	n/v	5.3 U	9.0 J	5.4 U	5.4 U	5.8 U	5.3 U	5.9 U	5.2 U	6.0 U
Xylenes, Total	µg/kg	260[A] 500,000$_c$[B] 1,000,000$_d$[C] 1,600[D]	n/v	11 U	10 UJ	11 U	11 U	12 U	11 U	12 U	10 U	12 U
Total VOC	µg/kg	n/v	n/v	ND	142.5 J	ND	ND	ND	ND	ND	ND	ND
VOC - Tentatively Identified Compounds												
Total VOC TICs	µg/kg	n/v	n/v	-	2,420 J	-	-	-	-	-	-	-

See notes on last page.

Table 2
Summary of Analytical Results for SRI Solid Samples
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Notes:

NYSDEC-Part 375	NYSDEC 6 NYCRR Part 375 Soil Clean-up Objectives (SCOs)
A	NYSDEC 6 NYCRR Part 375 - Unrestricted Use Soil Cleanup Objectives
B	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Commercial
C	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Industrial
D	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Groundwater
NYSDEC CP-51	New York State Department of Environmental Conservation, DEC Policy CP-51, October 21, 2010
E	Table 1 Supplemental Soil Cleanup Objectives - Commercial
F	Table 1 Supplemental Soil Cleanup Objectives - Industrial
G	Table 1 Supplemental Soil Cleanup Objectives - Protection of Groundwater
6.5[A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
A	The SCOs for unrestricted use were capped at a maximum value of 100 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3
EFG	SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.
a	Based on rural background study
b	Based on rural background study. The value of 1.0 refers to SVOC analses while the 0.17b refers to VOC analyses.
b,s1	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
c	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
c,p	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.
d	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
d,p	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.
e	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
e,l	For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value.
f	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
q	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
i	This SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
j	This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See 6 NYCRR Part 375 TSD Table 5.6-1.
k	For constituents where the calculated SCO was lower than the Contract Required Quantitation Limit (CRQL), the CRQL is used as the Track 1 SCO value.
m	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
n	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
n,l	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
NS,q	No SCO has been established for this compound. No SCO has been established for total chromium; however, see standards for trivalent and hexavalent chromium.
o	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
p	The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
>	Greater than.
B	Indicates analyte was found in associated blank, as well as in the sample.
J	The reported result is an estimated value.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
ND	Not detected.
UJ	Indicates estimated non-detect.

Table 3
Summary of Solid Sample Results for Characterization of Septic System Contents
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51	DBOX-NW 25-Jul-19 LIN-DBOX-NW-S STANTEC TALBU 480-156805-2 480-156805-13	TANK1-NW 25-Jul-19 LIN-TANK1NW-WC-S STANTEC TALBU 480-156805-2 480-156805-11	TANK1-SE 24-Jul-19 LIN-TANK1SE-WC-S STANTEC TALBU 480-156763-1 480-156764-2	TANK1-SW 23-Jul-19 LIN-TANK1SW-WC-SED STANTEC TALBU 480-156763-1 480-156764-4	TANK2-NW 25-Jul-19 LIN-TANK2NW-WC-S STANTEC TALBU 480-156805-2 480-156805-12	TANK4-SW 23-Jul-19 LIN-TANK4SW-WC-S STANTEC TALBU 480-156763-1 480-156764-7
General Chemistry									
Cyanide	mg/kg	27_{l}^{AB} $10,000_{e,l}^{C}$ 40_{l}^{D}	n/v	1.1 U	1.0 U	-	3.9 U	1.0 U	1.1 U
Flashpoint	deg F	n/v	n/v	> 176	> 176	> 176	-	> 176	-
pH, lab	S.U.	n/v	n/v	7.9 J	7.8 J	7.0 J	-	7.4 J	-
Temperature, Lab	deg C	n/v	n/v	21.1 J	21.0 J	20.6 J	-	21.3 J	-
Metals									
Aluminum	mg/kg	$10,000_{e}^{ABCD}$	$10,000_{a}^{EFG}$	6,530	6,150	-	751	6,100	**10,400^{ABCDEFG}**
Antimony	mg/kg	$10,000_{e}^{ABCD}$	$10,000_{a}^{EFG}$	16.9 U	16.0 U	-	68.7 U	16.0 U	17.5 U
Arsenic	mg/kg	13_{n}^{A} 16_{g}^{BCD}	n/v	10.1	2.5	-	9.2 U	2.9	2.3 U
Barium	mg/kg	350_{n}^{A} 400^{B} $10,000_{e}^{C}$ 820^{D}	n/v	209	21.4	-	36.4	18.5	39.0
Beryllium	mg/kg	7.2^{A} 590^{B} $2,700^{C}$ 47^{D}	n/v	0.28	0.26	-	0.92 U	0.28	0.39
Cadmium	mg/kg	2.5_{n}^{A} 9.3^{B} 60^{C} 7.5^{D}	n/v	**5.7^{A}**	0.21 U	-	1.1	0.21 U	0.57
Calcium	mg/kg	$10,000_{e}^{ABCD}$	$10,000_{a}^{EFG}$	6,040	1,600	-	7,010	2,150	2,930
Chromium	mg/kg	$30_{n,l}^{A}$ $1,500_{l}^{B}$ $6,800_{l}^{C}$ $_{NS,q}^{D}$	n/v	**61.2^{A}**	7.3	-	7.7	9.1	11.5
Cobalt	mg/kg	$10,000_{e}^{ABCD}$	$10,000_{a}^{EFG}$	7.4	2.6	-	2.3 U	4.0	3.7
Copper	mg/kg	50^{A} 270^{B} $10,000_{e}^{C}$ $1,720^{D}$	n/v	48.0	10.9	-	**75.3^{A}**	8.6	30.5
Iron	mg/kg	$10,000_{e}^{ABCD}$	$10,000_{a}^{EFG}$	**14,600^{ABCDEFG}**	8,280	-	1,500	**11,000^{ABCDEFG}**	**10,400^{ABCDEFG}**
Lead	mg/kg	63_{n}^{A} $1,000^{B}$ $3,900^{C}$ 450^{D}	n/v	**95.2^{A}**	6.6	-	55.1	3.4	25.7
Magnesium	mg/kg	$10,000_{e}^{ABCD}$	n/v	1,920	1,220	-	237	1,640	1,550
Manganese	mg/kg	$1,600_{n}^{A}$ $10,000_{e}^{BC}$ $2,000_{g}^{D}$	n/v	129 B	105 B	-	16.0	122 B	164
Mercury	mg/kg	0.18_{n}^{A} 2.8_{k}^{B} 5.7_{k}^{C} 0.73^{D}	n/v	**0.95^{AD}**	0.023 U	-	**3.1^{ABD}**	0.020 U	**0.41^{A}**
Nickel	mg/kg	30^{A} 310^{B} $10,000_{e}^{C}$ 130^{D}	n/v	13.1	6.3	-	22.9 U	8.3	7.6
Potassium	mg/kg	$10,000_{e}^{ABCD}$	n/v	931	613	-	196	937	848
Selenium	mg/kg	3.9_{n}^{A} $1,500^{B}$ $6,800^{C}$ 4_{g}^{D}	n/v	4.5 U	4.3 U	-	18.3 U	4.3 U	4.7 U
Silver	mg/kg	2^{A} $1,500^{B}$ $6,800^{C}$ 8.3^{D}	n/v	**117^{AD}**	0.53 U	-	2.3 U	0.53 U	0.58 U
Sodium	mg/kg	$10,000_{e}^{ABCD}$	n/v	158 U	149 U	-	641 U	159	164 U
Thallium	mg/kg	$10,000_{e}^{ABCD}$	$10,000_{a}^{EFG}$	6.8 U	6.4 U	-	27.5 U	6.4 U	7.0 U
Vanadium	mg/kg	$10,000_{e}^{ABCD}$	$10,000_{a}^{EFG}$	15.5	13.6	-	2.3 U	18.0	16.7
Zinc	mg/kg	109_{n}^{A} $10,000_{e}^{BC}$ $2,480^{D}$	n/v	36.9	24.5	-	**223^{A}**	20.6	77.4
Polychlorinated Biphenyls									
Aroclor 1016	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	1,100 UJ	260 U	270 U
Aroclor 1221	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	1,100 UJ	260 U	270 U
Aroclor 1232	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	1,100 UJ	260 U	270 U
Aroclor 1242	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	1,100 UJ	260 U	270 U
Aroclor 1248	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	1,100 UJ	260 U	270 U
Aroclor 1254	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	5,200 J-	260 U	270 U
Aroclor 1260	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	1,100 UJ	260 U	270 U
Aroclor 1262	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	1,100 UJ	260 U	270 U
Aroclor 1268	µg/kg	$_{o}^{ABCD}$	n/v	270 U	250 U	-	1,100 UJ	260 U	270 U
Polychlorinated Biphenyls (PCBs)	µg/kg	100^{A} $1,000^{B}$ $25,000^{C}$ $3,200^{D}$	n/v	ND	ND	-	**5,200 J-^{ABD}**	ND	ND
Pesticides									
Aldrin	µg/kg	5_{n}^{A} 680^{B} $1,400^{C}$ 190^{D}	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
BHC, alpha-	µg/kg	20^{AD} $3,400^{B}$ $6,800^{C}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
BHC, beta-	µg/kg	36^{A} $3,000^{B}$ $14,000^{C}$ 90^{D}	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
BHC, delta-	µg/kg	40_{n}^{A} $500,000_{c}^{B}$ $1,000,000_{d}^{C}$ 250^{D}	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Camphechlor (Toxaphene)	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	180 U	18 U	-	3,800 U	17 U	98 U
Chlordane, alpha-	µg/kg	94^{A} $24,000^{B}$ $47,000^{C}$ $2,900^{D}$	n/v	18 U	1.8 U	-	380 U	1.7 U	54 J
Chlordane, trans- (gamma-Chlordane)	µg/kg	$100,000_{a}^{A}$ $1,000,000_{d}^{D}$	n/v	18 U	1.8 U	-	380 U	1.7 U	27 J
DDD (p,p'-DDD)	µg/kg	3.3_{m}^{A} $92,000^{B}$ $180,000^{C}$ $14,000^{D}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
DDE (p,p'-DDE)	µg/kg	3.3_{m}^{A} $62,000^{B}$ $120,000^{C}$ $17,000^{D}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
DDT (p,p'-DDT)	µg/kg	3.3_{m}^{A} $47,000^{B}$ $94,000^{C}$ $136,000^{D}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Dieldrin	µg/kg	5_{n}^{A} $1,400^{B}$ $2,800^{C}$ 100^{D}	n/v	18 U	1.8 U	-	380 U	1.7 U	**180^{AD}**
Endosulfan I	µg/kg	$2,400_{j}^{A}$ $200,000_{l}^{B}$ $920,000_{l}^{C}$ $102,000^{D}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Endosulfan II	µg/kg	$2,400_{j}^{A}$ $200,000_{l}^{B}$ $920,000_{l}^{C}$ $102,000^{D}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Endosulfan Sulfate	µg/kg	$2,400_{j}^{A}$ $200,000_{l}^{B}$ $920,000_{l}^{C}$ $1,000,000_{d}^{D}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Endrin	µg/kg	14^{A} $89,000^{B}$ $410,000^{C}$ 60^{D}	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Endrin Aldehyde	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	59	1.8 U	-	380 U	1.7 U	9.8 U
Endrin Ketone	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Heptachlor	µg/kg	42^{A} $15,000^{B}$ $29,000^{C}$ 380^{D}	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Heptachlor Epoxide	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 20^{G}	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Lindane (Hexachlorocyclohexane, gamma)	µg/kg	100^{AD} $9,200^{B}$ $23,000^{C}$	n/v	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Methoxychlor (4,4'-Methoxychlor)	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $900,000^{G}$	18 U	1.8 U	-	380 U	1.7 U	9.8 U
Semi-Volatile Organic Compounds									
Acenaphthene	µg/kg	$20,000^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{C}$ $98,000^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Acenaphthylene	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{C}$ $107,000^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Acetophenone	µg/kg	$100,000_{a}^{A}$ $1,000,000_{d}^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Anthracene	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Atrazine	µg/kg	$100,000_{a}^{A}$ $1,000,000_{d}^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Benzaldehyde	µg/kg	$100,000_{a}^{A}$ $1,000,000_{d}^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Benzo(a)anthracene	µg/kg	$1,000_{n}^{A}$ $5,600^{B}$ $11,000^{C}$ $1,000_{g}^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Benzo(a)pyrene	µg/kg	$1,000_{n}^{A}$ $1,000_{g}^{B}$ $1,100^{C}$ $22,000^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Benzo(b)fluoranthene	µg/kg	$1,000_{n}^{A}$ $5,600^{B}$ $11,000^{C}$ $1,700^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Benzo(g,h,i)perylene	µg/kg	$100,000^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Benzo(k)fluoranthene	µg/kg	800_{n}^{A} $56,000^{B}$ $110,000^{C}$ $1,700^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Biphenyl	µg/kg	$100,000_{a}^{A}$ $1,000,000_{d}^{D}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Bis(2-Chloroethoxy)methane	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Bis(2-Chloroethyl)ether	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Bis(2-Chloroisopropyl)ether (2,2-oxybis(1-Chloropropa	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $435,000^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Bromophenyl Phenyl Ether, 4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Butyl Benzyl Phthalate	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $122,000^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Caprolactam	µg/kg	$100,000_{a}^{A}$ $1,000,000_{d}^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Carbazole	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Chloro-3-methyl phenol, 4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Chloroaniline, 4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 220^{G}	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Chloronaphthalene, 2-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Chlorophenol, 2- (ortho-Chlorophenol)	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Chlorophenyl Phenyl Ether, 4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Chrysene	µg/kg	$1,000_{n}^{A}$ $56,000^{B}$ $110,000^{C}$ $1,000_{g}^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Cresol, o- (Methylphenol, 2-)	µg/kg	330_{m}^{A} $500,000_{c}^{B}$ $1,000,000_{a}^{C}$ 330_{f}^{D}	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Cresol, p- (Methylphenol, 4-)	µg/kg	330_{m}^{A} $500,000_{c}^{B}$ $1,000,000_{a}^{C}$ 330_{f}^{D}	n/v	15,000 U	360 U	-	75,000 U	350 U	20,000 U
Dibenzo(a,h)anthracene	µg/kg	330_{m}^{A} 560^{B} $1,100^{C}$ $1,000,000_{d}^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dibenzofuran	µg/kg	$7,000^{A}$ $350,000^{B}$ $1,000,000_{a}^{C}$ $210,000^{D}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $6,200^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dibutyl Phthalate (DBP)	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $8,100^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dichlorobenzidine, 3,3'-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dichlorophenol, 2,4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 400^{G}	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Diethyl Phthalate	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $7,100^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dimethyl Phthalate	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $27,000^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dimethylphenol, 2,4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dinitro-o-cresol, 4,6-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	15,000 U	360 U	-	75,000 U	350 U	20,000 U
Dinitrophenol, 2,4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 200^{G}	15,000 U	360 U	-	75,000 U	350 U	20,000 U
Dinitrotoluene, 2,4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dinitrotoluene, 2,6-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $1,000/170_{b,s1}^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Di-n-Octyl phthalate	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $120,000^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Dioxane, 1,4-	µg/kg	100_{m}^{A} $130,000^{B}$ $250,000^{C}$ 100_{f}^{D}	n/v	8,800 U	220 U	-	45,000 U	210 U	12,000 U
Fluoranthene	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	11,000	190 U	-	39,000 U	180 U	10,000 U
Fluorene	µg/kg	$30,000^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{C}$ $386,000^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Hexachlorobenzene	µg/kg	330_{m}^{A} $6,000^{B}$ $12,000^{C}$ $3,200^{D}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $1,400^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Hexachlorocyclopentadiene	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Hexachloroethane	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Indeno(1,2,3-cd)pyrene	µg/kg	500_{n}^{A} $5,600^{B}$ $11,000^{C}$ $8,200^{D}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Isophorone	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $4,400^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Methylnaphthalene, 2-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ $36,400^{G}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Naphthalene	µg/kg	$12,000^{AD}$ $500,000_{c}^{B}$ $1,000,000_{d}^{C}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Nitroaniline, 2-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 400^{G}	15,000 U	360 U	-	75,000 U	350 U	20,000 U
Nitroaniline, 3-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 500^{G}	15,000 U	360 U	-	75,000 U	350 U	20,000 U
Nitroaniline, 4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	15,000 U	360 U	-	75,000 U	350 U	20,000 U
Nitrobenzene	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$69,000^{E}$ $140,000^{F}$ 170_{b}^{G}	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Nitrophenol, 2-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 300^{G}	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Nitrophenol, 4-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 100^{G}	15,000 U	360 U	-	75,000 U	350 U	20,000 U
N-Nitrosodi-n-Propylamine	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
n-Nitrosodiphenylamine	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Pentachlorophenol	µg/kg	800_{m}^{A} $6,700^{B}$ $55,000^{C}$ 800_{f}^{D}	n/v	15,000 U	360 U	-	75,000 U	350 U	20,000 U
Phenanthrene	µg/kg	$100,000^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	11,000	190 U	-	39,000 U	180 U	10,000 U
Phenol	µg/kg	330_{m}^{A} $500,000_{c}^{B}$ $1,000,000_{a}^{C}$ 330_{f}^{D}	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Pyrene	µg/kg	$100,000^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	n/v	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Trichlorophenol, 2,4,5-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$ 100^{G}	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Trichlorophenol, 2,4,6-	µg/kg	$100,000_{a}^{A}$ $500,000_{c}^{B}$ $1,000,000_{d}^{CD}$	$500,000_{a}^{E}$ $1,000,000_{a}^{F}$	7,500 U	190 U	-	39,000 U	180 U	10,000 U
Total SVOC	µg/kg	n/v	n/v	22,000	ND	-	ND	ND	ND
SVOC - Tentatively Identified Compounds									
Total SVOC TICs	µg/kg	n/v	n/v	-	-	-	21,728,000 TJN	-	32,000 TJ

See notes on last page.

Table 3
Summary of Solid Sample Results for Characterization of Septic System Contents
IRM Work Plan #2
820 Linden Ave Site, BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location Sample Date Sample ID Sampling Company Laboratory Laboratory Work Order Laboratory Sample ID Sample Type	Units	NYSDEC-Part 375	NYSDEC CP-51	DBOX-NW 25-Jul-19 LIN-DBOX-NW-S STANTEC TALBU 480-156805-2 480-156805-13	TANK1-NW 25-Jul-19 LIN-TANK1NW-WC-S STANTEC TALBU 480-156805-2 480-156805-11	TANK1-SE 24-Jul-19 LIN-TANK1SE-WC-S STANTEC TALBU 480-156763-1 480-156764-2	TANK1-SW 23-Jul-19 LIN-TANK1SW-WC-SED STANTEC TALBU 480-156763-1 480-156764-4	TANK2-NW 25-Jul-19 LIN-TANK2NW-WC-S STANTEC TALBU 480-156805-2 480-156805-12	TANK4-SW 23-Jul-19 LIN-TANK4SW-WC-S STANTEC TALBU 480-156763-1 480-156764-7
Volatile Organic Compounds									
Acetone	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	28 U	27 U	-	63,000 U	26 U	29 U
Benzene	µg/kg	60[AD] 44,000[B] 89,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Bromodichloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Bromoform (Tribromomethane)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Bromomethane (Methyl bromide)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Butylbenzene, n-	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Butylbenzene, sec- (2-Phenylbutane)	µg/kg	11,000[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Butylbenzene, tert-	µg/kg	5,900[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Carbon Disulfide	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,700[G]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Carbon Tetrachloride (Tetrachloromethane)	µg/kg	760[AD] 22,000[B] 44,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Chlorobenzene (Monochlorobenzene)	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Chloroethane (Ethyl Chloride)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,900[G]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Chloroform (Trichloromethane)	µg/kg	370[AD] 350,000[B] 700,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Chloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Cyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dibromochloromethane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichlorobenzene, 1,2-	µg/kg	1,100[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichlorobenzene, 1,3-	µg/kg	2,400[AD] 280,000[B] 560,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichlorobenzene, 1,4-	µg/kg	1,800[AD] 130,000[B] 250,000[C]	n/v	5.5 U	5.5 U	-	**18,000[AD]**	5.2 U	5.9 U
Dichlorodifluoromethane (Freon 12)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichloroethane, 1,1-	µg/kg	270[AD] 240,000[B] 480,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichloroethane, 1,2-	µg/kg	20[m,A] 30,000[B] 60,000[C] 20[D]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichloroethene, 1,1-	µg/kg	330[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichloroethene, cis-1,2-	µg/kg	250[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichloroethene, trans-1,2-	µg/kg	190[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichloropropane, 1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichloropropene, cis-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Dichloropropene, trans-1,3-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Ethylbenzene	µg/kg	1,000[AD] 390,000[B] 780,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	28 U	27 U	-	63,000 U	26 U	29 U
Isopropylbenzene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 2,300[G]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Isopropyltoluene, p- (Cymene)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 10,000[G]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Methyl Acetate	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	28 U	27 U	-	63,000 U	26 U	29 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/kg	120[AD] 500,000[B] 1,000,000[C]	500,000[E] 1,000,000[F] 300[G]	28 U	27 U	-	63,000 U	26 U	29 U
Methyl Isobutyl Ketone (MIBK)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 1,000[G]	28 U	27 U	-	63,000 U	26 U	29 U
Methyl tert-butyl ether (MTBE)	µg/kg	930[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Methylcyclohexane	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Methylene Chloride (Dichloromethane)	µg/kg	50[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Naphthalene	µg/kg	12,000[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Propylbenzene, n-	µg/kg	3,900[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Styrene	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Tetrachloroethane, 1,1,2,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 600[G]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Tetrachloroethene (PCE)	µg/kg	1,300[AD] 150,000[B] 300,000[C]	500,000[E] 1,000,000[F]	5.5 U	5.5 U	-	**80,000[AD]**	5.2 U	22
Toluene	µg/kg	700[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Trichlorobenzene, 1,2,4-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 3,400[G]	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Trichloroethane, 1,1,1-	µg/kg	680[AD] 500,000[B] 1,000,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Trichloroethane, 1,1,2-	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Trichloroethene (TCE)	µg/kg	470[AD] 200,000[B] 400,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Trichlorofluoromethane (Freon 11)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Trichlorotrifluoroethane (Freon 113)	µg/kg	100,000[A] 500,000[B] 1,000,000[CD]	500,000[E] 1,000,000[F] 6,000[G]	5.5 U	5.5 U	-	**970,000[ABEG]**	5.2 U	5.9 U
Trimethylbenzene, 1,2,4-	µg/kg	3,600[AD] 190,000[B] 380,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Trimethylbenzene, 1,3,5-	µg/kg	8,400[AD] 190,000[B] 380,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Vinyl Chloride	µg/kg	20[AD] 13,000[B] 27,000[C]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Xylene, m & p-	µg/kg	260[p,A] 500,000[c,p,B] 1,000,000[d,p,C] 1,600[p,D]	n/v	11 U	11 U	-	25,000 U	10 U	12 U
Xylene, o-	µg/kg	260[p,A] 500,000[c,p,B] 1,000,000[d,p,C] 1,600[p,D]	n/v	5.5 U	5.5 U	-	13,000 U	5.2 U	5.9 U
Xylenes, Total	µg/kg	260[A] 500,000[c,B] 1,000,000[d,C] 1,600[D]	n/v	11 U	11 U	-	25,000 U	10 U	12 U
Total VOC	µg/kg	n/v	n/v	ND	ND	-	1,068,000	ND	22
VOC - Tentatively Identified Compounds									
Total VOC TICs	µg/kg	n/v	n/v	-	-	-	-	-	500 TJ

Notes:

NYSDEC-Part 375	NYSDEC 6 NYCRR Part 375 Soil Clean-up Objectives (SCOs)
A	NYSDEC 6 NYCRR Part 375 - Unrestricted Use Soil Cleanup Objectives
B	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Commercial
C	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Human Health - Industrial
D	NYSDEC 6 NYCRR Part 375 - Restricted Use SCO - Protection of Groundwater
NYSDEC CP-51	New York State Department of Environmental Conservation, DEC Policy CP-51, October 21, 2010
E	Table 1 Supplemental Soil Cleanup Objectives - Commercial
F	Table 1 Supplemental Soil Cleanup Objectives - Industrial
G	Table 1 Supplemental Soil Cleanup Objectives - Protection of Groundwater
6.5[A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
a[A]	The SCOs for unrestricted use were capped at a maximum value of 100 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3
a[EFG]	SCOs for organic contaminants (volatile organic compounds, semivolatile organic compounds, and pesticides) are capped at 100 ppm for residential use, 500 ppm for commercial use, 1000 ppm for industrial use. SCOs for metals are capped at 10,000 ppm.
b	Based on rural background study
b,s1	Based on rural background study. The value of 1.0 refers to SVOC analses while the 0.17b refers to VOC analyses.
c	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3.
c,p	The SCOs for commercial use were capped at a maximum value of 500 mg/kg. See TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
d	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg (Organics) and 10000 mg/kg (Inorganics). See 6 NYCRR Part 375 TSD Section 9.3.
d,p	The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
e	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3.
e,I	The SCOS for metals were capped at a maximum value of 10,000 mg/kg. See 6 NYCRR Part 375 TSD Section 9.3. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
f	For constituents where the calculated SCO was lower than the CRQL, the CRQL is used as the SCO value.
g	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
i	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
j	This SCO is the sum of endosulfan I, endosulfan II, and endosulfan sulfate.
k	This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See 6 NYCRR Part 375 TSD Table 5.6-1.
m	For constituents where the calculated SCO was lower than the Contract Required Quantitation Limit (CRQL), the CRQL is used as the Track 1 SCO value.
n	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.
n,I	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the DEC/DOH rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site. The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
NS,q	No SCO has been established for this compound. No SCO has been established for total chromium; however, see standards for trivalent and hexavalent chromium.
o	Standard is applicable to total PCBs, and the individual Aroclors should be added for comparison.
p[AD]	The criterion is applicable to total xylenes, and the individual isomers should be added for comparison.
>	Greater than.
B	Indicates analyte was found in associated blank, as well as in the sample.
HF	Field parameter with a holding time of 15 minutes
ND	Not detected.
T	Result is a tentatively identified compound (TIC) and an estimated value.
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.

Table 4
Summary of Water Sample Results for Characterization of Septic System Contents
IRM Work Plan #2
820 Linden Ave Site BCP #C828200
820 Linden Avenue, Pittsford, NY

Sample Location				TANK1-SW	TANK2-SW	TANK3-SW
Sample Date				23-Jul-19	23-Jul-19	23-Jul-19
Sample ID				LIN-TANK1SW-WC-W	LIN-TANK2SW-WC-W	LIN-TANK3SW-WC-W
Sampling Company				STANTEC	STANTEC	STANTEC
Laboratory				TALBU	TALBU	TALBU
Laboratory Work Order				480-156763-1	480-156763-1	480-156763-1
Laboratory Sample ID	Units	TOGS	NYSDEC	480-156764-3	480-156764-5	480-156764-6
Volatile Organic Compounds						
Acetone	µg/L	50[A]	n/v	200 U	40 U	20 U
Benzene	µg/L	1[B]	500[C]	20 U	4.0 U	2.0 U
Bromodichloromethane	µg/L	50[A]	n/v	20 U	4.0 U	2.0 U
Bromoform (Tribromomethane)	µg/L	50[A]	n/v	20 U	4.0 U	2.0 U
Bromomethane (Methyl bromide)	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Butylbenzene, n-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Butylbenzene, sec- (2-Phenylbutane)	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Butylbenzene, tert-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Carbon Disulfide	µg/L	60[A]	n/v	20 U	4.0 U	2.0 U
Carbon Tetrachloride (Tetrachloromethane)	µg/L	5[B]	500[C]	20 U	4.0 U	2.0 U
Chlorobenzene (Monochlorobenzene)	µg/L	5[..B]	100,000[C]	20 U	4.0 U	2.0 U
Chloroethane (Ethyl Chloride)	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Chloroform (Trichloromethane)	µg/L	7[B]	6,000[C]	20 U	4.0 U	2.0 U
Chloromethane	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Cyclohexane	µg/L	n/v	n/v	20 U	4.0 U	2.0 U
Dibromo-3-Chloropropane, 1,2- (DBCP)	µg/L	0.04[B]	n/v	20 U	4.0 U	2.0 U
Dibromochloromethane	µg/L	50[A]	n/v	20 U	4.0 U	2.0 U
Dichlorobenzene, 1,2-	µg/L	3[B]	n/v	20 U	4.0 U	2.0 U
Dichlorobenzene, 1,3-	µg/L	3[B]	n/v	20 U	4.0 U	2.0 U
Dichlorobenzene, 1,4-	µg/L	3[B]	7,500[C]	20 U	4.0 U	2.0 U
Dichlorodifluoromethane (Freon 12)	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Dichloroethane, 1,1-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Dichloroethane, 1,2-	µg/L	0.6[B]	500[C]	20 U	4.0 U	2.0 U
Dichloroethene, 1,1-	µg/L	5[..B]	700[C]	20 U	4.0 U	2.0 U
Dichloroethene, cis-1,2-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Dichloroethene, trans-1,2-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Dichloropropane, 1,2-	µg/L	1[B]	n/v	20 U	4.0 U	2.0 U
Dichloropropene, cis-1,3-	µg/L	0.4[p,B]	n/v	20 U	4.0 U	2.0 U
Dichloropropene, trans-1,3-	µg/L	0.4[p,B]	n/v	20 U	4.0 U	2.0 U
Ethylbenzene	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Ethylene Dibromide (Dibromoethane, 1,2-)	µg/L	0.0006[B]	n/v	20 U	4.0 U	2.0 U
Hexanone, 2- (Methyl Butyl Ketone)	µg/L	50[A]	n/v	100 U	20 U	10 U
Isopropylbenzene	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Isopropyltoluene, p- (Cymene)	µg/L	5[..B]	n/v	20 U	4.0 U	**5.4[B]**
Methyl Acetate	µg/L	n/v	n/v	50 U	10 U	5.0 U
Methyl Ethyl Ketone (MEK) (2-Butanone)	µg/L	50[A]	200,000[C]	200 U	40 U	20 U
Methyl Isobutyl Ketone (MIBK)	µg/L	n/v	n/v	100 U	20 U	10 U
Methyl tert-butyl ether (MTBE)	µg/L	10[A]	n/v	20 U	4.0 U	2.0 U
Methylcyclohexane	µg/L	n/v	n/v	20 U	4.0 U	2.0 U
Methylene Chloride (Dichloromethane)	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Naphthalene	µg/L	10[B]	n/v	20 U	4.0 U	2.0 U
Propylbenzene, n-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Styrene	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Tetrachloroethane, 1,1,2,2-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Tetrachloroethene (PCE)	µg/L	5[..B]	700[C]	**84[B]**	**25[B]**	**21[B]**
Toluene	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Trichlorobenzene, 1,2,4-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Trichloroethane, 1,1,1-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Trichloroethane, 1,1,2-	µg/L	1[B]	n/v	20 U	4.0 U	2.0 U
Trichloroethene (TCE)	µg/L	5[..B]	500[C]	20 U	4.0 U	2.0 U
Trichlorofluoromethane (Freon 11)	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Trichlorotrifluoroethane (Freon 113)	µg/L	5[..B]	n/v	**680[B]**	**120[B]**	**88[B]**
Trimethylbenzene, 1,2,4-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Trimethylbenzene, 1,3,5-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Vinyl Chloride	µg/L	2[B]	200[C]	20 U	4.0 U	2.0 U
Xylene, m & p-	µg/L	5[..B]	n/v	40 U	8.0 U	4.0 U
Xylene, o-	µg/L	5[..B]	n/v	20 U	4.0 U	2.0 U
Xylenes, Total	µg/L	5[..B]	n/v	40 U	8.0 U	4.0 U
Total VOC	µg/L	n/v	n/v	764	145	114.4
VOC - Tentatively Identified Compounds						
Total VOC TICs	µg/L	n/v	n/v	-	-	8.8 TJN

Notes:

TOGS	NYSDEC TOGS 1.1.1 (Reissued June 1998 with errata in January 1999 and addenda in April 2000 and June 2004)
A	TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Guidance
B	TOGS 1.1.1 - Table 1 - Ambient Water Quality Standards and Guidance Values, Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1); Standards
NYSDEC	New York State Department of Environmental Conservation, September 5, 2006
C	Part 371.3: Characteristics of Hazardous Waste, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic
6.5[A]	Concentration exceeds the indicated standard.
15.2	Measured concentration did not exceed the indicated standard.
0.03 U	Analyte was not detected at a concentration greater than the laboratory reporting limit.
n/v	No standard/guideline value.
-	Parameter not analyzed / not available.
..	The principal organic contaminant standard for groundwater of 5 ug/L (described elsewhere in the TOGS table) applies to this substance.
p	Applies to the sum of cis- and trans-1,3-dichloropropene.
TJN	Result is a tentatively identified compound (TIC) and an estimated value. / Indicates an Estimated Value for TICs. / Presumptive evidence of material.

Table 5
Summary of Septic Tank Field Observations and Capacity Calculations
IRM Work Plan #2
820 Linden Ave Site, BCP #828200
820 Linden Avenue, Pittsford, NY

Remedial Area of Concern	Geographic Area	Tank ID	Depth to Lid (ft bgs)	Shape	Field Measurements			Field Measured Capacity (gal)	Historical/ Listed Capacity (gal)[c]	Tank Contents	Depth to Water (ft)	Water Column Height (ft)	Volume of Water (gal)	Depth to Soil/Sediment (ft)	Soil Column Height (ft)	Volume of Soil/Sediment (CY)
					L (ft)[e]	W (ft)[e]	H (ft)[f]									
RAOC-1	Southeast	TANK1 - SE[a]	1.75	Oval	6.3	4.0	3.25	483.7	500	Soil	N/A	N/A	N/A	0	3.25	3.0
RAOC-2	Southwest	TANK1 - SW	1.5	Rectangle	9.5	5.0	5.5	1954.3	1000	Water, and *de minimis* sediment/sludge layer[d]	3.5	1.8	639.6	5.3	0.2	0.4
RAOC-2	Southwest	TANK2 - SW	1.5	Rectangle	9.5	5.0	5.1	1812.2	1000	Water, and *de minimis* sediment layer[d]	3	1.9	675.1	4.9	0.2	0.4
RAOC-2	Southwest	TANK3 - SW	1.5	Rectangle	9.5	5.0	5.5	1954.3	1000	Water, and *de minimis* sediment layer[d]	3.4	1.9	675.1	5.3	0.2	0.4
RAOC-2	Southwest	TANK4 - SW[b]	1.5	Rectangle	9.5	5.0	5.5	1954.3	1000	Empty (thin layer of soil at base from test pit cuttings)[d]	N/A	N/A	N/A	5.3	0.2	0.4
RAOC-3	Northwest	TANK1 - NW[b]	3	Rectangle	9.2	4.5	6.0	1858.2	1000	Soil	N/A	N/A	N/A	0	6	9.2
RAOC-3	Northwest	TANK2 - NW	2.7	Rectangle	9.3	4.5	6.0	1878.4	1000	Empty (thin layer of soil at base from test pit cuttings)[d]	N/A	N/A	N/A	5.8	0.2	0.3
												Total Liquids	***1989.8***		***Total Solids***	***14.1***

Notes:
1. All measurements and calculated capacities are approximate.
2. Information presented is based on field observations collected on July 23 - 25, 2019.

[a] Tank height minimum estimated from test pit excavations to 5 ft bgs (tank bottom not determined).
[b] Tank height assumed based on confirmed height from other septic systems in the immediate vicinity with the same length and width.
[c] Based on historical sketches
[d] Sediment layer thickness conservatively estimated based on SRI observations
[e] External dimension
[f] Dimension from the tank bottom (internal) to the top of the tank lid (external)

Abbreviations:
ft = feet
ft bgs = feet below ground surface
N/A = not applicable
CY = cubic yards
gal = gallons

Area	Number of Tanks*	Number of Distribution Boxes*
Southeast	1	0
Southwest	4	1
Northwest	2	1

* encountered in SRI

Table 6
Summary of Proposed Sampling Activities
IRM Work Plan #2
820 Linden Ave BCP Site #C828200
820 Linden Avenue, Pittsford, NY

RAOC No.	Location ID	Approximate Proposed Depth (ft bgs)	Location and Purpose	Additional Details	Sample Medium, Number of Samples and Analyses: Soil Samples: TCL VOCs	TCL SVOCs	TCL PCBs	TCL Pesticides	TAL Metals	Cyanide	PFAS	1,4-Dioxane	pH	Ignitability
Investigation														
RAOC-1 SE Septic System	TANK1-SE	5-7	Investigation outside and beneath Tank 1	Sample depth is within 1-2 ft below estimated depth of tank bottom (5 ft bgs)	1	1	1	1	1	1				
	LF1-SE	3-5	Investigation in leach field (LF-1)	Sample depth is within 1-2 ft below estimated depth of drain tile bottom (3 ft bgs)	1	1	1	1	1	1				
	LF2-SE	3-5	Investigation in leach field (LF-2)	Sample depth is within 1-2 ft below estimated depth of drain tile bottom (3 ft bgs)	1	1	1	1	1	1				
	DBOX-SE	TBD	Investigation inside distribution box	If box is located, sample materials inside distribution box, if any are present.	1	1	1	1	1	1				
Confirmatory														
RAOC-4 Debris Pile	DP-CS1	0.5-1	Bottom Confirmatory under debris pile	Approximately 1 sample/900 sq ft		1								
RAOC-2 SW Septic System	TANK1-SW-CS1	5.5-6.0	Centerline bottom confirmatory sample under tank	1 sample /5 ft of tank length	1		1		1					
	TANK1-SW-CS2	5.5-6.0			1		1		1					
	TANK2-SW-CS1	5.1-5.6			1		1		1					
	TANK2-SW-CS2	5.1-5.6			1		1		1					
	TANK3-SW-CS1	5.5-6.0			1		1		1					
	TANK3-SW-CS2	5.5-6.0			1		1		1					
	TANK4-SW-CS1	5.5-6.0			1		1		1					
	TANK4-SW-CS2	5.5-6.0			1		1		1					
	LF-SW-CS1	3-3.5 ft	Bottom confirmatory sample under drain tile and any underlying gravel	Approximately 1 sample/900 sq ft	1		1		1					
	LF-SW-CS2	3-3.5 ft			1		1		1					
	LF-SW-CS3	3-3.5 ft			1		1		1					
	LF-SW-CS4	3-3.5 ft			1		1		1					
Imported Fill														
Imported Topsoil	IT-COMP1	N/A	Off-site topsoil to be imported	Based on an assumed imported volume of less than 100cubic yards		1	1	1	1		1	1		
	IT-DISC1	N/A			1									
	IT-DISC2	N/A			1									
Imported Fill	IF-COMP1	N/A	Off-site soil to be imported	Based on an assumed imported volume of 350 cubic yards		1	1	1	1		1	1		
	IF-COMP2	N/A				1	1	1	1		1	1		
	IF-DISC1	N/A			1									
	IF-DISC2	N/A			1									
	IF-DISC3	N/A			1									
	IF-DISC4	N/A			1									
Waste Characterization														
WC	TBD	N/A	Stockpile(s)	TBD based on disposal facility requirements	TBD based on disposal facility requirements									
				Anticipated totals [1]:	22	8	19	7	19	4	3	3	0	0

Key:

CS	Confirmatory Sample
DP	Debris pile
ft	feet
LF	Leach field
N/A	not applicable
PCBs	Polychlorinated biphenyls
PFAS	**P**er- and Poly**f**luoro**a**lkyl **S**ubstances
RAOC	Remedial Area of Concern
QA/QC	Quality Assurance/Quality Control
SIM	selective ion monitoring
sq ft	square feet
SVOCs	TCL Semivolatile organic compounds plus up to 20 TICs
TAL	USEPA's Target Analyte List
TBD	To be determined
TCL	USEPA's Target Compound List
TICs	Tentatively identified compounds
VOCs	TCL Volatile organic compounds plus up to 10 TICs Waste Characterization
WC	

Note:
1. This table represents an estimate of the number of samples to be collected and analyses performed. Actual numbers will be determined on the basis of conditions encountered in the field; and in accordance with NYSDEC Division of Environmental Remediation's Technical Guidance for Site Remediation's Technical Guidance for Site Investigation and Remediation, May 2010 (DER-10); and in consultation with NYSDEC.

APPENDIX A

Quality Assurance Project Plan Addendum

The QAPP presented in Stantec's 2017 RIWP will be utilized with the addendum provided herein.

Table 1
Required Sample Containers, Volumes, Sample Preservation, and Holding Times
Quality Assurance Project Plan
820 Linden Ave BCP Site #C828200
820 Linden Avenue, Pittsford, NY

Media	Type of Analysis	Method	Required Container	Preferred Sample Volume	Preservation	Maximum Holding Time
Soil	TCL VOCs + TICs	EPA 8260C	2 oz. cwm	2 oz.	Cool 4°C	14 days
	TCL SVOCs + TICs	EPA 8270D	4 oz. cwm	8 oz.	Cool 4°C	7 days
	TCL Pesticides	EPA 8081B				
	TCL PCBs	EPA 8082A				
	TAL Metals	EPA 6010C/7000 Series	4 oz. cwm	4 oz.	Cool 4°C	6 months; 28 days for mercury
	Cyanide	EPA 9012B	4 oz. cwm	4 oz.	Cool 4°C	14 days
	PFAS List[A]	EPA 537 [modified]	4 oz. plastic jar	4 oz.	Cool 4°C	14 day/40 day[B]
	1,4-dioxane	EPA 8270	4 oz cwm	4 oz.	Cool 4°C	7 day/40 day[B]
Rinsate Water	TCL plus CP-51 VOCs +TICs	EPA 8260C	(3) 40 ml glass vials	120 ml	pH < 2, HCl	14 days if acidified with HCl
	TCL SVOCs + TICs	EPA 8270D	(2) 250 ml amber glass jars	500 ml	Cool 4°C	7 day/40 day[B]
	TCL Pesticides	EPA 8081B	(2) 250 ml amber glass jars	500 ml	Cool 4°C	7 day/40 day[B]
	PCBs	EPA 8082A	(2) 250 ml amber glass jars	500 ml	Cool 4°C	10 day/40 day[B]
	TAL Metals	EPA 6010C/7000 Series	(1) 250 ml plastic jar	500 ml	pH < 2, HNO_3	6 months; 28 days for mercury
	Cyanide	EPA 9012B	(1) 250 ml plastic jar	250 ml	NaOH	14 days
	PFAS List[A]	EPA 537 [modified]	(2) 1 L amber glass	1 L	Cool 4°C	7 days to extract
	1,4-dioxane	EPA 8270 SIM	(2) 250 ml plastic jar	500 ml	Cool 4°C	14 days to extract

Key:

CP-51	NYSDEC Commissioner Policy (CP)-51
cwm	clear wide mouth jar
EPA	U.S. Environmental Protection Agency
HCl	hydrochloric acid
ml	milliliter
HNO_3	nitric acid
L	liter
PCBs	Polychlorinated biphenyls
PFAS	per- and polyfluoroalkyl substances
SIM	selective ion monitoring
SVOCs	semivolatile organic compounds
TAL	USEPA's Target Analyte List
TCL	USEPA's Target Compound List
TIC	tentatively identified compound
VOCs	volatile organic compounds
oz	ounces

Notes:
[A] Refers to the 21 PFAS compounds included on NYSDEC's "Full PFAS Target Analyte List"
[B] Represents the holding time from collection to extraction/from extraction to analysis.

Table 2
Summary of Field Quality Control Checks
Quality Assurance Project Plan Addendum
820 Linden Ave BCP Site #C828200
820 Linden Avenue, Pittsford, NY

Analysis Parameters	Analysis Method (USEPA SW846 method number)	Estimated Number of Site Samples	QA/QC Samples				Total Number of Samples
			Field Duplicates[1]	Trip Blanks[2]	Rinsate Blanks[3]	MS/MSD[4]	
Soil Sampling							
TCL VOCs	8260C	22	2	0	3	2/2	31
TCL SVOCs	8270D	8	1	0	3	1/1	14
TCL PCBs	8082A	19	1	0	3	1/1	25
TCL Pesticides	8081B	7	1	0	2	1/1	12
TAL Metals	6010C/7000 series	19	1	0	3	1/1	25
Cyanide	9012B	4	1	0	2	1/1	9
PFAS[5]	537 [modified]	3	1	0	1	1/1	7
1,4-dioxane	8270D	3	1	0	1	1/1	7

Key:

MS/MSD	Matrix Spike/Matrix Spike Duplicate
PCBs	polychlorinated biphenyls
PFAS	Per- and Polyfluoroalkyl Substances
QA/QC	Quality Assurance/Quality Control
SIM	TCL semivolatile organic compounds plus up to 20 TICs
SVOCs	TCL semivolatile organic compounds plus up to 20 TICs
TAL	USEPA's Target Analyte List
TCL	USEPA's Target Compound List
TICs	tentatively identified compounds
USEPA	United States Environmental Protection Agency
VOCs	TCL volatile organic compounds plus up to 10 TICs.

Notes:

[1] Field duplicates will be collected at a frequency of 1 per 20 samples for each sample medium.

[2] Trip blanks will be collected at a frequency of 1 per cooler containing aqueous samples to be analyzed for VOCs.

[3] Rinsate blanks will be collected at a frequency of 1 per mobilization for each sampling method using non-dedicated equipment. Certain paramters will not be collected with each method.

[4] MS/MSDs will be collected at a frequency of 1 per 20 samples for each sample medium.

[5] Refers to the 21 PFAS compounds included NYSDEC's "Full PFAS Target Analyte List"

APPENDIX B
Health and Safety Plan

Appendix B

Health and Safety Plan
Interim Remedial Measure Work Plan #2
820 Linden Ave BCP Site #828200
820 Linden Avenue
Pittsford, Monroe County, New York

Prepared for:
New York State Department of Environmental Conservation
6274 Avon-Lima Road
Avon, New York 14414 New York State Department of Environmental Conservation
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November 2019

APPENDIX C

HEALTH AND SAFETY PLAN
INTERIM REMEDIAL MEASURE WORK PLAN #2
820 LINDEN AVE BCP SITE #828200
820 LINDEN AVENUE
PITTSFORD, MONROE COUNTY, NEW YORK

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Abbreviations

1,1-DCE	1,1-dichloroethene
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
cis-1,2-DCE	cis-1,2-dichloroethene
COC	Contaminant of Concern
CVOC	chlorinated volatile organic compound
dB	decibel
DER	[NYSDEC] Division of Environmental Remediation
FTL	Field Team Leader
HASP	Health and Safety Plan
JML	JML Optical
NEC	National Electrical Code
Newport	Newport Corporation
NYSDEC	New York State Department of Environmental Conservation
OSHA	Occupational Safety and Health Administration
PCE	tetrachloroethene
PEL	Permissible Exposure Limit
PID	photoionization detector
ppm	parts per million
PPE	Personal Protective Equipment
RI	Remedial Investigation
SSO	Site Safety Officer
SWP	Safe Work Practice
TCE	trichloroethene
TSP	trisodium phosphate
TWA	Time Weighted Average
VOC	volatile organic compound

APPENDIX B

HEALTH AND SAFETY PLAN
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Introduction

1.0 INTRODUCTION

The following Health and Safety Plan (HASP) describes personal safety protection standards and procedures to be followed by Stantec staff during the implementation of planned Interim Remedial Measure Work Plan #2 activities for the 820 Linden Ave Site located at 820 Linden Avenue in Pittsford, New York (Figure 1).

This HASP establishes mandatory safety procedures and personal protection standards pursuant to the Occupational Safety and Health Administration (OSHA) regulations 29 Code of Federal Regulations (CFR) 1910.120. The HASP applies to all Stantec personnel conducting any Site work, as defined in 29 CFR 1910.120(a). All personnel involved in the mentioned activities must familiarize themselves with this HASP, comply with its requirements and have completed the required health and safety training and medical surveillance program participation pursuant to 29 CFR 1910.120 prior to beginning any work onsite.

THIS HASP IS FOR THE EXPRESS USE OF STANTEC EMPLOYEES. ALL OTHER CONTRACTORS TO BE WORKING IN THE EXCLUSION AREAS ARE REQUIRED BY LAW TO DEVELOP THEIR OWN HASP, AS WELL TO MEET ALL PERTINENT ASPECTS OF OSHA REGULATIONS. STANTEC RESERVES THE RIGHT TO STOP ANY SITE WORK WHICH IS DEEMED TO POSE A HEALTH AND SAFETY THREAT TO ITS STAFF OR OTHERS.

1.1 BACKGROUND

IRM Work Plan #2 (Work Plan) is being is being submitted to the New York State Department of Environmental Conservation (NYSDEC) for the 820 Linden Ave Site located at 820 Linden Avenue in the Town of Pittsford, Monroe County, New York. The objectives of IRM2 include addressing findings related to the debris pile and three historic septic systems.

The Site consists of an approximately 7.97-acre parcel located in the Town of Pittsford, Monroe County, New York. The Site is improved with an approximately 108,400 square foot slab-on-grade building. The southern tenant space in this building is approximately 70,200 square feet and is currently occupied by JML Optical (JML). The northern tenant space is approximately 38,200 square feet and is currently occupied by Newport Corporation (Newport). Both current tenants are optics manufacturing facilities.

1.2 HAZARD RECOGNITION

Several health and safety hazards associated with this Site and the anticipated job tasks to be performed as part of the RI have been identified and are listed below.

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HEALTH AND SAFETY PLAN
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Introduction

While in the field, new hazards may be identified as part of the field level risk assessment. This HASP should be updated to reflect new hazards as they are identified during the various investigation stages.

1.2.1 Health Hazards

The following is a list of the potential health hazards identified for the Site.

Chemical hazards include:

- Halogenated organic compounds;
- Polycyclic aromatic hydrocarbons (PAHs);
- Polychlorinated biphenyls (PCBs);
- Mercury;
- Petroleum hydrocarbons; and
- Solvents/flammables.

Physical hazards include:

- Cold stress/frostbite;
- Heat stress/sunburn;
- Driver fatigue;
- Dust/dusty environment;
- Flora or fauna (ticks and poison ivy known to be present);
- Noise; and
- Rough terrain/heavy brush.

1.2.2 Safety Hazards

The following is a list of the potential safety hazards identified for the Site.

Machine-related hazards include:

- Heavy equipment;
- Moving parts;
- Excavations (test pits);
- Pinch points; and
- Rotating parts.

Material handling hazards include:

- Load < 50 lbs; and
- Sharp/rough surface (drums).

1.3 HAZARD ASSESSMENT

At the minimum, Stantec personnel will review the following Stantec Safe Work Practices (SWPs) identified as being relevant to the Site and project tasks prior to implementation of the IRM.

- SWP 104 – Hazard Communication
- SWP 105 – Personal Protective Equipment (PPE)
- SWP 107 – First Aid
- SWP 111 – Medical Surveillance
- SWP 113 – Heat Stress
- SWP 114 – Working in Cold Environments
- SWP 115 – Material Handling and Safe Lifting
- SWP 124 – Safe Driving
- SWP 201 – Fall Protection/Working from Heights
- SWP 213 – Ground Disturbance and Overhead Utility
- SWP 214 – Entering Excavation and Trenches
- SWP 216 – Working Near Mobile Equipment
- SWP 314 – Working Around Hazardous Waste and Wastewater
- SWP 407 – Traffic Control and Protection Planning
- SWP 409 – Respiratory Protection
- SWP 416 – Supervision of Contracted Drilling Activities
- SWP 511 – Ticks and Tickborne Diseases

If new hazards are identified throughout the investigation, additional SWPs should be reviewed, if available. This process should occur prior to the commencement of field work and throughout the stages of the IRM.

1.4 SITE-SPECIFIC CHEMICALS OF CONCERN

A detailed description of prior investigation results is provided in the 2017 RIWP. The Remedial Investigation Report (RIR) presented a detailed description of the RI and SRI investigations, results, and conclusions. An overview of the applicable findings is included below with an emphasis on the Site-specific chemicals of concern (COCs).

Three Areas of Concern (AOCs) have been identified at the Site based on findings from the RI, SRI, and the 2016-2017 Phase II ESA and are summarized below.

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- AOC-1: Chlorinated Volatile Organic Compounds (VOCs) have been identified in sub-slab soil vapor beneath the JML tenant space at concentrations requiring mitigation. Chlorinated VOC impacts to sub-slab vapor were first identified from historical PSG surveys. The potential for SVI was investigated by Stantec through combined sub-slab vapor and indoor air sampling in 2016-2017 as part of the Limited Phase II ESA (Stantec, 2017b). The following chlorinated VOCs were identified as COCs for this media: 1,1-DCE; cis-1,2-DCE; PCE; and TCE. No source has been identified despite extensive shallow and deep soil and groundwater investigations in the areas of impact. Potential exposure has been or is being addressed through implementation of IRM1 and IRM3 with the installation and operation of the SSDS, which will be subject to the long-term OM&M Plan as well as the site-wide SMP.

- AOC-2: The debris pile located in the northeast corner of the parking lot area was found to contain elevated levels of PAHs [benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; indeno(1,2,3-cd)pyrene] associated with significant crushed asphalt contents. Removal of this debris pile will be conducted in IRM2 with confirmatory sampling conducted.

- AOC-3: Three former septic systems were identified during the test pit program. The buried structures will be addressed through proposed system removal or in place closure through this Work Plan. Potential COCs associated with the septic systems include:

    - PAHs (fluoranthene and phenanthrene) detected in a black tar-like substance above the distribution box at the Northwest Septic System; and

    - PCE, Freon 113, PCBs and mercury detected in samples within the tanks in the Southwest Septic System.

As per the RIR, instances where there were exceedances of Commercial or POGW SCOs or Groundwater standards or guidance values, but the issue does not rise to the level of an AOC include:

- An isolated exceedance of the Commercial SCO for mercury in the sample adjacent to Northwest Septic System Tank 2. This sample was taken at 8-10 ft bgs and due to its isolated location and depth, and the proposed site use, it is not considered a concern.

- The PAH benzo(a)pyrene was the single semi-volatile organic compound (SVOC) reported to exceed Commercial SCOs in surface soil. It was detected at 0-2 inches at a concentration of 1,800 micrograms per kilogram (µg/kg) versus the respective Commercial and Industrial SCOs of 1,000 and 1,100 µg/kg in a composite sample SS-4. The SS-4 composite was derived from discrete sampling locations SS-4a, SS-4b, and SS-4c

along the vegetated berm near the eastern property line. This concentration is considered to be typical of a developed, urban setting.

- TCE was identified in groundwater in the eastern parking lot area in B/MW-101, B/MW-104, and B/MW-105. The inferred direction of groundwater flow suggests an off-Site source particularly given the non-detect results for all of the wells closer to the Site building. Potential exposure pathways are addressed through implementation of IRM1 and IRM3, and preparation of the SMP.

- Acetone impacts to groundwater beneath the building were identified during Stantec's Limited Phase II ESA (Stantec, 2017b). Delineation of these impacts was addressed during the RI, which confirmed that groundwater acetone impacts are limited to beneath the building. Levels of acetone reported in Site soil samples meet both Commercial and Industrial SCOs, but in some cases exceed the POGW SCO.

Table 1 summarizes health and safety data for the COCs, and the SDSs for the COCs is included in HASP Appendix A.

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Stantec Personnel Organization

2.0 STANTEC PERSONNEL ORGANIZATION

Below is a list of **Project Contact** information:

Title	Name	Company	Phone Number
Stantec Office	Rochester, NY	Stantec	(585) 475-1440
Project Manager	Stephanie Reynolds-Smith, PG	Stantec	(585) 413-5272 c. (585)298-2382
Project Remedial Engineer	Kevin Ignaszak, PE	Stantec	(585) 413-5355
Site Safety Officer/Field Team Leader	Laura Best	Stantec	(585) 413-5327 c. (585) 301-0166
Site Safety Officer/Field Team Leader	Amanda Kelly, EIT	Stantec	(585) 413-5370 c. (585) 319-9499
Site Safety Officer/Field Team Leader	Amanda Matkowsky	Stantec	(585) 413-5208 c. (585) 285-3598
Site Safety Officer/Field Team Leader	Kyle Stone, EIT	Stantec	(585) 413-5209 c. (585) 284-6433
After-Hours Project Contact	Stephanie Reynolds-Smith, PG	Stantec	c. (585) 298-2382
After-Hours Project Contact [alternate]	Mike Storonsky	Stantec	c. (585) 298-2386
Client (Ridgecrest Associates)	Joe Lobozzo	Ridgecrest Associates	c. (585) 766-3949
Primary Facility Contact - JML	Steve Burton	JML	c. (585) 218-2906
Facility Contact - JML (Until 4:00 pm)	Mark Zaso	JML	c. (315) 289-3038
Facility Contact - JML (4:00 pm – 2:00 am)	Corbin Beck	JML	c. (585) 314-2663
Primary Facility Contact -Newport	Brian Grove	Newport	c. (585) 739-6046
Office Safety Environment Coordinator	Michele D'Agostino	Stantec	(585) 413-5206
Local HR Representative	Keith Kiss	Stantec	(585) 413-5228 c. (585) 287-4502
Stantec Corporate HSE Representative (US Northeast)	Fred Miller, CSP	Stantec	(610) 235-7315
Stantec Public Relations Specialist, US Northeast	Trevor Eckart	Stantec	(215) 665-7187

The following describes the Stantec personnel involved in health and safety operations at the 820 Linden Ave Site located at 820 Linden Avenue in Pittsford, NY.

2.1 PROJECT MANAGER

The Project Manager is responsible for ensuring that all Stantec procedures and methods are carried out, and that all Stantec personnel abide by the provisions of this HASP.

2.2 SITE SAFETY OFFICER/FIELD TEAM LEADER

The Site Safety Officer (SSO) and Field team leader (FTL) will report directly to the Project Manager and will be responsible for the implementation of this HASP as well as daily calibration of Stantec's safety monitoring instruments. The FTL/SSO will keep a log book of all calibration data and instrument readings for the Site that will be utilized by the field team onsite during the various IRM activities.

2.3 DAILY MEETINGS

All Stantec personnel and contractors working within the exclusion zone will be required to sign off on the daily safety meeting form presented in HASP Appendix B.

3.0 MEDICAL SURVEILLANCE REQUIREMENTS

3.1 INTRODUCTION

Hazardous waste site workers can often experience high levels of physical and chemical stress. Their daily tasks may expose them to toxic chemicals, physical hazards, biologic hazards, or radiation. They may develop heat stress while wearing protective equipment or working under temperature extremes, or face life-threatening emergencies such as explosions and fires. Therefore, a medical program is essential to: assess and monitor worker's health and fitness both prior to employment and during the course of the work; provide emergency and other treatment as needed; and keep accurate records for future reference. In addition, OSHA requires a medical evaluation for employees that may be required to work on hazardous waste sites and/or wear a respirator (29 CFR Part 1910.120 and 1910.134), and certain OSHA standards include specific medical surveillance requirements (e.g., 29 CFR Part 1926.62, Part 1910.95 and Parts 1910.1001 through 1910.1045).

3.2 MEDICAL EXAMINATIONS

All Stantec personnel working in areas of the Site where Site-related contaminants may be present shall have been examined by a licensed physician as prescribed in 29 CFR Part 1910.120,

and determined to be medically fit to perform their duties for work conditions which require respirators. Employees will be provided with medical examinations as outlined below:

- Pre-job physical examination
- Annually thereafter if contract duration exceeds 1 year;
- Termination of employment;
- Upon reassignment in accordance with 29 CFR Part 1910.120(e)(3)(i)(C);
- If the employee develops signs or symptoms of illness related to workplace exposures;
- If the physician determines examinations need to be conducted more often than once a year; and
- When an employee develops a lost time injury or illness during the contract period.

Examinations will be performed by, or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and will be provided without cost to the employee, without loss of pay and at a reasonable time and place. Medical surveillance protocols and examination and test results shall be reviewed by an Occupational Physician.

4.0 ONSITE HAZARDS

4.1 CHEMICAL HAZARDS

The primary chemical hazards onsite are detailed in Table 1. SDSs for the anticipated compounds presenting potential chemical exposure hazards are provided in Appendix A.

Any activity at the Site which causes physical disturbance of the soil can potentially allow the release of contaminants into the air. For volatiles, this can include release of organic vapors into the air. Such an occurrence may be recognized by noticeable chemical odors. Field personnel should be aware of the odor threshold for these chemicals and their relation to the action levels and PELs (see Table 1).

Symptoms of overexposure to primary compounds of concern are detailed in Table 1. To prevent exposure to these chemicals, dermal contact will be minimized by using disposable surgical gloves with work gloves (as appropriate) when handling soil, groundwater equipment or samples. Real time, breathing zone levels of total VOCs will be monitored using a portable photoionization detector (PID). If ambient levels exceed action levels, all Site activities will be performed using Level C PPE until ambient concentrations dissipate. Where levels exceed 50 parts per million (ppm), work will cease and the project manager will be notified immediately.

Intrusive work may also be halted where required by action levels detailed in the Community Air Monitoring Plan (CAMP), Appendix C of the IRM Work Plan.

Depending on seasonal conditions, disturbance of the Site soils may cause the particulate contaminants to become airborne as dust. Therefore, particulates will be monitored as discussed in Section 6.1 and dust-suppression methods used where appropriate as discussed in Section 6.2, or in the CAMP. Additionally, aeration of the groundwater may cause volatilization of chemicals into the air, particularly VOCs.

Table 2 summarizes first aid instructions for exposure pathways for the Site COCs.

4.2 PHYSICAL HAZARDS

The following sub-sections describe the physical hazards anticipated to be encountered at this Site. Field team members will wear the basic safety apparel such as steel-toed shoes, hard hat, safety vest, and safety glasses during all appropriate activities. See Section 7 Personal Protective Equipment for additional information.

4.2.1 Drilling and Excavation Activities

Hazards typically encountered at construction sites with drilling and excavation activities will be a concern at this Site. These hazards include slippery ground surfaces, holes, exposure to chemical vapors, and operation of heavy and mobile machinery and equipment.

Excavation

The potential exists for falling into the excavation due to a slip or trip and also due to potential caving of the test pit sidewalls. During the excavation, field personnel will generally perform observation from the end of the excavation opposite the excavation equipment and will avoid standing along the long sidewalls of the pit. If it is necessary to make observations from a point along the long side of the excavation, they will maintain adequate distance between themselves and the excavation walls, and be mindful of signs that caving may be likely. These could include raveling of sidewall material into the pit, or the development of cracks in the ground surface.

Field personnel will not enter excavations deeper than four feet. Field personnel will not approach within six feet of any excavation that is ten feet or greater in depth without the presence of a fall prevention of fall arrest system in place and functioning.

The test pit contractor shall make all necessary contacts with utilities and/or underground utility locater hotlines prior to digging.

Drilling

Under no circumstances will Stantec personnel approach the borehole during active drilling operation. All field personnel working around the rig will be shown the location and operation of kill switches, which are to be tested daily.

The driller shall make all necessary contacts with utilities and/or underground utility locater hotlines prior to drilling, and shall meet OSHA requirements for distances between the drilling rig and overhead utilities. No drilling work will be carried out where the drill rig chassis has not been stabilized and the rig is not to be moved between locations with its boom in a vertical position.

As with any soil disturbance, monitoring for VOCs with a PID will be performed continuously during drilling, test pit excavation, and logging/sampling activities. Work will be stopped and the area vacated if sustained PID readings are observed at concentrations in excess of the Action Levels specified in Section 6.

Multi-purpose fire extinguishers, functional and within the annual inspection period, will be staged and readily accessible for use.

The use of electrical equipment in any established exclusion zones will be limited to areas verified as containing non-explosive atmospheres (<10% LEL) prior to operation, unless the equipment has been previously demonstrated or designed to be FM or UL rated as intrinsically safe. Care will be taken to avoid an ignition source while working in the presence of vapors.

4.2.2 Roadway Hazards

Field activities may take place near active roadways and/or parking lots with vehicle traffic. Where such work zones are established, personnel shall assure that protective measures including signage, cones, and shielding through use of vehicles parked at workmen perimeter, are in place. All contractors shall be responsible for meeting signage requirements of DOT. Fluorescent safety vests shall be worn by all personnel during activities in or adjacent to roadways and driveways.

4.2.3 Noise

Operation of heavy machinery and equipment may result in noise exposures, which require hearing protection. Exposure to noise can result in temporary hearing losses, interference with speech communication, interference with complicated tasks, or permanent hearing loss due to repeated exposure to noise.

During the investigative activities, all Stantec field team members will use hearing protection when sound levels are in excess of 90 decibels (dB) time weighted average (TWA). In the absence of noise dosimetry data, field personnel will wear hearing protection during the test boring and monitoring well installation program, and where mandatory per JML/Newport standards when working indoors. Other instances requiring hearing protection may include use of hand power tools.

4.2.4 Heat and Cold Stress Exposure

Heat is a potential threat to the health and safety of Site personnel. The SSO under the direction of the Project Manager will determine the schedule of work and rest. These schedules will be employed as necessary so that personnel do not suffer adverse effects from heat. Table 3 summarizes exposure symptoms and first aid instructions for heat stress. Non-caffeinated, thirst replenishment liquids will be available onsite.

Cold stress is also a potential threat to the health and safety of Site personnel. Symptoms of cold stress include, shivering, blanching of the extremities, numbness or burning sensations, blue, purple or gray discoloration of hands and feet, frostbite, hypothermia, and loss of consciousness. Cold stress can be prevented by acclimatizing one's self to the cold, increasing fluid intake, avoiding caffeine and alcohol, maintaining proper salt and electrolyte intake, eating a well-balanced diet, wearing proper clothing, building heated enclosures to work in, and taking regular breaks to warm up. If any of the above symptoms are encountered the person should be removed from the cold area. Depending on the severity of the cold stress, 911 should be contacted and first aid administered. No fluids should be given to an unconscious person.

4.2.5 Weather-Related Hazards

Weather-related hazards include the potential for heat or cold stress (described in Section 4.2.4), electrical storms, treacherous weather-related working and/or driving conditions, or limited visibility. These hazards correlate with the season in which Site activities occur. Outside work will be suspended during electrical storms. Site work will not be resumed until 30 minutes have passed without thunder and lightning. In the event of other adverse weather conditions, the

SSO, in consultation with the project manager, if needed, will determine if work can continue without endangering the health and safety of Site personnel.

4.2.6 Poison Ivy

Poison ivy has been identified along the western side of the northern Site boundary, near the Northwest Septic System. It is a plant that is found throughout much of North America. Poison ivy can be a shrub, vine or groundcover. It has sets of three glossy leaves with the stalk of the middle leaf longer than the outside leaves. It can cause an allergic reaction after contact with its active oil (urushiol). Reactions develop over a period of time, often taking hours or days. Reactions consist of itching and burning that develops into a reddish colored inflammation or non-colored bumps, followed by blistering. Treatment includes removal of all contaminated clothing and footwear without further skin contact and washing with a product such as Tecnu®. Antihistamine creams are often helpful, but severe cases may require prescription medication.

4.2.7 Ladders

Over one-third of worker deaths in construction result from falls (https://www.osha.gov/oshstats/commonstats.html). Many falls occur because ladders are not placed or used safely. Ladder use will comply with OSHA 1926.1053 through 1926.1060, including the following safety requirements.

STEP	PROPER LADDER USE PROCEDURE
1	Choose the right ladder for the task including the proper type and size, with a sufficient rating for the task.
2	Check the condition of the ladder before climbing. • Do not use a ladder with broken, loose, or cracked rails or rungs. • Do not use a ladder with oil, grease, or dirt on its rungs. • The ladder should have safety feet.
3	Place the ladder on firm footing, with a four-to-one pitch.
4	Support the ladder by: • Tying it off; • Using ladder outrigger stabilizers; or • Have another worker hold the ladder at the bottom. If another worker holds the ladder, they must: • Wear a hard hat; • Hold the ladder with both hands; • Brace the ladder with their feet; and • Not look up.
5	Keep the areas around the top and bottom of the ladder clear.

STEP	PROPER LADDER USE PROCEDURE
6	Extend the top of the ladder at least 36 inches (3 feet) above the landing.
7	Climb the ladder carefully - facing it - and use both hands. • Use a tool belt and hand-line to carry material to the top or bottom of the ladder. • Wear shoes in good repair with clean soles.
8	Inspect the ladder every day, prior to use, for the following problems: • Rail or rung damage • Broken feet • Rope or pulley damage • Rung lock defects or damage • Excessive dirt, oil, or grease If the ladder fails inspection, it must be removed from service and tagged with a "Do Not Use" sign.

4.2.8 Hand and Power Tools

All hand and power tools will be maintained in a safe condition and in good repair. Hand and power tools will be used in accordance with 29 CFR 1926, Subpart I (1926.300 through 1926.307). Neither Stantec nor its subcontractors will issue unsafe tools, and workers are not permitted to bring unsafe tools onsite. All tools will be used, inspected, and maintained in accordance with the manufacturer's instructions. Throwing tools or dropping tools to lower levels is prohibited. Hand and power tools will be inspected, tested, and determined to be in safe operating condition prior to each use. Periodic safety inspections of all tools will be conducted to assure that the tools are in good condition, all guards are in place, and the tools are being properly maintained. Any tool that fails an inspection will be immediately removed from service and tagged with a "Do Not Use" sign.

Workers using hand and power tools, who are exposed to falling, flying, abrasive, or splashing hazards will be required to wear personal protective equipment (PPE). Eye protection must always be worn when working onsite. Additional eye and face protection, such as safety goggles or face shields, may also be required when working with specific hand and power tools. Workers, when onsite, will wear hard hats. Additional hearing protection may be required when working with certain power tools. Workers using tools, which may subject their hands to an injury, such as cuts, abrasions, punctures, or burns, will wear protective gloves. Loose or frayed clothing, dangling jewelry, or loose long hair will not be worn when working with power tools, or near others operating machinery or equipment with moving or rotating parts.

Onsite Hazards

Electric power-operated tools will be double insulated or grounded, and equipped with an on/off switch. Guards must be provided to protect the operator and other nearby workers from hazards such as in-going nip points, rotating parts, flying chips, and sparks. All reciprocating, rotating and moving parts of tools will be guarded if contact is possible. Removing machine guards is prohibited.

Abrasive wheels will only be used on equipment provided with safety guards. Safety guards must be strong enough to withstand the effect of a bursting wheel. Abrasive wheels will not be operated in excess of their rated speed. Work or tool rests will not be adjusted while the wheel is in motion. All abrasive wheels will be closely inspected and ring tested before each use, and any cracked or damaged wheels will be removed immediately and destroyed.

Circular saws must be equipped with guards that completely enclose the cutting edges and have anti-kickback devices. All planer and joiner blades must be fully guarded. The use of cracked, bent, or otherwise defective parts is prohibited. Chain saws must have an automatic chain brake or kickback device. The worker operating the chain saw will hold it with both hands during cutting operations. A chain saw must never be used to cut above the operator's shoulder height. Chain saws will not be re-fueled while running or hot. Power saws will not be left unattended.

Only qualified workers will operate pneumatic tools, powder-actuated tools, and abrasive blasting tools.

4.2.9 Manual Lifting

Back injuries are among the leading occupational injuries reported by industrial workers. Back injuries such as pulls and disc impairments can be reduced by using proper manual lifting techniques. Leg muscles are stronger than back muscles, so workers should lift with their legs and not with their back. Proper manual lifting techniques include the following steps:

STEP	PROPER MANUAL LIFTING PROCEDURE
1	Plan the lift before lifting the load. Take into consideration the weight, size, and shape of the load.
2	Preview the intended path of travel and the destination to ensure there are no tripping hazards along the path.

STEP	PROPER MANUAL LIFTING PROCEDURE
3	Wear heavy-duty work gloves to protect hands and fingers from rough edges, sharp corners, and metal straps. Also, keep hands away from potential pinch points between the load and other objects.
4	Get the load close to your ankles, and spread your feet apart. Keep your back straight and do not bend your back too far; instead bend at your knees.
5	Feel the weight; test it.
6	Lift the load smoothly, and let your legs do the lifting. If you must pivot, do not swing just the load; instead, move your feet and body with the load.

If the load is too heavy, then do not lift it alone. Lifting is always easier when performed with another person. Assistance should always be used when it is available, particularly when walking on uneven terrain, up/down stairs and near moving vehicles (or in other situations where sightlines are necessary).

4.2.10 Lock-Out/Tag-Out

Before a worker sets up, services, or repairs a system where unexpected energizing (or release of stored energy) could occur and cause injury or electrocution, the circuits energizing the parts must be locked-out and tagged. Only authorized personnel will perform lock-out/tag-out procedures. All workers affected by the lock-out/tag-out will be notified prior to, and upon completion of, the lock-out/tag-out procedure.

Lock-out/tag-out devices must be capable of withstanding the environment to which they are exposed. Locks will be attached in such a way as to prevent other personnel from operating the equipment, circuit, or control, or from removing the lock unless they resort to excessive force. Tags will identify the worker who attached the device, and contain information, which warns against the hazardous condition that will result from the system's unauthorized start-up. Tags must be legible and understood by all affected workers and incidental personnel. The procedures for attaching and removing lock-out/tag-out devices include the steps outlined in the following table.

If maintenance work is required, the electrical supply to the equipment must be disconnected. Turning off the MAIN breaker using the disconnect switch will disconnect all power to the system.

Onsite Hazards

Once the disconnect switch has been turned off, the switch will be locked-out using the steps outlined below.

STEP	LOCK-OUT/TAG-OUT PROCEDURES
1	Disconnect the circuits and/or equipment to be worked on from all electrical energy sources.
2	Ensure that the system is completely isolated so that it cannot be operated at that shut-off point or at any other location.
3	Release stored electrical energy.
4	Block or relieve stored non-electrical energy.
5	Place a lock on each shut-off or disconnect point necessary to isolate all potential energy sources. Place the lock in such a manner that it will maintain the shut-off/disconnect in the off position.
6	Place a tag on each shut-off or disconnect point. The tag must contain a statement prohibiting the unauthorized re-start or re-connect of the energy source and the removal of the tag, and the identity of the individual performing the tag and lock-out.
7	Workers who will be working on the system must place their own lock and tag on each lock-out point.
8	A qualified person must verify the system cannot be re-started or re-connected, and de-energization of the system has been accomplished.
Once the service or repairs have been made on the system:	
9	A qualified person will conduct an inspection of the work area, to verify that all tools, jumpers, shorts, grounds, etc., have been removed so that the system can then be safely re-energized.
10	All workers stand clear of the system.
11	Each lock and tag will be removed by the worker who attached it. If the worker has left the Site, then the lock and tag may be removed by a qualified person under the following circumstances:
	a. The qualified person ensures the worker who placed the lock and tag has left the Site; and
	b. The qualified person ensures the worker is aware the lock and tag has been removed before the worker resumes work on-site.

No Stantec personnel are permitted to perform lock-out/tag-out work without prior approval of the Project Manager and completion of required specialized training.

4.2.11 Electrical Work

Site work involving electrical installation or energized equipment must be performed by a qualified electrician. All electrical work will be performed in accordance with the OSHA electrical safety requirements found in 29 CFR 1926.400 through 1926.449. Workers are not permitted to work near electrical power circuits unless the worker is protected against electric shock by de-energizing and grounding the circuit or by guarding or barricading the circuit and providing proper PPE. All electrical installations must comply with National Electric Code (NEC) regulations. All electrical wiring and equipment used must be listed by a nationally recognized testing laboratory.

All electrical circuits and equipment must be grounded in accordance with the NEC regulations. The path to ground from circuits, equipment, and enclosures will be permanent and continuous. Ground Fault Circuit Interrupters (GFCIs) are required on all 120-volt, single phase, 15- and 20-amp outlets in work areas that are not part of the permanent wiring of the building or structure. A GFCI is required when using an extension cord. GFCIs must be tested regularly with a GFCI tester.

Heavy-duty extension cords will be used; flat-type extension cords are not allowed. All extension cords must be the three-wire type, and designed for hard/extra hard usage. Electrical wire or cords passing through work areas must be protected from water and damage. Worn, frayed, or damaged cords and cables will not be used. Walkways and work spaces will be kept clear of cords and cables to prevent a tripping hazard. Extension cords and cables may not be secured with staples, hung from nails, or otherwise temporarily secured. Cords or cables passing through holes in covers, outlet boxes, etc., will be protected by bushings or fittings.

All lamps used in temporary lighting will be protected from accidental contact and breakage. Metal shell and paper-lined lamp holders are not permitted. Fixtures, lamp holders, lamps, receptacles, etc. are not permitted to have live parts. Workers must not have wet hands while plugging/unplugging energized equipment. Plugs and receptacles will be kept out of water (unless they are approved for submersion).

5.0 SITE WORK ZONES

The following work zones will be delineated by Stantec during the investigation activities.

5.1 CONTROL ZONES

Control boundaries will be established within the areas of Site activities. Examples of boundary zones include the exclusion and decontamination zone. All boundaries will be dynamic, and will be determined by the planned activities for the day. The FTL will record the names of any visitors to the Site.

5.2 EXCLUSION ZONE

The controlled portion of the Site will be delineated to identify the exclusion zone, wherein a higher level of PPE may be required for entry during intrusive activities. The limits of the exclusion zone will be designated at each work location appropriately. A decontamination zone will be located immediately outside the entrance to the exclusion zone. All personnel leaving the exclusion zone will be required to adhere to proper decontamination procedures.

A "super exclusion" zone will be established around the borehole which will not be entered by Stantec personnel at any time during any active drilling, slambar, cathead, silica sand dumping, or other related activities. The drilling contractor will be directed to stop such activity when Stantec Site team members have a need to enter this zone.

5.3 DECONTAMINATION ZONE

The decontamination zone will be located immediately outside the entrance to the exclusion zone on its apparent upwind side, if feasible, and will be delineated with caution tape and traffic cones as needed. This zone will contain the necessary decontamination materials for personnel decontamination. Decontamination procedures are outlined in Section 8.0 of this plan.

6.0 SITE MONITORING AND ACTION LEVELS

6.1 SITE MONITORING

Field activities associated with drilling, excavation, and sampling may create potentially hazardous conditions due to the migration of contaminants into the breathing zone. These substances may be in the form of mists, vapors, dusts, or fumes that can enter the body through ingestion, inhalation, absorption, and direct dermal contact. Monitoring for VOCs and particulates will be performed as needed to ensure appropriate personal protective measures are employed during Site activities.

A separate CAMP has also been developed (Appendix C of the IRM Work Plan) to protect the surrounding neighborhood. It is assumed that continuous downwind particulate and VOC monitoring will be required during the test pit and drilling programs.

The following describes the conditions that will be monitored for during the investigation activities. All background and Site readings will be logged, and all instrument calibrations, etc., will be logged.

Organic Vapor Concentrations – During drilling, organic vapors will be monitored continuously in the breathing zone in the work area with a portable PID, such as a miniRAE Model 3000 with a 10.2 eV lamp. The instrument will be calibrated daily or as per the manufacturer's recommendations. PID readings will be used as the criteria for upgrading or downgrading protective equipment and for implementing additional precautions or procedures.

Split spoons or other soil sampling devices will be monitored using the PID at the time they are opened, with appropriate PPE to be used where soils exhibit measurable VOC levels.

Particulates - Stantec will perform particulate monitoring with an aerosol monitor (such as the TSI 8530 DustTrak II) within the outdoor work area to monitor personal exposures to particulates and to compare work area readings with downwind and upwind readings. The first readings of the day will be obtained prior to the commencement of work to obtain a daily background reading, and the instrument will be zeroed daily and calibrated to manufacturer's specifications. Readings will be manually recorded approximately every 30 minutes thereafter. If the work area particulate levels exceed the background levels by more than 0.15 mg/m^3, the Contractor will be instructed to implement dust suppression measures.

6.2 ACTION LEVELS

During the course of any activity, as long as sustained PID readings in the breathing zone are less than 5 ppm above background, Level D protection will be considered adequate. Level C protection will be required when VOC concentrations in ambient air in the work zone are sustained at levels exceeding 5 ppm total VOCs above background but remain below 50 ppm total VOCs. Onsite use of VOCs (including acetone, toluene, and methylene chloride) within one or both tenant spaces may contribute to background VOCs, particularly given assumed operation of ventilation/exhaust systems.

If concentrations in the work zone exceed 50 ppm for a period of 5 minutes or longer, work will immediately be terminated by the SSO. Options to allow continued drilling would then be discussed amongst all parties. Supplied-air respiratory protection is generally required for drilling

to resume under these conditions. If Level B protection is not used, work may resume in Level C once monitoring concentrations have decreased below 50 ppm and conditions outlined in the CAMP are met.

If the monitoring of fugitive particulate levels within the work area exceeds 0.15 mg/m^3 above background, then the drilling Contractor will be directed to implement fugitive dust control measures which may include use of engineering controls such as water spray at the borehole.

7.0 PERSONAL PROTECTIVE EQUIPMENT

Based on an evaluation of the hazards at the Site, PPE will be required for all personnel and visitors entering the drilling exclusion zone(s). It is anticipated that all Stantec oversight work will be performed in Level D. All contractors will be responsible for selection and implementation of PPE for their personnel.

7.1 PROTECTIVE CLOTHING/RESPIRATORY PROTECTION

Protective equipment for each level of protection is as follows:

If PID readings are above 50 ppm, requiring an upgrade to Level B, Site work will be halted pending review of conditions and options by Stantec and other involved parties.

When PID readings range between 5 and 50 ppm, upgrade to Level C:

Level C

- Full face, air purifying respirator with organic/HEPA cartridge;
- Disposable chemical resistant one-piece suit (Tyvek or Saranex, as appropriate);
- Inner and outer chemical resistant gloves;
- Hard hat;
- Steel-toed boots; and
- Disposable booties.

When PID readings range between background and 5 ppm use Level D:

Level D

- Safety glasses;
- Steel-toed boots;

- Protective cotton, latex or leather gloves depending on Site duties;
- Hard hat; and
- Tyvek coverall (optional).

Stantec employees are expected to wear long sleeves when doing so would not pose an additional hazard (i.e. heat stress). Steel-toed boots should be approximately 6" to provide sufficient ankle protection. Safety vests should be worn for visibility; alternatively, bright colored shirts (safety yellow, for example) can be utilized when reflective properties of the safety vests are not necessary.

Caution will be taken to avoid direct skin contact with poison ivy, leaf litter, root systems, and the soil in contact with roots. Individuals known to be sensitive to poison ivy should not work in this area of the site. If sensitive individuals cannot avoid working in this area, after approval from their business center managing leader (BCML), a Tyvek like clothing with hood will be worn and a full-face respirator will be used to provide complete body coverage, regardless of PID readings. In the warmer months, KleenGuard, which is lighter than Tyvek, should be considered.

8.0 DECONTAMINATION

8.1 PERSONAL DECONTAMINATION

For complete decontamination, all personnel will observe the following procedures upon leaving the exclusion zone:

1. If worn, remove disposable outer boots and outer gloves and place in disposal drum.
2. If using a respirator, remove respirator, dispose of cartridges if necessary, and set aside for later cleaning.
3. If worn, remove disposable chemical resistant suits and dispose of articles in drum.
4. Remove and dispose of inner gloves.

Decontamination solutions shall be supplied at the decontamination zone. The wash solution will consist of water and detergent such as Alconox or trisodium phosphate (TSP), and the rinse solution will consist of clean water.

Contaminated wash solutions shall be collected in drums for disposal. All other disposable health and safety equipment will be decontaminated and disposed of as non-hazardous waste.

When working in the vicinity of poison ivy, washing with Tecnu® or a similar product subsequent to site work will be required.

8.2 EQUIPMENT DECONTAMINATION

If equipment is used during field activities, it will be properly washed or steam-cleaned prior to exiting the decontamination zone. Any needed pre- or post-use rinsing using solvents will be done wearing appropriate PPE.

When feasible, monitoring instruments will be either wrapped in plastic or carried by personnel not involved in handling contaminated materials, to reduce the need for decontamination. All instruments will be wet-wiped prior to removal from the work zone.

9.0 EMERGENCY PROCEDURES

The SSO will coordinate emergency procedures and will be responsible for initiating emergency response activities. Emergency communications at the Site will be conducted verbally and by means of an air or vehicle horn. All personnel will be informed of the location of the cellular telephone and horn. Three blasts on the air or vehicle horn will be used to signal distress.

9.1 LIST OF EMERGENCY CONTACTS

Ambulance: 911

Hospital: Highland Hospital: (585) 473-2200

Fire Department: 911

Police: 911

Poison Control Center: 1-800-222-1222

Utility Emergency: 911

9.2 DIRECTIONS TO HOSPITAL

Maps presenting directions to the nearest hospital (Highland Hospital) and urgent care centers (UR Medicine Urgent Care centers on Monroe Avenue and Penfield Road) are provided in

Figure 2. The routes shall be reviewed at the initial Site safety meeting onsite and as needed for Site orientation if new personnel are added to the field team.

9.3 ACCIDENT INVESTIGATION AND REPORTING

The incident reporting form and protocol is included in Appendix C.

In the event that an accident or some other incident such as an explosion or exposure to toxic chemicals occurs during the course of the project, the Project Manager will be telephoned as soon as possible and receive a written notification within 24 hours (see Appendix C).

Where reportable injuries, hospitalizations or fatalities occur amongst Stantec personnel, the necessary document required by OSHA will be submitted within timeframes allowed by law.

APPENDIX B

HEALTH AND SAFETY PLAN
INTERIM REMEDIAL MEASURE WORK PLAN #2
820 LINDEN AVE BCP SITE #828200
820 LINDEN AVENUE
PITTSFORD, MONROE COUNTY, NEW YORK

TABLES

Stantec

Table 1
Health and Safety Data for COCs
Interim Remedial Measure #2
Health and Safety Plan
820 Linden Ave Site
820 Linden Avenue, Pittsford, NY

Compound	OSHA PEL[1]	NIOSH REL[2]	ACGIH TLV[3]	Physical Description	Odor Threshold in Air	Route of Exposure	Symptoms	Target Organs
Acetone	1000 ppm	250 ppm	250 ppm 500 ppm STEL	Colorless liquid with a fragrant, mint-like odor	20 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, nose, throat; headache, dizziness, central nervous system depression; dermatitis	Eyes, skin, respiratory system, central nervous system
Aroclor 1254/PCBs	0.5 mg/m³	0.001 mg/m³	0.05 mg/m³	Colorless to pale-yellow, viscous liquid or solid (below 50°F) with a mild, hydrocarbon odor	N/A	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, chloracne; liver damage; reproductive effects; [potential occupational carcinogen]	Skin, eyes, liver, reproductive system
Coal tar pitch volatiles (Benzo(a)pyrene, Phenanthrene, etc.)	0.2 mg/m^3	0.1 mg/m^3	0.2 mg/m³	Black or dark-brown amorphous residue.	N/A	Inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	Respiratory system, skin, bladder, kidneys
1,1-dichloroethene (1,1-DCE)	NE	NE	5 ppm	Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor	190 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, throat; dizziness, headache, nausea, dyspnea (breathing difficulty); liver, kidney disturbance; pneumonitis; [potential occupational carcinogen]	Eyes, skin, respiratory system, central nervous system, liver, kidneys
cis-1,2- dichloroethene (cis-1,2-DCE)	200 ppm	200 ppm	200 ppm	Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor	17 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; central nervous system depression	Eyes, respiratory system, central nervous system
Freon 113	1,000 ppm	1,000 ppm	1,000 ppm	Colorless to water-white liquid with an odor like carbon tetrachloride at high concentrations.	N/A	Inhalation, ingestion, skin and/or eye contact	Irritation skin, throat, drowsiness, dermatitis; central nervous system depression; In Animals: cardiac arrhythmias, narcosis	Skin, heart, central nervous system, cardiovascular system
Mercury	0.1 mg/m^3	0.05 mg/m^3	0.025 mg/m³	Metal: Silver-white, heavy, odorless liquid	N/A	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria	Eyes, skin, respiratory system, central nervous system, kidneys
Methylene chloride	25 ppm 125 ppm STEL 12.5 ppm AL	NE	50 ppm	Colorless liquid with a chloroform-like odor	250 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; lassitude, drowsiness, dizziness; numb, tingle limbs; nausea	Eyes, skin, cardiovascular system, central nervous system
Tetrachloroethene (aka Perchloroethene [PCE])	100 ppm 200 ppm C	NE	25 ppm 100 ppm STEL	Colorless liquid with a mild chloroform-like odor	1 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system
Toluene	200 ppm TWA 300 ppm C	100 ppm TWA 150 ppm STEL	20 ppm	Colorless liquid with a sweet, pungent, benzene-like odor	2.9 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys
1,1,1-Trichloroethane (1,1,1-TCA)	350 ppm	350 ppm	350 ppm 450 ppm STEL	Colorless liquid with a mild, chloroform-like odor	120 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac arrhythmias; liver damage	Eyes, skin, central nervous system, cardiovascular system, liver
Trichloroethene (TCE)	100 ppm 200 ppm C	25 ppm	10 ppm 25 ppm STEL	Colorless liquid with a chloroform-like odor	28 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system

Table 1
Health and Safety Data for COCs
Interim Remedial Measure #2
Health and Safety Plan
820 Linden Ave Site
820 Linden Avenue, Pittsford, NY

Abbreviations:

AL	Action Level
C	Ceiling limits are not to be exceeded during any part of the workday
mg/m3	milligrams per cubic meter
NE	Not established
N/A	Not available
ppm	parts per million
STEL	Short-Term Exposure Limit is a 15-min TWA
TWA	Time-weighted average

Notes:
1. Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for general industry. The OSHA PELs are 8-hour TWAs, unless otherwise noted.
2. National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) are based on 10-hour workdays during a 40-hour workweek.
3. American Conference for Governmental Industrial Hygenists (ACGIH) Threshold Limit Value (TLV). The ACGIH TLVs are 8-hr TWAs, unless otherwise noted.

Table 2
Exposure Pathways and First Aid Response for COCs
Interim Remedial Measure #2
Health and Safety Plan
820 Linden Ave Site
820 Linden Avenue, Pittsford, NY

Substsance	Exposure Pathways	First Aid Instructions
VOCs and SVOCs listed in Table 1	Eye	Irrigate immediately
	Dermal	Soap wash promptly; or Soap wash immediately (acetone and coal tar pitch volatiles); or Soap flush immediately (1,1-DCE)
	Inhalation	Respiratory support
	Ingestion	Medical attention immediately
PCBs and Mercury	Eye	Irrigate immediately
	Dermal	Soap wash promptly
	Inhalation	Respiratory support
	Ingestion	Medical attention immediately

Table 3
Exposure Symptoms and First Aid for Heat Exposure
Interim Remedial Measure #2
Health and Safety Plan
820 Linden Ave
820 Linden Avenue, Pittsford, NY

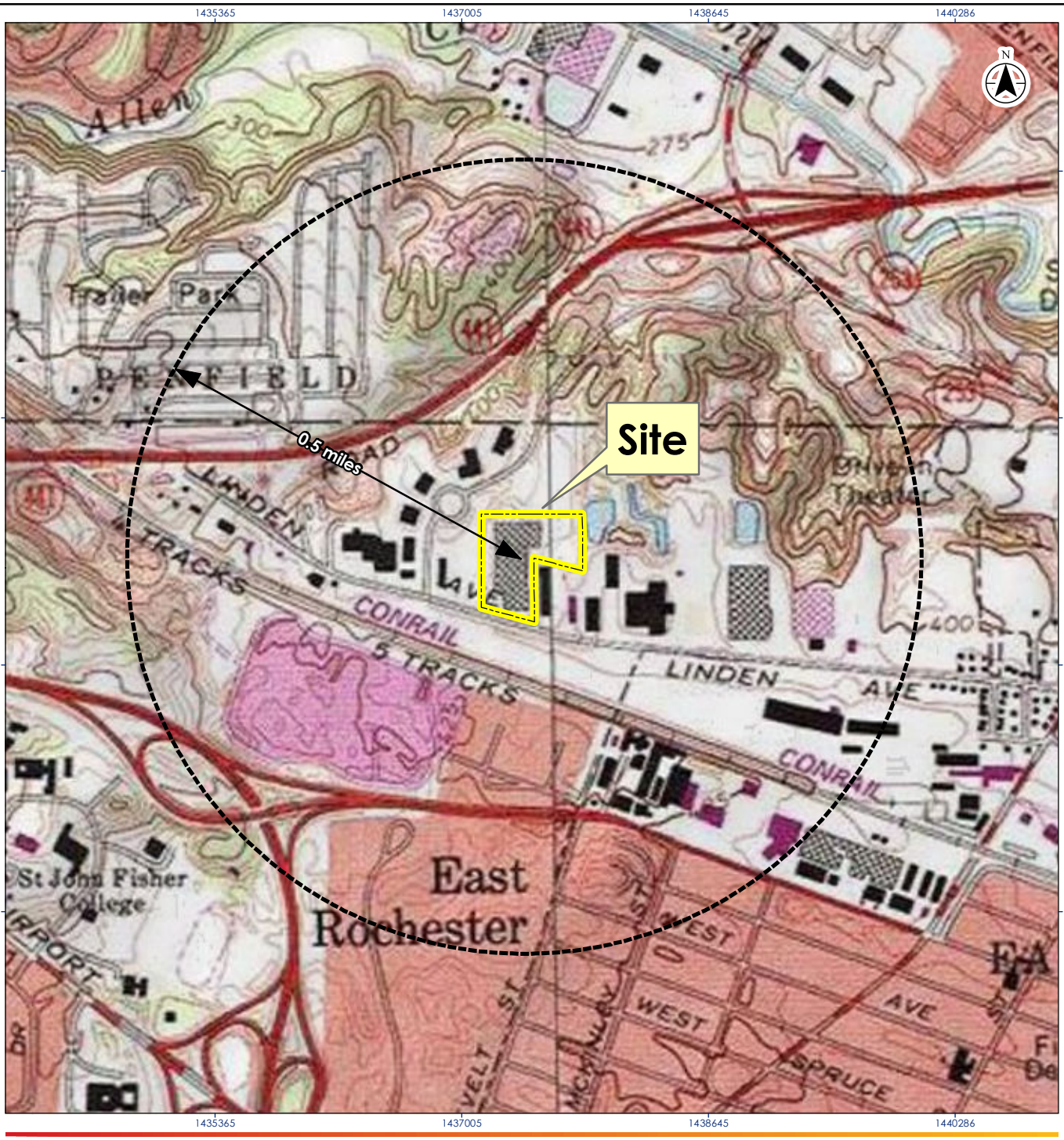
Heat Disorder	Symptoms	First Aid Instructions
Heat Rash	Red skin	Remove victim from sun; allow skin to dry; washing skin may further cool the victim.
Heat Cramps	Muscle cramps	Move victim to cooler environment and lay down if possible; remove or lighten tight clothing; cool victim by sponging and fanning (do not cool worker too much); administer fluids (juice, non-caffeinated soft drinks or sports drinks are preferable) if victim is alert and not nauseated.
Heat Exhaustion	Heavy sweating; weakness; cool to cold skin; pale and clammy; thready pulse; possible confusion; fainting; vomiting.	Stop work immediately; remove victim from sun to cooler environment; lie down and loosen clothing; apply cool, wet cloths; fan or move to location with AC; sips of water; if nausea occurs, discontinue fluids; if vomiting continues, seek immediate medical attention.
Heat Stroke	High body temperature; hot, dry skin (red mottled or bluish); rapid and strong pulse; confusion/disorientation; dizziness; possible loss of consciousness.	Stop work immediately; call 911; move victim to cooler place and remove heavy clothing; cool the victim by available means (ice packs, wet towels) with extreme caution; do not administer fluids or medication.

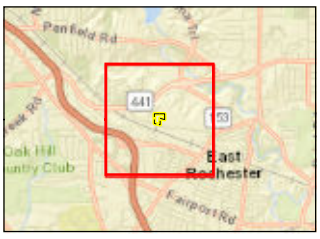
APPENDIX B

HEALTH AND SAFETY PLAN
INTERIM REMEDIAL MEASURE WORK PLAN #2
820 LINDEN AVE BCP SITE #828200
820 LINDEN AVENUE
PITTSFORD, MONROE COUNTY, NEW YORK

FIGURES

Stantec





Legend

- Property Outline
- 1/2-mile buffer

0 400 800 1,200 Feet

1:12,000 (at original document size of 8.5x11)

Notes

1. Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
2. ArcGIS Basemaps: USA Topo Maps (main frame) and World Street Map (key map).

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Stantec

Project Location
820 Linden Avenue
Pittsford, Monroe Co., NY

190500898
Prepared by LB on 2018-11-09
Technical Review by KI on 2019-10-31
Independent Review by MS/SRS on 2019-11-08

Client/Project
820 Linden Ave Site
BCP Site #C828200
IRM Work Plan #2

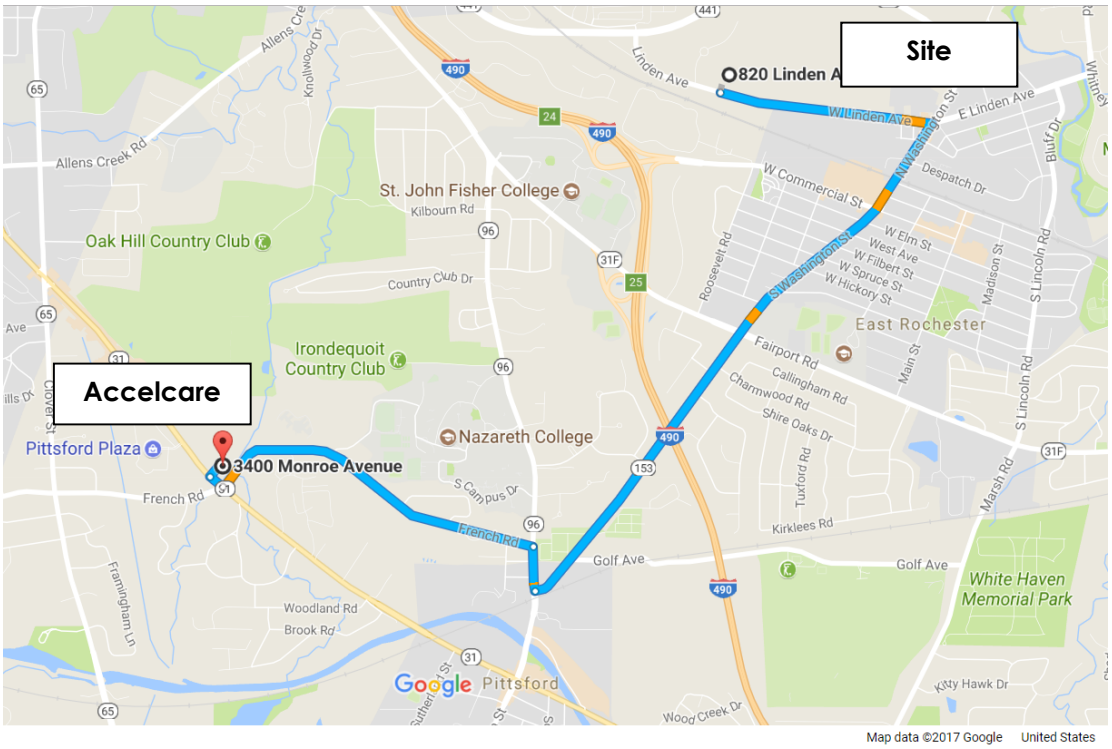
Figure No.
1

Title
Site Location Map

U:\190500898\05_report_deliv\dwgs_design\GIS_figures\mxd\12_IRMWP2\fig1_site loc_map.mxd Revised: 2019-11-08 By: lbest

Figure 2
Map and Driving Directions to Medical Facilities

Urgent Care Option 1:
UR Medicine Urgent Care
Pittsford Colony Plaza
3400 Monroe Ave
Rochester, NY, 14618
Phone: (585) 203-1055



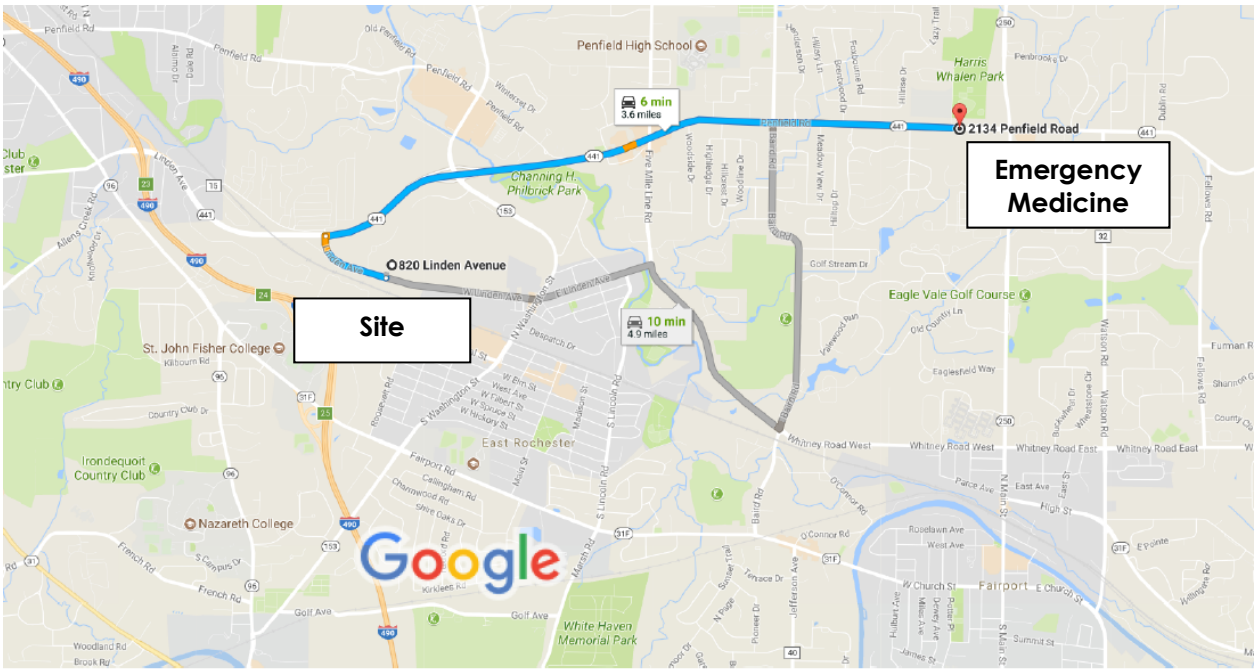
820 Linden Ave
Rochester, NY 14625

1. Head east on Linden Ave toward Apple St — 0.7 mi
2. Turn right onto NY-153 S/N Washington St — 2.1 mi
3. Turn right onto NY-96 N/N Main St — 0.2 mi
   Continue to follow NY-96 N
4. Turn left onto French Rd — 1.2 mi
5. Turn right onto NY-31 W — 295 ft
6. Turn right — 282 ft
   Destination will be on the right

3400 Monroe Ave
Rochester, NY 14618

Figure 2
Map and Driving Directions to Medical Facilities

Urgent Care Option 2:
UR Medicine Urgent Care
2134 Penfield Rd
Penfield, NY 14526
Phone: (585) 276-8280



Map data ©2017 Google United States 2000 ft

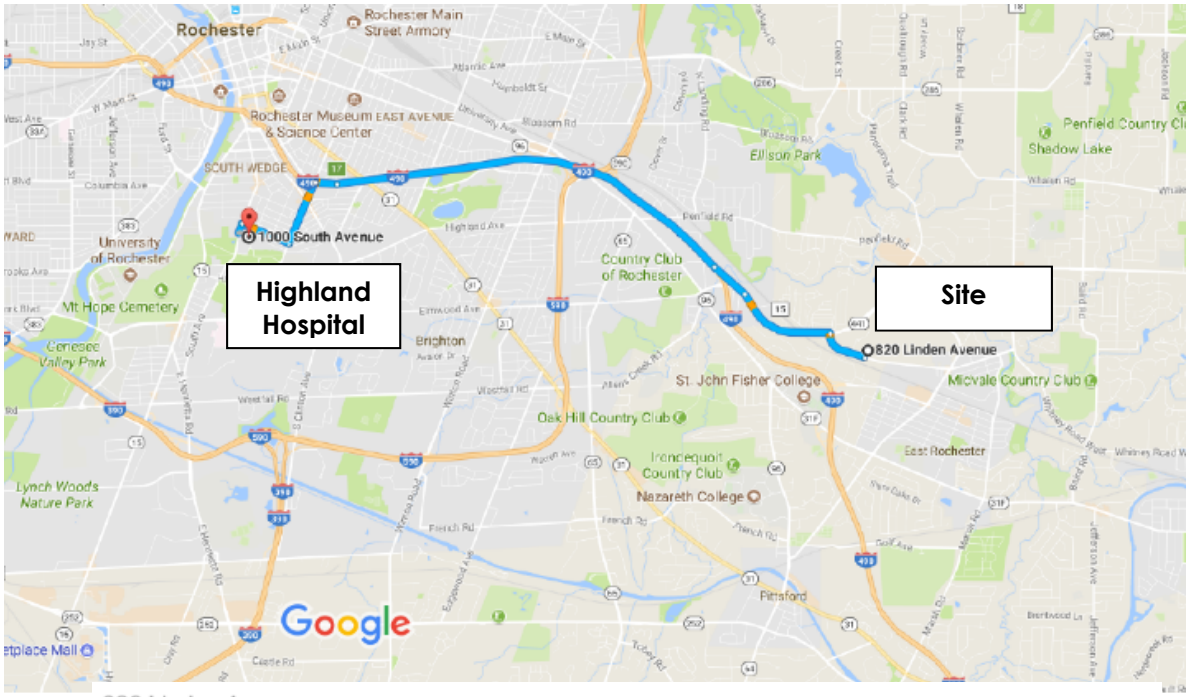
820 Linden Ave
Rochester, NY 14625

1. Head west on Linden Ave toward Linden Park — 0.4 mi
2. Turn right onto NY-441 E — 3.2 mi

2134 Penfield Rd
Penfield, NY 14526

Figure 2
Map and Driving Directions to Medical Facilities

Hospital:
Highland Hospital
1000 South Ave
Rochester, NY 14620
Phone: (585) 473-2200



820 Linden Ave
Rochester, NY 14625

Get on I-490 W in Brighton — 3 min (1.6 mi)

1. Head west on Linden Ave toward Linden Park — 0.4 mi
2. Use any lane to turn left onto NY-441 W — 0.9 mi
3. Use the right lane to take the Interstate 490 W ramp — 0.4 mi

Follow I-490 W to S Goodman St in Rochester. Take exit 17 from I-490 W — 4 min (3.7 mi)

4. Merge onto I-490 W — 3.5 mi
5. Take exit 17 for Goodman St — 0.2 mi

Follow S Goodman St and Rockingham St to South Ave — 5 min (1.1 mi)

6. Turn left onto S Goodman St — 0.6 mi
7. Turn right onto Rockingham St — 0.4 mi
8. Turn left onto South Ave — 446 ft

1000 South Ave
Rochester, NY 14620

Appendix A

Safety Data Sheets

SAFETY DATA SHEET

Creation Date 28-Apr-2009 **Revision Date** 24-May-2017 **Revision Number** 3

1. Identification

Product Name **Acetone**

Cat No. : **AC177170000; AC177170010; AC177170025; AC177170050; AC177170100; AC177170250**

Synonyms 2-Propanone

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure) Target Organs - Central nervous system (CNS).	Category 3
Specific target organ toxicity - (repeated exposure) Target Organs - Kidney, Liver, spleen, Blood.	Category 2

Label Elements

Signal Word
Danger

Hazard Statements
Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Wear protective gloves/protective clothing/eye protection/face protection
Keep cool
Response
Get medical attention/advice if you feel unwell
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
Skin
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Fire
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Repeated exposure may cause skin dryness or cracking

3. Composition / information on ingredients

Component	CAS-No	Weight %
Acetone	67-64-1	>95

4. First-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: May cause pulmonary edema

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media CO_2, dry chemical, dry sand, alcohol-resistant foam. Water spray. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media Water may be ineffective

Flash Point -20 °C / -4 °F

Method - Closed cup

Autoignition Temperature 465 °C / 869 °F

Explosion Limits

Upper 12.8 vol %

Lower 2.5 vol %

Oxidizing Properties Not oxidising

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO_2) Formaldehyde Methanol

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
1	3	0	N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and inhalation of vapors.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Remove all sources of ignition. Take precautionary measures against static discharges. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only non-sparking tools. Use explosion-proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Storage Flammables area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Acetone	TWA: 250 ppm STEL: 500 ppm	(Vacated) TWA: 750 ppm (Vacated) TWA: 1800 mg/m^3 (Vacated) STEL: 2400 mg/m^3 (Vacated) STEL: 1000 ppm TWA: 1000 ppm TWA: 2400 mg/m^3	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m^3	TWA: 1000 ppm TWA: 2400 mg/m^3 STEL: 1260 ppm STEL: 3000 mg/m^3

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	sweet
Odor Threshold	19.8 ppm
pH	7
Melting Point/Range	-95 °C / -139 °F
Boiling Point/Range	56 °C / 132.8 °F
Flash Point	-20 °C / -4 °F
Method -	Closed cup
Evaporation Rate	5.6 (Butyl Acetate = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	12.8 vol %
Lower	2.5 vol %
Vapor Pressure	247 mbar @ 20 °C
Vapor Density	2.0
Specific Gravity	0.790
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	465 °C / 869 °F
Decomposition Temperature	> 4°C
Viscosity	0.32 mPa.s @ 20 °C

Molecular Formula	C3 H6 O
Molecular Weight	58.08
Refractive index	1.358 - 1.359

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Heat, flames and sparks. Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials Strong oxidizing agents, Strong reducing agents, Strong bases, Peroxides, Halogenated compounds, Alkali metals, Amines

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2), Formaldehyde, Methanol

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetone	5800 mg/kg (Rat)	> 15800 mg/kg (rabbit) > 7400 mg/kg (rat)	76 mg/l, 4 h, (rat)

Toxicologically Synergistic Products Carbon tetrachloride; Chloroform; Trichloroethylene; Bromodichloromethane; Dibromochloromethane; N-nitrosodimethylamine; 1,1,2-Trichloroethane; Styrene; Acetonitrile, 2,5-Hexanedione; Ethanol; 1,2-Dichlorobenzene

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Acetone	67-64-1	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)

STOT - repeated exposure Kidney Liver spleen Blood

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: May cause pulmonary edema

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Acetone	NOEC = 430 mg/l (algae; 96 h)	Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 14500 mg/L/15 min	EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

Component	log Pow
Acetone	-0.24

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Acetone - 67-64-1	U002	-

14. Transport information

DOT

UN-No UN1090
Proper Shipping Name ACETONE
Hazard Class 3
Packing Group II

TDG

UN-No UN1090
Proper Shipping Name ACETONE
Hazard Class 3
Packing Group II

IATA

UN-No UN1090
Proper Shipping Name ACETONE
Hazard Class 3
Packing Group II

IMDG/IMO

UN-No UN1090
Proper Shipping Name ACETONE
Hazard Class 3
Packing Group II

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL

Acetone	X	X	-	200-662-2	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Acetone	5000 lb	-

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetone	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ):	Y
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security
This product contains the following DHS chemicals:

Component	DHS Chemical Facility Anti-Terrorism Standard
Acetone	2000 lb STQ

Other International Regulations

Mexico - Grade	Serious risk, Grade 3

16. Other information

Prepared By	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
Creation Date	28-Apr-2009
Revision Date	24-May-2017
Print Date	24-May-2017
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Safety Data Sheet

Revision Date: 03/05/18
www.restek.com

2 Letter ISO country code/language code: US/EN

1. IDENTIFICATION

Catalog Number / Product Name:	**32011 / Aroclor® 1254 Standard**
Company:	Restek Corporation
Address:	110 Benner Circle Bellefonte, Pa. 16823
Phone#:	814-353-1300
Fax#:	814-353-1309
Emergency#:	800-424-9300 (CHEMTREC) 703-527-3887 (Outside the US)
Email:	www.restek.com
Revision Number:	12
Intended use:	For Laboratory use only

2. HAZARD(S)IDENTIFICATION

Emergency Overview:

GHS Hazard Symbols:

GHS Classification:	Flammable Liquid Category 2 Skin Corrosion/Irritation Category 2 Specific Target Organ Systemic Toxicity (STOT) - Repeated Exposure Category 2 Hazardous to the aquatic environment - Chronic Category 2 Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3
GHS Signal Word:	Danger
GHS Hazard:	Highly flammable liquid and vapour. Causes skin irritation. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.
GHS Precautions:	
Safety Precautions:	Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilation and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands and skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
First Aid Measures:	IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Specific treatment see section 4. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use extinguishing media in section 5 for extinction.

Collect spillage.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal: Dispose of contents/container according to section 13 of the SDS.

Single Exposure Target Organs: Specific target organ toxicity - Single exposure - STOT SE 3: H336 May cause drowsiness or dizziness.

Repeated Exposure Target Organs: Specific target organ toxicity - Repeated exposure - STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (C >= 5 %; Minimum classification, No information to prove exclusion of certain routes of exposure)

3. COMPOSITION / INFORMATION ON INGREDIENT

Chemical Name	CAS #	EINEC #	% Composition
hexane	110-54-3	203-777-6	99.9
aroclor® 1254	11097-69-1		0.1

4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen.

Eyes: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.

Skin Contact: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

Ingestion: Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this SDS.

5. FIRE- FIGHTING MEASURES

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water spray or fog may also be effective for extinguishing if swept across the base of the fire. Water can also be used to absorb heat and keep exposed material from being damaged by fire.

Fire and/or Explosion Hazards: Vapors may be ignited by heat, sparks, flames or other sources of ignition at or above the low flash point giving rise to a Class B fire. Vapors are heavier than air and may travel to a source of ignition and flash back

Fire Fighting Methods and Protection: Do not enter fire area without proper protection including self-contained toxic breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface. Use water spray/fog for cooling. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Methods for Clean-up: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

7. HANDLING AND STORAGE

Handling Technical Measures and Precautions:	Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Use spark-proof tools and explosion-proof equipment
Storage Technical Measures and Conditions:	Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Keep away from sources of ignition

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

United States:

Chemical Name	CAS No.	IDLH	ACGIH STEL	ACGIH TLV-TWA	OSHA Exposure Limit
hexane	110-54-3	1100 ppm IDLH (10% LEL)	1000 ppm	50 ppm TWA	500 ppm TWA; 1800 mg/m3 TWA
aroclor® 1254	11097-69-1	5 mg/m3 IDLH	None Known	0.5 mg/m3 TWA	0.5 mg/m3 TWA

Personal Protection:

Engineering Measures:	Local exhaust ventilation is recommended when generating excessive levels of vapours from handling or thermal processing.
Respiratory Protection:	Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.
Eye Protection:	Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses.
Skin Protection:	Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance, color:	No data available
Odor:	Mild
Physical State:	Liquid
pH:	Not applicable
Vapor Pressure:	No data available
Vapor Density:	2.97 (air = 1)
Boiling Point (°C):	68.73 °C (HSDB)
Melting Point (°C):	-95 °C Melting Point
Flash Point (°F):	-8
Flammability:	Highly Flammable Extremely Flammable
Upper Flammable/Explosive Limit, % in air:	No data available
Lower Flammable/Explosive Limit, % in air:	No data available
Autoignition Temperature (°C):	No data available deg C
Decomposition Temperature (°C):	No data available
Specific Gravity:	0.672 g/cm3 at 15 °C
Evaporation Rate:	No data available
Odor Threshold:	No data available
Solubility:	Negligible; 0-1%
Partition Coefficient: n-octanol in water:	No data available
VOC % by weight:	0
Molecular Weight:	No data available

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Materials to Avoid / Chemical Incompatiability:	Strong oxidizing agents
Hazardous Decomposition Products:	No data available

11. TOXICOLOGICAL INFORMATION

Routes of Entry:	Inhalation Contact Absorption Ingestion
Target Organs Potentially Affected By Exposure:	Eyes, Central nervous system stimulation,

	Respiratory Tract, Skin, Peripheral Nervous System
Chemical Interactions That Change Toxicity:	None Known

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation:	Can cause severe respiratory irritation, dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.
Skin Contact:	Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.
Skin Absorption:	May cause irritation and minor systemic damage.Harmful if absorbed through the skin.
Eye Contact:	Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.
Ingestion Irritation:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.Harmful if swallowed.
Ingestion Toxicity:	Toxic if swallowed. May cause target organ failure and/or death.

Long-Term (Chronic) Health Effects:

Carcinogenicity:	No data.
Reproductive and Developmental Toxicity:	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Inhalation:	Upon prolonged and/or repeated exposure, can cause severe respiratory irritation, dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.
Skin Contact:	Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.
Skin Absorption:	Upon prolonged or repeated exposure, harmful if absorbed through the skin. May cause minor systemic damage.

Component Toxicological Data:

NIOSH:

Chemical Name	CAS No.	LD50/LC50
Aroclor 1254	11097-69-1	Oral LD50 Rat 1010 mg/kg
n-Hexane	110-54-3	Dermal LD50 Rabbit 3000 mg/kg; Inhalation LC50 Rat 48000 ppm 4 h; Oral LD50 Rat 25 g/kg

Component Carcinogenic Data:

OSHA:

Chemical Name	CAS No.	
Aroclor 1254	11097-69-1	Present

ACGIH:

Chemical Name	CAS No.	
Chlorodiphenyl (54% chlorine)	11097-69-1	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

NIOSH:

Chemical Name	CAS No.	
Chlorodiphenyl (54% chlorine)	11097-69-1	potential occupational carcinogen

NTP:

Chemical Name	CAS No.
No data available	

IARC:

Chemical Name	CAS No.	Group No.

12. ECOLOGICAL INFORMATION

Overview:	Moderate ecological hazard. This product may be dangerous to plants and/or wildlife.
Mobility:	No data
Persistence:	No data
Bioaccumulation:	No data
Degradability:	No data
Ecological Toxicity Data:	No data available

13. DISPOSAL CONSIDERATIONS

Waste Description of Spent Product: Spent or discarded material is a hazardous waste.Mixing spent or discarded material with other materials may render the mixture hazardous. Perform a hazardous waste determination on mixtures.

Disposal Methods: Dispose of by incineration following Federal, State, Local, or Provincial regulations.

Waste Disposal of Packaging: Comply with all Local, State, Federal, and Provincial Environmental Regulations.

14. TRANSPORTATION INFORMATION

United States:

DOT Proper Shipping Name: Hexanes
UN Number: UN1208
Hazard Class: 3
Packing Group: II

International:

IATA Proper Shipping Name: Hexanes
UN Number: UN1208
Hazard Class: 3
Packing Group: II

Marine Pollutant: Yes

Chemical Name	CAS#	Marine Pollutant	Severe Marine Pollutant
hexane	110-54-3	Y	N

15. REGULATORY INFORMATION

United States:

Chemical Name	CAS#	CERCLA	SARA 313	SARA EHS 313	TSCA
hexane	110-54-3	X	X	-	X
aroclor® 1254	11097-69-1	X	-	-	-

The following chemicals are listed on CA Prop 65:

Chemical Name	CAS #	Regulation

State Right To Know Listing:

Chemical Name	CAS#	New Jersey	Massachusetts	Pennsylvania	California
hexane	110-54-3	X	X	X	-
aroclor® 1254	11097-69-1	-	X	X	X

16. OTHER INFORMATION

Prior Version Date: 09/20/16

Other Information: Any changes to the SDS compared to previous versions are marked by a vertical line in front of the concerned paragraph.

References: No data available

Disclaimer: Restek Corporation provides the descriptions, data and information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. It is provided for your guidance only. Because many factors may affect processing or application/use, Restek Corporation recommends you perform an assessment to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including fitness for a particular purpose, are made regarding products described, data or information set forth. In no case shall the descriptions, information, or data provided be considered a part of our terms and conditions of sale. Further, the descriptions, data and information furnished hereunder are given gratis. No obligation or liability for the description, data and information given are assumed. All such being given and accepted at your risk.

Safety Data Sheet

Revision Date: 08/01/19
www.restek.com

2 Letter ISO country code/language code: US/EN

1. IDENTIFICATION

Catalog Number / Product Name:	**31270 / Benzo(a)anthracene Standard**
Company:	Restek Corporation
Address:	110 Benner Circle Bellefonte, Pa. 16823
Phone#:	814-353-1300
Fax#:	814-353-1309
Emergency#:	800-424-9300 (CHEMTREC) 703-527-3887 (Outside the US)
Email:	www.restek.com
Revision Number:	12
Intended use:	For Laboratory use only

2. HAZARD(S)IDENTIFICATION

Emergency Overview:

GHS Hazard Symbols:

GHS Classification:	Carcinogenicity Category 1B Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1 Flammable Liquid Category 2 Hazardous to the aquatic environment - Acute Category 2 Hazardous to the aquatic environment - Chronic Category 2 Acute Toxicity - Dermal Category 3 Acute Toxicity - Oral Category 3
GHS Signal Word:	Danger
GHS Hazard:	Highly flammable liquid and vapour. Toxic if swallowed or in contact with skin. May cause cancer. Causes damage to organs. Toxic to aquatic life.. Toxic to aquatic life with long lasting effects.
GHS Precautions:	
Safety Precautions:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilation and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands and skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
First Aid Measures:	IF SWALLOWED: Immediately call a POISON CENTER/doctor/.... IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF exposed: Call a POISON CENTER or doctor/physician.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician if you feel unwell.
Specific treatment see section 4.
Rinse mouth.
Take off immediately all contaminated clothing and wash it before reuse.
In case of fire: Use extinguishing media in section 5 for extinction.
Collect spillage.

Storage: Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal: Dispose of contents/container according to section 13 of the SDS.

Single Exposure Target Organs: Specific target organ toxicity - Single exposure - STOT SE 1: H370 Causes damage to organs. (C >= 10 %; No information to prove exclusion of certain routes of exposure); Specific target organ toxicity - Single exposure - STOT SE 2: H371 May cause damage to organs. (3 % <= C <10 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given)

Repeated Exposure Target Organs: No data available

3. COMPOSITION / INFORMATION ON INGREDIENT

Chemical Name	CAS #	EINEC #	% Composition
methanol	67-56-1	200-659-6	99.9
benz (a) anthracene	56-55-3	200-280-6	0.1

4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately

Eyes: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.

Skin Contact: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

Ingestion: Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this SDS.

5. FIRE- FIGHTING MEASURES

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire.

Fire and/or Explosion Hazards: Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back.

Fire Fighting Methods and Protection: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment: Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the

area responding to the spill. Never exceed any occupational exposure limits.

Methods for Clean-up: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

7. HANDLING AND STORAGE

Handling Technical Measures and Precautions: Toxic or severely irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Use spark-proof tools and explosion-proof equipment

Storage Technical Measures and Conditions: Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Keep away from sources of ignition

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

United States:

Chemical Name	CAS No.	IDLH	ACGIH STEL	ACGIH TLV-TWA	OSHA Exposure Limit
methanol	67-56-1	6000 ppm IDLH	250 ppm STEL	200 ppm TWA	200 ppm TWA; 260 mg/m3 TWA
benz (a) anthracene	56-55-3	Not established	None Known	Not established	No data available

Personal Protection:

Engineering Measures: Local exhaust ventilation is recommended when generating excessive levels of vapours from handling or thermal processing.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.If an exposure limit is exceeded or if an operator is experiencing symptoms of inhalation overexposure as explained in Section 3, provide respiratory protection.

Eye Protection: Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses.

Skin Protection: Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance, color:	No data available
Odor:	Mild
Physical State:	No data available
pH:	Not applicable
Vapor Pressure:	No data available
Vapor Density:	1.1 (air = 1)
Boiling Point (°C):	438 °C Boiling Point (at 1013.25 hPa) 64.7 °C at 760 mmHg (HSDB)
Melting Point (°C):	-98 °C
Flash Point (°F):	52
Flammability:	Highly Flammable
Upper Flammable/Explosive Limit, % in air:	36
Lower Flammable/Explosive Limit, % in air:	6
Autoignition Temperature (°C):	464 deg C
Decomposition Temperature (°C):	No data available
Specific Gravity:	0.791 - 0.792 g/cm3 at 20 °C
Evaporation Rate:	No data available
Odor Threshold:	No data available
Solubility:	Moderate; 50-99%
Partition Coefficient: n-octanol in water:	No data available
VOC % by weight:	99.9
Molecular Weight:	32.04

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Materials to Avoid / Chemical Incompatiability:	Strong oxidizing agents
Hazardous Decomposition Products:	Carbon dioxide Carbon monoxide

11. TOXICOLOGICAL INFORMATION

Routes of Entry:	Inhalation, Skin Contact, Eye Contact, Ingestion
Target Organs Potentially Affected By Exposure:	Eyes, Central nervous system stimulation, Skin, GI Tract, Respiratory Tract
Chemical Interactions That Change Toxicity:	None Known

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation:	Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Inhalation Toxicity:	Harmful! Can cause systemic damage (see "Target Organs)Methanol can cause central nervous system depression and overexposure can cause damage to the optic nerve resulting in visual impairment or blindness.
Skin Contact:	Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.
Eye Contact:	Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.
Ingestion Irritation:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.Highly toxic and may be fatal if swallowed.
Ingestion Toxicity:	Toxic if swallowed. May cause target organ failure and/or death.May be fatal if swallowed.

Long-Term (Chronic) Health Effects:

Carcinogenicity:	Contains a probable or known human carcinogen.
Reproductive and Developmental Toxicity:	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Inhalation:	Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.Harmful! Can cause systemic damage upon prolonged and/or repeated exposure (see "Target Organs)
Skin Contact:	Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.
Ingestion:	Toxic if swallowed. May cause target organ failure and/or death.

Component Toxicological Data:

NIOSH:

Chemical Name	CAS No.	LD50/LC50
Methanol	67-56-1	Inhalation LC50 Rat 22500 ppm 8 h

Component Carcinogenic Data:

OSHA:

Chemical Name	CAS No.	
Benz[a]anthracene	56-55-3	Present

ACGIH:

Chemical Name	CAS No.	
Benz[a]anthracene	56-55-3	A2 - Suspected Human Carcinogen

NIOSH:

Chemical Name	CAS No.
No data available	

NTP:

Chemical Name	CAS No.
No data available	

IARC:

Chemical Name	CAS No.	Group No.

Monograph 92 [2010]; Supplement 7 [1987]; Monograph 32 [1983]	56-55-3	Group 2B

12. ECOLOGICAL INFORMATION

Overview:	Moderate ecological hazard. This product may be dangerous to plants and/or wildlife.
Mobility:	No data
Persistence:	No data
Bioaccumulation:	No data
Degradability:	Biodegrades slowly.
Ecological Toxicity Data:	No data available

13. DISPOSAL CONSIDERATIONS

Waste Description of Spent Product:	Spent or discarded material is a hazardous waste.Mixing spent or discarded material with other materials may render the mixture hazardous. Perform a hazardous waste determination on mixtures.
Disposal Methods:	Dispose of by incineration following Federal, State, Local, or Provincial regulations.
Waste Disposal of Packaging:	Comply with all Local, State, Federal, and Provincial Environmental Regulations.

14. TRANSPORTATION INFORMATION

United States:

DOT Proper Shipping Name:	Methanol
UN Number:	UN1230
Hazard Class:	3
Packing Group:	II

International:

IATA Proper Shipping Name:	Methanol
UN Number:	UN1230
Hazard Class:	3(6.1)
Packing Group:	II

Marine Pollutant: No

Chemical Name	CAS#	Marine Pollutant	Severe Marine Pollutant
No data available			

15. REGULATORY INFORMATION

United States:

Chemical Name	CAS#	CERCLA	SARA 313	SARA EHS 313	TSCA
methanol	67-56-1	X	X	-	X
benz (a) anthracene	56-55-3	X	X	-	X

The following chemicals are listed on CA Prop 65:

Chemical Name	CAS #	Regulation
Benz[a]anthracene	56-55-3	Prop 65 Cancer
Methanol	67-56-1	Prop 65 Devolop Tox

State Right To Know Listing:

Chemical Name	CAS#	New Jersey	Massachusetts	Pennsylvania	California
methanol	67-56-1	X	X	X	X
benz (a) anthracene	56-55-3	X	X	X	X

16. OTHER INFORMATION

Prior Version Date: 08/13/18
Other Information: Any changes to the SDS compared to previous versions are marked by a vertical

line in front of the concerned paragraph.

References: No data available

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SAFETY DATA SHEET

Benzo[a]pyrene

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	Benzo[a]pyrene
Product number	FB18224
Synonyms; trade names	Benzo[a]pyrene, 3,4-Benz[a]pyrene, 3,4-Benzopyrene
CAS number	50-32-8
EU index number	601-032-00-3
EC number	200-028-5

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory reagent. Manufacture of substances. Research and development.

1.3. Details of the supplier of the safety data sheet

Supplier	Carbosynth Ltd 8&9 Old Station Business Park Compton Berkshire RG20 6NE UK +44 1635 578444 +44 1635 579444 info@carbosynth.com

1.4. Emergency telephone number

Emergency telephone	+44 7887 998634

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Skin Sens. 1 - H317 Muta. 1B - H340 Carc. 1B - H350 Repr. 1B - H360
Environmental hazards	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

2.2. Label elements

EC number 200-028-5

Pictogram

Benzo[a]pyrene

Signal word	Danger
Hazard statements	H317 May cause an allergic skin reaction. H340 May cause genetic defects. H350 May cause cancer. H360 May damage fertility or the unborn child. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	P201 Obtain special instructions before use. P261 Avoid breathing dust. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P308+P313 IF exposed or concerned: Get medical advice/ attention. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.

2.3. Other hazards

No data available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	Benzo[a]pyrene
EU index number	601-032-00-3
CAS number	50-32-8
EC number	200-028-5
Chemical formula	$C_{20}H_{12}$

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical advice/attention if you feel unwell.
Inhalation	Remove person to fresh air and keep comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if symptoms are severe or persist.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if symptoms are severe or persist.
Skin contact	Remove contaminated clothing. Rinse with water. Continue to rinse for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are severe or persist.
Eye contact	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist.

4.2. Most important symptoms and effects, both acute and delayed

General information	See Section 11 for additional information on health hazards.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Benzo[a]pyrene

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards None known.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Oxides of carbon.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of dust and vapours. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into suitable waste disposal containers and seal securely. Clear up spills immediately and dispose of waste safely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. Avoid exposure - obtain special instructions before use. Wash hands thoroughly after handling. Provide adequate ventilation. Avoid generation and spreading of dust. Avoid contact with skin and eyes. Avoid inhalation of dust and vapours.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep container tightly closed. Store in a cool and well-ventilated place. Store away from incompatible materials (see Section 10). Protect from light. Store at room temperature.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Benzo[a]pyrene

Long-term exposure limit (8-hour TWA): OSHA 0.2 mg/m3

OSHA = Occupational Safety and Health Administration.

8.2. Exposure controls

Appropriate engineering controls	Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.
Eye/face protection	Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.
Hand protection	Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374.
Other skin and body protection	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Particulate filters should comply with European Standard EN143. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.
Environmental exposure controls	Keep container tightly sealed when not in use.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Solid.
Colour	Light (or pale). Yellow. to Green-yellow.
Odour	No data available.
Odour threshold	No data available.
pH	No data available.
Melting point	No data available.
Initial boiling point and range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	No data available.
Upper/lower flammability or explosive limits	No data available.
Vapour pressure	>133 Pa @ 20°C
Vapour density	8.7
Relative density	1.35 g/cm³
Solubility(ies)	Insoluble in water. Soluble in the following materials: Ether. Benzene. Toluene Xylene. Almost insoluble in the following materials: Alcohols.
Partition coefficient	log Pow: 5.97

Benzo[a]pyrene

Auto-ignition temperature	No data available.
Decomposition Temperature	No data available.
Viscosity	No data available.
Explosive properties	No data available.
Oxidising properties	No data available.

9.2. Other information

Molecular weight	252.31

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No data available.

10.2. Chemical stability

Stability	Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	No data available.

10.4. Conditions to avoid

Conditions to avoid	No data available.

10.5. Incompatible materials

Materials to avoid	Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products	Oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD_{50})	Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC_{50})	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data	Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation	Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	May cause skin sensitisation or allergic reactions in sensitive individuals.

Benzo[a]pyrene

Germ cell mutagenicity

Genotoxicity - in vitro May cause genetic defects.

Carcinogenicity

Carcinogenicity May cause cancer.

IARC carcinogenicity IARC Group 1 Carcinogenic to humans.

Reproductive toxicity

Reproductive toxicity - fertility May damage fertility.

Reproductive toxicity - development May damage the unborn child.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not relevant. Solid.

General information Avoid contact during pregnancy/while nursing. May damage fertility. May cause cancer after repeated exposure. Risk of cancer depends on duration and level of exposure. May cause genetic defects. Dust may irritate the eyes and the respiratory system. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation Dust may irritate the respiratory system. Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

Ingestion May cause sensitisation or allergic reactions in sensitive individuals.

Skin contact May cause skin sensitisation or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin.

Eye contact Dust may cause slight irritation.

Route of exposure Ingestion Inhalation Skin and/or eye contact

Target organs No specific target organs known.

Medical considerations Skin disorders and allergies.

RTECS # DJ3675000

SECTION 12: Ecological Information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

12.1. Toxicity

Acute aquatic toxicity

LE(C)$_{50}$ 0.1 < L(E)C50 ≤ 1

Acute toxicity - aquatic invertebrates EC_{50}, 48 hour: 0.25 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC_{50}, 72 hour: 0.02 mg/l, Pseudokirchneriella subcapitata
EC_{50}, 72 hour: 0.015 mg/l, Selenastrum capricornutum

Chronic aquatic toxicity

Benzo[a]pyrene

NOEC	0.01 < NOEC ≤ 0.1
Degradability	Non-rapidly degradable

12.2. Persistence and degradability

Persistence and degradability	The degradability of the product is not known.

12.3. Bioaccumulative potential

Bioaccumulative potential	No data available on bioaccumulation.
Partition coefficient	log Pow: 5.97

12.4. Mobility in soil

Mobility	No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product contains substances classified as PBT. This product contains substances classified as vPvB.

12.6. Other adverse effects

Other adverse effects	Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	3077
UN No. (IMDG)	3077
UN No. (ICAO)	3077
UN No. (ADN)	3077

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Benzo[a]pyrene)
Proper shipping name (IMDG)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Benzo[a]pyrene)
Proper shipping name (ICAO)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Benzo[a]pyrene)
Proper shipping name (ADN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Benzo[a]pyrene)

14.3. Transport hazard class(es)

ADR/RID class	9
ADR/RID classification code	M7
ADR/RID label	9
IMDG class	9

Benzo[a]pyrene

ICAO class/division	9
ADN class	9

Transport labels

14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	2Z
Hazard Identification Number (ADR/RID)	90

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

US - TSCA

Present.

Benzo[a]pyrene

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC_{50}: Lethal Concentration to 50 % of a test population.
LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC_{50}: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

Training advice

Only trained personnel should use this material.

Revision date

06/11/2017

Revision

1

SDS number

144926

Hazard statements in full

H317 May cause an allergic skin reaction.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

Safety Data Sheet

Revision Date: 07/31/19
www.restek.com

2 Letter ISO country code/language code: US/EN

1. IDENTIFICATION

Catalog Number / Product Name:	**31272 / Benzo(b)fluoranthene Standard**
Company:	Restek Corporation
Address:	110 Benner Circle Bellefonte, Pa. 16823
Phone#:	814-353-1300
Fax#:	814-353-1309
Emergency#:	800-424-9300 (CHEMTREC) 703-527-3887 (Outside the US)
Email:	www.restek.com
Revision Number:	11
Intended use:	For Laboratory use only

2. HAZARD(S)IDENTIFICATION

Emergency Overview:

GHS Hazard Symbols:

GHS Classification:	Carcinogenicity Category 1B Flammable Liquid Category 2 Serious Eye Damage/Eye Irritation Category 2 Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3
GHS Signal Word:	Danger
GHS Hazard:	Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness. May cause cancer.
GHS Precautions:	
Safety Precautions:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilation and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands and skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
First Aid Measures:	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. If eye irritation persists: Get medical advice/attention. In case of fire: Use extinguishing media in section 5 for extinction.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal: Dispose of contents/container according to section 13 of the SDS.

Single Exposure Target Organs: Specific target organ toxicity - Single exposure - STOT SE 3: H336 May cause drowsiness or dizziness.

Repeated Exposure Target Organs: No data available

3. COMPOSITION / INFORMATION ON INGREDIENT

Chemical Name	CAS #	EINEC #	% Composition
Acetone	67-64-1	200-662-2	99.9
benzo (b) fluoranthene	205-99-2	205-911-9	0.1

4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately

Eyes: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.

Skin Contact: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

Ingestion: Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this SDS.

5. FIRE- FIGHTING MEASURES

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water spray or fog may also be effective for extinguishing if swept across the base of the fire. Water can also be used to absorb heat and keep exposed material from being damaged by fire. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

Fire and/or Explosion Hazards: Vapors may be ignited by heat, sparks, flames or other sources of ignition at or above the low flash point giving rise to a Class B fire. Vapors are heavier than air and may travel to a source of ignition and flash back

Fire Fighting Methods and Protection: Do not enter fire area without proper protection including self-contained toxic breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface. Use water spray/fog for cooling. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Methods for Clean-up: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal

evaluation.

7. HANDLING AND STORAGE

Handling Technical Measures and Precautions:	Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Use spark-proof tools and explosion-proof equipment
Storage Technical Measures and Conditions:	Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Keep away from sources of ignition

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

United States:

Chemical Name	CAS No.	IDLH	ACGIH STEL	ACGIH TLV-TWA	OSHA Exposure Limit
Acetone	67-64-1	2500 ppm IDLH (10% LEL)	750 ppm STEL; 1782 mg/m3 STEL	500 ppm TWA; 1188 mg/m3 TWA	1000 ppm TWA; 2400 mg/m3 TWA
benzo (b) fluoranthene	205-99-2	Not established	None Known	Not established	No data available

Personal Protection:

Engineering Measures:	Local exhaust ventilation is recommended when generating excessive levels of vapours from handling or thermal processing.
Respiratory Protection:	No respiratory protection required under normal conditions of use. Provide general room exhaust ventilation if symptoms of overexposure occur as explained Section 3. A respirator is not normally required.
Eye Protection:	Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses.
Skin Protection:	Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work
Medical Conditions Aggravated By Exposure:	Respiratory disease including asthma and bronchitis

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance, color:	Depends upon product selection
Odor:	Strong
Physical State:	No data available
pH:	Not applicable
Vapor Pressure:	No data available
Vapor Density:	2.0 (air = 1)
Boiling Point (°C):	56.05 °C at 1013.25 hPa
Melting Point (°C):	-95.4 °C Melting Point
Flash Point (°F):	39
Flammability:	Highly Flammable
Upper Flammable/Explosive Limit, % in air:	No data available
Lower Flammable/Explosive Limit, % in air:	No data available
Autoignition Temperature (°C):	465 deg C
Decomposition Temperature (°C):	No data available
Specific Gravity:	0.7845 g/cm3 at 25 °C
Evaporation Rate:	No data available
Odor Threshold:	ND
Solubility:	Complete; 100%
Partition Coefficient: n-octanol in water:	No data available
VOC % by weight:	99.9
Molecular Weight:	58.08

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Materials to Avoid / Chemical Incompatiability:	Strong oxidizing agents Strong acids
Hazardous Decomposition Products:	Carbon dioxide Carbon monoxide

11. TOXICOLOGICAL INFORMATION

Routes of Entry:	Inhalation, Skin Contact, Eye Contact, Ingestion

Target Organs Potentially Affected By Exposure: Eyes, Central nervous system stimulation, Respiratory Tract, Skin

Chemical Interactions That Change Toxicity: None Known

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation: Can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.

Skin Contact: Can cause minor skin irritation, defatting, and dermatitis.

Eye Contact: Can cause minor irritation, tearing and reddening.

Ingestion Irritation: May be harmful if swallowed.

Ingestion Toxicity: Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects:

Carcinogenicity: Contains a probable or known human carcinogen.

Reproductive and Developmental Toxicity: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.

Inhalation: Upon prolonged and/or repeated exposure, can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.

Skin Contact: Upon prolonged or repeated contact, can cause minor skin irritation, defatting, and dermatitis.

Component Toxicological Data:

NIOSH:

Chemical Name	CAS No.	LD50/LC50
Acetone	67-64-1	Dermal LD50 Rabbit >15700 mg/kg; Inhalation LC50 Rat 50100 mg/m3 8 h; Oral LD50 Rat 5800 mg/kg

Component Carcinogenic Data:

OSHA:

Chemical Name	CAS No.	
Benzo(b)fluoranthene	205-99-2	Present

ACGIH:

Chemical Name	CAS No.	
Benzo[b]fluoranthene	205-99-2	A2 - Suspected Human Carcinogen
Acetone	67-64-1	A4 - Not Classifiable as a Human Carcinogen

NIOSH:

Chemical Name	CAS No.
No data available	

NTP:

Chemical Name	CAS No.
No data available	

IARC:

Chemical Name	CAS No.	Group No.
Monograph 92 [2010]; Supplement 7 [1987]; Monograph 32 [1983]	205-99-2	Group 2B

12. ECOLOGICAL INFORMATION

Overview: This material is not expected to be harmful to the ecology.

Mobility: No data

Persistence: No data

Bioaccumulation: No data

Degradability: No data

Ecological Toxicity Data: No data available

13. DISPOSAL CONSIDERATIONS

Waste Description of Spent Product: Spent or discarded material is a hazardous waste.Mixing spent or discarded material with other materials may render the mixture hazardous. Perform a hazardous waste determination on mixtures.

Disposal Methods: Dispose of by incineration following Federal, State, Local, or Provincial regulations.

Waste Disposal of Packaging: Comply with all Local, State, Federal, and Provincial Environmental Regulations.

14. TRANSPORTATION INFORMATION

United States:

DOT Proper Shipping Name: Acetone
UN Number: UN1090
Hazard Class: 3
Packing Group: II

International:

IATA Proper Shipping Name: Acetone
UN Number: UN1090
Hazard Class: 3
Packing Group: II

Marine Pollutant: No

Chemical Name	CAS#	Marine Pollutant	Severe Marine Pollutant
No data available			

15. REGULATORY INFORMATION

United States:

Chemical Name	CAS#	CERCLA	SARA 313	SARA EHS 313	TSCA
Acetone	67-64-1	X	-	-	X
benzo (b) fluoranthene	205-99-2	X	X	-	-

The following chemicals are listed on CA Prop 65:

Chemical Name	CAS #	Regulation
Benzo[b]fluoranthene	205-99-2	Prop 65 Cancer

State Right To Know Listing:

Chemical Name	CAS#	New Jersey	Massachusetts	Pennsylvania	California
Acetone	67-64-1	X	X	X	X
benzo (b) fluoranthene	205-99-2	X	X	X	X

16. OTHER INFORMATION

Prior Version Date: 08/13/18

Other Information: Any changes to the SDS compared to previous versions are marked by a vertical line in front of the concerned paragraph.

References: No data available

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SAFETY DATA SHEET

Version 4.12
Revision Date 03/23/2017
Print Date 05/16/2017

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : 1,1-Dichloroethene

Product Number : 48526
Brand : Supelco
Index-No. : 602-025-00-8

CAS-No. : 75-35-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 1), H224
Acute toxicity, Oral (Category 3), H301
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Carcinogenicity (Category 2), H351

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H224	Extremely flammable liquid and vapour.
H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

May form explosive peroxides.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms	:	1,1-Dichloroethylene Vinylidene chloride
Formula	:	$C_2H_2Cl_2$
Molecular weight	:	96.94 g/mol
CAS-No.	:	75-35-4
EC-No.	:	200-864-0
Index-No.	:	602-025-00-8

Hazardous components

Component	Classification	Concentration
Vinylidene chloride		
	Flam. Liq. 1; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2A; Carc. 2; H224, H301, H315, H319, H351	90 - 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Dry powder Dry sand

Unsuitable extinguishing media
Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Air and moisture sensitive. Store under inert gas.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Vinylidene chloride	75-35-4	TWA	5.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Liver damage Kidney damage Not classifiable as a human carcinogen		
		Potential Occupational Carcinogen See Appendix A		
		PEL	1 ppm 4 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

8.2 Exposure controls

Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash contact
Material: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: 30 min
Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid, clear Colour: colourless
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	Melting point/range: -122 °C (-188 °F) - lit.
f)	Initial boiling point and boiling range	30 - 32 °C (86 - 90 °F) - lit.
g)	Flash point	-19 °C (-2 °F) - closed cup
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 15.5 %(V) Lower explosion limit: 6.5 %(V)
k)	Vapour pressure	658.6 hPa (494.0 mmHg) 667.3 hPa (500.5 mmHg) at 20.0 °C (68.0 °F) 2,137.4 hPa (1,603.2 mmHg) at 55.0 °C (131.0 °F)
l)	Vapour density	No data available
m)	Relative density	1.213 g/cm3 at 20 °C (68 °F)
n)	Water solubility	0.2 g/l at 20 °C (68 °F)
o)	Partition coefficient: n-octanol/water	No data available
p)	Auto-ignition temperature	520.0 °C (968.0 °F) 580.0 °C (1,076.0 °F)
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information
No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Vapours may form explosive mixture with air.

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Oxidizing agents, Copper, Aluminum, and its alloys, Peroxides, Strong bases, Oxygen

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - No data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 200.0 mg/kg

Inhalation: Lung irritation

Dermal: No data available

No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
Laboratory experiments have shown mutagenic effects.

Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available

No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: KV9275000

Nausea, Headache, Vomiting, Dizziness, Drowsiness, Confusion., Incoordination., Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 - Daphnia magna (Water flea) - 11.60 - 11.79 mg/l
	LC50 - Pimephales promelas (fathead minnow) - 108.00 - 169.00 mg/l
	LC50 - Lepomis macrochirus (Bluegill) - 74.00 - 220.00 mg/l
	LC50 - Cyprinodon variegatus (sheepshead minnow) - 249.00 mg/l
	LC50 - other fish - 250.00 mg/l
	LC50 - other fish - 224.00 mg/l
	LC50 - Pimephales promelas (fathead minnow) - 108 mg/l - 96 h
	NOEC - Cyprinodon variegatus (sheepshead minnow) - 80 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	LC50 - Daphnia magna (Water flea) - 11.6 mg/l - 48 h

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1303 Class: 3 Packing group: I
Proper shipping name: Vinylidene chloride, stabilized
Reportable Quantity (RQ): 100 lbsReportable Quantity (RQ): 100 lbsMarine pollutant:yes
Poison Inhalation Hazard: No

IMDG
UN number: 1303 Class: 3 Packing group: I EMS-No: F-E, S-D
Proper shipping name: VINYLIDENE CHLORIDE, STABILIZED
Marine pollutant:yes Marine pollutant: yes

IATA
UN number: 1303 Class: 3 Packing group: I
Proper shipping name: Vinylidene chloride, stabilized

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Vinylidene chloride	75-35-4	2007-07-01

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Reportable Quantity : D029 lbs

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Vinylidene chloride	75-35-4	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Vinylidene chloride	75-35-4	2007-07-01

	CAS-No.	Revision Date
Vinylidene chloride	75-35-4	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Vinylidene chloride	75-35-4	2007-07-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H224	Extremely flammable liquid and vapour.
H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
Skin Irrit.	Skin irritation

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	4
Physical Hazard	2

NFPA Rating

Health hazard:	2
Fire Hazard:	4
Reactivity Hazard:	2

Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 4.12 Revision Date: 03/23/2017 Print Date: 05/16/2017

SAFETY DATA SHEET

Version 4.4
Revision Date 12/01/2015
Print Date 07/13/2017

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : cis-Dichloroethylene

Product Number : 48597
Brand : Supelco
Index-No. : 602-026-00-3

CAS-No. : 156-59-2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 2), H225
Acute toxicity, Inhalation (Category 4), H332
Acute aquatic toxicity (Category 3), H402
Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)
H225 Highly flammable liquid and vapour.
H332 Harmful if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.

P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor/ physician if you feel unwell.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula	:	C2H2Cl2
Molecular weight	:	96.94 g/mol
CAS-No.	:	156-59-2
EC-No.	:	205-859-7
Index-No.	:	602-026-00-3

Hazardous components

Component	Classification	Concentration
cis-Dichloroethylene		
	Flam. Liq. 2; Acute Tox. 4; Aquatic Acute 3; Aquatic Chronic 3; H225, H332, H412	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, Hydrogen chloride gas

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment.Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature 2 - 8 °C

Handle and store under inert gas. Air and moisture sensitive. Light sensitive.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
cis-Dichloroethylene	156-59-2	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment Eye irritation		

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid Colour: light yellow
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	-80.0 °C (-112.0 °F)
f)	Initial boiling point and boiling range	60.0 - 61.0 °C (140.0 - 141.8 °F)
g)	Flash point	6.0 °C (42.8 °F) - closed cup
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	1.28 g/cm3
n)	Water solubility	No data available
o)	Partition coefficient: n-octanol/water	No data available

p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information
No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Vapours may form explosive mixture with air.

10.4 Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials
Oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products - No data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
LC50 Inhalation - Rat - 13700 ppm
Remarks: Behavioral:Somnolence (general depressed activity). Liver:Fatty liver degeneration.

Dermal: No data available

No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available

No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: KV9420000

narcosis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 1150 Class: 3 Packing group: II
Proper shipping name: 1,2-Dichloroethylene

Poison Inhalation Hazard: No

IMDG
UN number: 1150 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: 1,2-DICHLOROETHYLENE

IATA
UN number: 1150 Class: 3 Packing group: II
Proper shipping name: 1,2-Dichloroethylene

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Fire Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
cis-Dichloroethylene	156-59-2	1993-04-24

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
cis-Dichloroethylene	156-59-2	1993-04-24

New Jersey Right To Know Components

	CAS-No.	Revision Date
cis-Dichloroethylene	156-59-2	1993-04-24

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H332	Harmful if inhaled.
H402	Harmful to aquatic life.

HMIS Rating

Health hazard:	1
Chronic Health Hazard:	*
Flammability:	3
Physical Hazard	1

NFPA Rating

Health hazard:	2
Fire Hazard:	3
Reactivity Hazard:	0

Further information
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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 4.4 Revision Date: 12/01/2015 Print Date: 07/13/2017

SAFETY DATA SHEET

Creation Date 08-Nov-2010 **Revision Date** 16-Jan-2019 **Revision Number** 6

1. Identification

Product Name **Fluoranthene**

Cat No. : **AC119170000; AC119170250; AC119171000; AC119175000**

CAS-No 206-44-0
Synonyms Benzo[j,k]fluorene

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 4

Label Elements

Signal Word
Warning

Hazard Statements
Harmful if swallowed

Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Fluoranthene	206-44-0	>95

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects None reasonably foreseeable.

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media No information available

Flash Point Not applicable
Method - No information available

Autoignition Temperature No information available
Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO_2)

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

6. Accidental release measures

Personal Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Ensure adequate ventilation. Wear personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Storage Keep in a dry, cool and well-ventilated place. Keep container tightly closed.

8. Exposure controls / personal protection

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Long sleeved clothing.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Powder Solid
Appearance	Light green
Odor	Odorless
Odor Threshold	No information available
pH	Not applicable
Melting Point/Range	109 - 111 °C / 228.2 - 231.8 °F
Boiling Point/Range	384 °C / 723.2 °F
Flash Point	Not applicable
Evaporation Rate	No information available
Flammability (solid,gas)	No information available
Flammability or explosive limits	

Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	No information available
Solubility	insoluble
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C16 H10
Molecular Weight	202.25

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Fluoranthene	LD50 = 2 g/kg (Rat)	LD50 = 3180 mg/kg (Rabbit)	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Fluoranthene	206-44-0	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Fluoranthene	Not listed	Oncorhynchus mykiss: LC50=0.0077 mg/L 96h	Not listed	EC50: 0.78 mg/L 20h

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility .

Component	log Pow
Fluoranthene	5.1

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Fluoranthene - 206-44-0	U120	-

14. Transport information

DOT

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Proper technical name	Fluoranthene
Hazard Class	9
Packing Group	III

TDG

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

IATA

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

IMDG/IMO

UN-No	UN3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class	9
Packing Group	III

15. Regulatory information

All of the components in the product are on the following Inventory lists: The product is classified and labeled according to EC directives or corresponding national laws The product is classified and labeled in accordance with Directive 1999/45/EC Europe China Canada TSCA Japan X = listed Australia U.S.A. (TSCA) Canada (DSL/NDSL) Europe (EINECS/ELINCS/NLP) Australia (AICS) Korea (ECL) China (IECSC) Japan (ENCS) Philippines (PICCS) Complete Regulatory Information contained in following SDS's

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Fluoranthene	X	-	X	205-912-4	-		-	X	X	X	-

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Fluoranthene	206-44-0	>95	1.0 0.1

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Fluoranthene	-	-	X	X

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Fluoranthene	100 lb	-

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Fluoranthene	X	X	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date	08-Nov-2010
Revision Date	16-Jan-2019
Print Date	16-Jan-2019
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

SAFETY DATA SHEET

Revision Date 17-Jan-2018 **Revision Number** 3

1. Identification

Product Name **1,1,2-Trichloro-1,2,2-trifluoroethane**

Cat No. : **T178-1; T178-4**

Synonyms Fluorocarbon 113; Freon 113; 1,1,2-Trichlorotrifluoroethane

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Based on available data, the classification criteria are not met

Label Elements
None required

Hazards not otherwise classified (HNOC)
None identified

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	99

4. First-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes.

Inhalation	Move to fresh air.
Ingestion	Do not induce vomiting.
Most important symptoms and effects	No information available.
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	770 °C
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
No information available
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
1	0	0	N/A

6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment.
Environmental Precautions	See Section 12 for additional ecological information.
Methods for Containment and Clean Up	No information available.

7. Handling and storage

Handling	Ensure adequate ventilation.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
1,1,2-Trichloro-1,2,2-trifluoroethane	TWA: 1000 ppm STEL: 1250 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 7600 mg/m³ (Vacated) STEL: 1250 ppm (Vacated) STEL: 9500 mg/m³ TWA: 1000 ppm TWA: 7600 mg/m³	IDLH: 2000 ppm TWA: 1000 ppm TWA: 7600 mg/m³ STEL: 1250 ppm STEL: 9500 mg/m³	TWA: 1000 ppm TWA: 1600 mg/m³ STEL: 1250 ppm STEL: 9500 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Clear
Odor	aromatic
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-36 °C
Boiling Point/Range	48 °C
Flash Point	No information available
Evaporation Rate	> 1.0 (Ether = 1.0)
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	363 hPa @ 20 °C
Vapor Density	6.5 (Air = 1.0)
Specific Gravity	1.47 @ 21°C
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	770 °C
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C2Cl3F3
Molecular Weight	187.38

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products.

Incompatible Materials Strong acids, Powdered metals

Hazardous Decomposition Products No information available

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,1,2-Trichloro-1,2,2-trifluoroethane	LD50 = 43 g/kg (Rat)	Not listed	LC50 = 38000 ppm (Rat) 4 h LC50 = 38500 mg/kg (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains. Chlorotrifluoromethane (CFC-13) is a Class I ozone-depleting chlorofluorocarbon. It is stable in the atmosphere. The half-life for degradation by reaction with photochemically-produced hydroxyl radicals is about 62 years. Following gradual diffusion into the stratosphere above the ozone layer, it slowly degrades (est. half-life of 180-450 years) due to direct photolysis and contributes to the catalytic removal of atmosphere ozone.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
1,1,2-Trichloro-1,2,2-trifluoro ethane	Not listed	LC50: 7 - 14 mg/L, 96h static (Brachydanio rerio) LC50: = 1250 mg/L, 96h (Pimephales promelas) LC50: = 6240 mg/L, 96h (Oryzias latipes)	Not listed	EC50: = 71 mg/L, 48h (Daphnia magna)

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT Not regulated
TDG Not regulated
IATA Not regulated
IMDG/IMO Not regulated

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
1,1,2-Trichloro-1,2,2-trifluoro ethane	X	X	-	200-936-1	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	99	1.0

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
1,1,2-Trichloro-1,2,2-trifluoroethane	-	X	-

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA Not applicable

Component	Hazardous Substances RQs	CERCLA EHS RQs
1,1,2-Trichloro-1,2,2-trifluoroethane	5000 lb	-

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations Not applicable

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
1,1,2-Trichloro-1,2,2-trifluoroethane	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Revision Date 17-Jan-2018
Print Date 17-Jan-2018
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

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End of SDS

Safety Data Sheet

Revision Date: 06/04/19
www.restek.com

2 Letter ISO country code/language code: US/EN

1. IDENTIFICATION

Catalog Number / Product Name:	**31279 / Indeno(1,2,3-c,d)pyrene Standard**
Company:	Restek Corporation
Address:	110 Benner Circle Bellefonte, Pa. 16823
Phone#:	814-353-1300
Fax#:	814-353-1309
Emergency#:	800-424-9300 (CHEMTREC) 703-527-3887 (Outside the US)
Email:	www.restek.com
Revision Number:	11
Intended use:	For Laboratory use only

2. HAZARD(S)IDENTIFICATION

Emergency Overview:

GHS Hazard Symbols:

GHS Classification:	Carcinogenicity Category 2
GHS Signal Word:	Warning
GHS Hazard:	Suspected of causing cancer.
GHS Precautions:	
Safety Precautions:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.
First Aid Measures:	IF exposed or concerned: Get medical advice/attention.
Storage:	Store locked up.
Disposal:	Dispose of contents/container according to section 13 of the SDS.
Single Exposure Target Organs:	No data available
Repeated Exposure Target Organs:	No data available

3. COMPOSITION / INFORMATION ON INGREDIENT

Chemical Name	CAS #	EINEC #	% Composition
Dichloromethane	75-09-2	200-838-9	99.9
indeno (1,2,3-c,d) pyrene	193-39-5	205-893-2	0.1

4. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately
Eyes:	Immediately flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician. Serious harm (damage) may result if treatment is delayed. Continue to flush eyes while awaiting medical attention
Skin Contact:	Wash with soap and water. Remove contaminated clothing, launder immediately, and discard contaminated leather goods. Get medical attention immediately.
Ingestion:	Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this SDS. Never give anything by mouth to an unconscious person

5. FIRE- FIGHTING MEASURES

Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do Not direct a stream of water into the hot burning liquid. Use methods suitable to fight surrounding fire.
Fire and/or Explosion Hazards:	No data.
Fire Fighting Methods and Protection:	Use methods for the surrounding fire.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment:	Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits.
Methods for Clean-up:	Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

7. HANDLING AND STORAGE

Handling Technical Measures and Precautions:	Toxic or severely irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. As with all chemicals, good industrial hygiene practices should be followed when handling this material.
Storage Technical Measures and Conditions:	Store in a cool dry place. Isolate from incompatible materials. Keep container closed when not in use

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

United States:

Chemical Name	CAS No.	IDLH	ACGIH STEL	ACGIH TLV-TWA	OSHA Exposure Limit
Dichloromethane	75-09-2	2300 ppm IDLH	None Known	50 ppm TWA	25 ppm TWA; 125 ppm STEL (15 min. TWA)
indeno (1,2,3-c,d) pyrene	193-39-5	Not established	None Known	Not established	No data available

Personal Protection:

Engineering Measures:	Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.
Respiratory Protection:	Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to

	eliminate symptoms.
Eye Protection:	Wear chemically resistant safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Do not wear contact lenses. Have an eye wash station available.
Skin Protection:	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Medical Conditions Aggravated By Exposure:	Eye disease Skin disease including eczema and sensitization Respiratory disease including asthma and bronchitis

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance, color:	Colorless
Odor:	Strong
Physical State:	No data available
pH:	Not applicable
Vapor Pressure:	No data available
Vapor Density:	2.93 (air = 1)
Boiling Point (°C):	530 °C
Melting Point (°C):	-96.7 °C
Flash Point (°F):	No data available
Upper Flammable/Explosive Limit, % in air:	No data available
Lower Flammable/Explosive Limit, % in air:	No data available
Autoignition Temperature (°C):	556 deg C
Decomposition Temperature (°C):	No data available
Specific Gravity:	1.3254 - 1.3258 g/cm3 at 20 °C
Evaporation Rate:	No data available
Odor Threshold:	ND
Solubility:	Moderate; 50-99%
Partition Coefficient: n-octanol in water:	No data available
VOC % by weight:	99.9
Molecular Weight:	No data available

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.Contamination High temperatures
Materials to Avoid / Chemical Incompatiability:	Strong oxidizing agents Caustics (bases)
Hazardous Decomposition Products:	Carbon dioxide Carbon monoxide

11. TOXICOLOGICAL INFORMATION

Routes of Entry:	Inhalation Absorption Ingestion Skin contact Eye contact
Target Organs Potentially Affected By Exposure:	Skin, Cardiovascular System, Eyes, Liver
Chemical Interactions That Change Toxicity:	None Known

Immediate (Acute) Health Effects by Route of Exposure:

Inhalation Irritation:	Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Inhalation Toxicity:	Harmful! Can cause systemic damage (see "Target Organs)Inhalation may cause severe central nervous system depression (including unconsciousness).
Skin Contact:	Contact causes severe skin irritation and possible burns.
Skin Absorption:	Harmful if absorbed through the skin. May cause severe irritation and systemic damage.
Eye Contact:	Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.
Ingestion Irritation:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.
Ingestion Toxicity:	Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects:

Carcinogenicity:	Contains a probable or known human carcinogen.
Reproductive and Developmental Toxicity:	No data available to indicate product or any components

present at greater than 0.1% may cause birth defects.

Inhalation: Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.Harmful! Can cause systemic damage upon prolonged and/or repeated exposure (see "Target Organs)

Skin Absorption: Upon prolonged or repeated exposure, harmful if absorbed through the skin. May cause severe irritation and systemic damage

Component Toxicological Data:

NIOSH:

Chemical Name	CAS No.	LD50/LC50
Methane, dichloro-	75-09-2	Inhalation LC50 Rat 53 mg/L 6 h

Component Carcinogenic Data:

OSHA:

Chemical Name	CAS No.	
Indeno[1,2,3-cd]pyrene	193-39-5	Present
Methylene chloride	75-09-2	25 ppm TWA (8 hr.); 125 ppm STEL (15 min.); 12.5 ppm Action Level (see 29 CFR 1910.1051); effective date for respiratory protection for certain employers to acheive the 8-hour TWA PEL is August 31, 1998; the start up date to install engineering controls is December 10, 1998.; {OSHA - 29 CFR 1910 Specifically Regulate

ACGIH:

Chemical Name	CAS No.	
Dichloromethane	75-09-2	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

NIOSH:

Chemical Name	CAS No.	
Methylene chloride	75-09-2	potential occupational carcinogen

NTP:

Chemical Name	CAS No.
No data available	

IARC:

Chemical Name	CAS No.	Group No.
Monograph 110 [in preparation]; Monograph 71 [1999]	75-09-2	Group 2A
Monograph 92 [2010]; Supplement 7 [1987]; Monograph 32 [1983]	193-39-5	Group 2B

12. ECOLOGICAL INFORMATION

Overview: Moderate ecological hazard. This product may be dangerous to plants and/or wildlife. Keep out of waterways.

Mobility: No data

Persistence: No data

Bioaccumulation: No data

Degradability: No data

Ecological Toxicity Data: No data available

13. DISPOSAL CONSIDERATIONS

Waste Description of Spent Product: Spent or discarded material is a hazardous waste.Mixing spent or discarded material with other materials may render the mixture hazardous. Perform a hazardous waste determination on mixtures.

Disposal Methods: Incinerate spent or discarded material a permitted hazardous waste facility.

Waste Disposal of Packaging: Comply with all Local, State, Federal, and Provincial

Environmental Regulations.

14. TRANSPORTATION INFORMATION

United States:
DOT Proper Shipping Name: Dichloromethane
UN Number: UN1593
Hazard Class: 6.1
Packing Group: III

International:
IATA Proper Shipping Name: Dichloromethane
UN Number: UN1593
Hazard Class: 6.1
Packing Group: III

Marine Pollutant: No

Chemical Name	CAS#	Marine Pollutant	Severe Marine Pollutant
No data available			

15. REGULATORY INFORMATION

United States:

Chemical Name	CAS#	CERCLA	SARA 313	SARA EHS 313	TSCA
Dichloromethane	75-09-2	X	X	-	X
indeno (1,2,3-c,d) pyrene	193-39-5	X	X	-	X

The following chemicals are listed on CA Prop 65:

Chemical Name	CAS #	Regulation
Indeno[1,2,3-cd]pyrene	193-39-5	Prop 65 Cancer
Dichloromethane Dichloromethane (Methylene chloride)	75-09-2	Prop 65 Cancer

State Right To Know Listing:

Chemical Name	CAS#	New Jersey	Massachusetts	Pennsylvania	California
Dichloromethane	75-09-2	X	X	X	X
indeno (1,2,3-c,d) pyrene	193-39-5	X	X	X	X

16. OTHER INFORMATION

Prior Version Date: 03/22/18
Other Information: Any changes to the SDS compared to previous versions are marked by a vertical line in front of the concerned paragraph.
References: No data available
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SAFETY DATA SHEET

Creation Date 20-Aug-2014 **Revision Date** 17-Jan-2018 **Revision Number** 3

1. Identification

Product Name **Mercury (Certified ACS)**

Cat No. : **M141-1LB; M141-6LB**

Synonyms Colloidal mercury; Hydrargyrum; Metallic mercury

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to metals	Category 1
Acute Inhalation Toxicity - Vapors	Category 2
Reproductive Toxicity	Category 1B
Specific target organ toxicity - (repeated exposure)	Category 1
Target Organs - Central nervous system (CNS), Kidney.	

Label Elements

Signal Word
Danger

Hazard Statements
May be corrosive to metals
Fatal if inhaled
May damage the unborn child
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not get in eyes, on skin, or on clothing
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
Skin
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN: Gently wash with plenty of soap and water
Remove/Take off immediately all contaminated clothing
Wash contaminated clothing before reuse
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects
WARNING. Reproductive Harm - https://www.p65warnings.ca.gov/.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Mercury	7439-97-6	100

4. First-aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms and effects No information available.

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

Unsuitable Extinguishing Media No information available

Flash Point No information available
Method - No information available

Autoignition Temperature No information available

Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Very toxic. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Mercury oxide Highly toxic fumes

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
4	0	0	N/A

6. Accidental release measures

Personal Precautions Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.

Environmental Precautions Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up Wear self-contained breathing apparatus and protective suit. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Do not ingest.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Mercury	TWA: 0.025 mg/m³ Skin	(Vacated) TWA: 0.05 mg/m³ Ceiling: 0.1 mg/m³ (Vacated) STEL: 0.03 mg/m³ Skin (Vacated) Ceiling: 0.1 mg/m³	IDLH: 10 mg/m³ TWA: 0.05 mg/m³ Ceiling: 0.1 mg/m³	TWA: 0.05 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Silver
Odor	Odorless
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-38.87 °C / -38 °F
Boiling Point/Range	356.72 °C / 674.1 °F
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	0.002 mmHg @ 25 °C
Vapor Density	7.0
Specific Gravity	13.59 (H2O=1)
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	Hg
Molecular Weight	200.59

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat.

Incompatible Materials Strong oxidizing agents, Ammonia, Metals, Halogens

Hazardous Decomposition Products Mercury oxide, Highly toxic fumes

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Mercury	7439-97-6	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects May cause harm to the unborn child.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure Central nervous system (CNS) Kidney

Aspiration hazard No information available

Symptoms / effects,both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

This product contains the following substance(s) which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Mercury	Not listed	0.9 mg/L LC50 96h 0.18 mg/L LC50 96h 0.16 mg/L LC50 96h 0.5 mg/L LC50 96h	Not listed	EC50: = 5.0 µg/L, 96h (water flea)

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Mercury - 7439-97-6	U151	-

14. Transport information

DOT

UN-No	UN2809
Proper Shipping Name	MERCURY
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	III

TDG

UN-No	UN2809
Proper Shipping Name	MERCURY
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	III

IATA

UN-No	UN2809
Proper Shipping Name	MERCURY
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	III

IMDG/IMO

UN-No	UN2809
Proper Shipping Name	MERCURY
Hazard Class	8
Subsidiary Hazard Class	6.1
Packing Group	III

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Mercury	X	X	-	231-106-7	-		X	-	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

Component	TSCA 12(b)
Mercury	Section 5

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Mercury	7439-97-6	100	1.0

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Mercury	-	-	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Mercury	X		-

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Mercury	1 lb	-

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Mercury	7439-97-6	Developmental	-	Developmental

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Mercury	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 20-Aug-2014
Revision Date 17-Jan-2018
Print Date 17-Jan-2018
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

SAFETY DATA SHEET

Creation Date 27-Jan-2010 **Revision Date** 24-May-2017 **Revision Number** 5

1. Identification

Product Name **Methylene chloride**

Cat No. : **D37-1; D37-4; D37-20; D37-200; D37-200LC; D37-500; D37FB-19; D37FB-50; D37FB-115; D37FB-200; D37POP-19; D37POPB-50; D37POPB-200; D37RB-19; D37RB-50; D37RB-115; D37RB-200; D37RS-19; D37RS-28; D37RS-50; D37RS-115; D37RS-200; D37SK-4; D37SK-4LC; D37SS-28; D37SS-50; D37SS-115; D37SS-200; D37SS-1350**

Synonyms Dichloromethane; DCM

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Central nervous system (CNS).	

Label Elements

Signal Word
Danger

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause drowsiness or dizziness
May cause cancer

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)

WARNING! This product contains a chemical known in the State of California to cause cancer.

3. Composition / information on ingredients

Component	CAS-No	Weight %
Methylene chloride	75-09-2	>99.5

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms/effects Breathing difficulties. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media No information available

Flash Point No information available
Method - No information available

Autoignition Temperature 556 °C / 1032.8 °F

Explosion Limits
Upper 23 vol %
Lower 13 vol %
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Carbon monoxide (CO) Carbon dioxide (CO_2) Hydrogen chloride gas Phosgene
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	0	N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.

Environmental Precautions Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Use only under a chemical fume hood.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Methylene chloride	TWA: 50 ppm	(Vacated) TWA: 500 ppm (Vacated) STEL: 2000 ppm (Vacated) Ceiling: 1000 ppm TWA: 25 ppm STEL: 125 ppm	IDLH: 2300 ppm	TWA: 100 ppm TWA: 330 mg/m^3 STEL: 500 ppm STEL: 1740 mg/m^3

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	sweet
Odor Threshold	No information available
pH	Not applicable
Melting Point/Range	-97 °C / -142.6 °F
Boiling Point/Range	39 °C / 102.2 °F
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	23 vol %
Lower	13 vol %
Vapor Pressure	350 mbar @ 20°C
Vapor Density	2.93 (Air = 1.0)
Specific Gravity	1.33
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	556 °C / 1032.8 °F
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C H2 Cl2
Molecular Weight	84.93

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat.

Incompatible Materials Strong oxidizing agents, Strong acids, Amines

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2), Hydrogen chloride gas, Phosgene

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylene chloride	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	53 mg/L (Rat) 6 h 76000 mg/m³ (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Methylene chloride	75-09-2	Group 2A	Reasonably Anticipated	A3	X	A3

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects Mutagenic effects have occured in microorganisms.

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects Developmental effects have occurred in experimental animals.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

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Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Methylene chloride	EC50:>660 mg/L/96h	Pimephales promelas: LC50:193 mg/L/96h	EC50: 1 mg/L/24 h EC50: 2.88 mg/L/15 min	EC50: 140 mg/L/48h

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

Component	log Pow
Methylene chloride	1.25

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Methylene chloride - 75-09-2	U080	-

14. Transport information

DOT

UN-No UN1593
Proper Shipping Name DICHLOROMETHANE
Hazard Class 6.1
Packing Group III

TDG

UN-No UN1593
Proper Shipping Name DICHLOROMETHANE
Hazard Class 6.1
Packing Group III

IATA

UN-No UN1593
Proper Shipping Name Dichloromethane
Hazard Class 6.1
Packing Group III

IMDG/IMO

UN-No UN1593
Proper Shipping Name Dichloromethane
Hazard Class 6.1
Packing Group III

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Methylene chloride	X	X	-	200-838-9	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated

polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Methylene chloride	75-09-2	>99.5	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Methylene chloride	-	-	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Methylene chloride	X		-

OSHA Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Methylene chloride	125 ppm STEL 12.5 ppm Action Level 25 ppm TWA	-

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Methylene chloride	1000 lb 1 lb	-

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Methylene chloride	75-09-2	Carcinogen	200 µg/day 50 µg/day	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Methylene chloride	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ):	Y
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date	27-Jan-2010
Revision Date	24-May-2017
Print Date	24-May-2017
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

SAFETY DATA SHEET

Creation Date 10-Dec-2009 **Revision Date** 26-May-2017 **Revision Number** 4

1. Identification

Product Name **Tetrachloroethylene**

Cat No. : **AC445690000; ACR445690010; AC445690025; AC445691000**

Synonyms Perchloroethylene

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No.**US:**001-800-424-9300 / **Europe:**001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney, Liver, Blood.	

Label Elements

Signal Word
Danger

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May cause drowsiness or dizziness
May cause cancer
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Toxic to aquatic life with long lasting effects
WARNING! This product contains a chemical known in the State of California to cause cancer.

3. Composition / information on ingredients

Component	CAS-No	Weight %
Tetrachloroethylene	127-18-4	>95

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms/effects None reasonably foreseeable. May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media No information available

Flash Point No information available
Method - No information available

Autoignition Temperature No information available

Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated.

Hazardous Combustion Products
Chlorine Hydrogen chloride gas Phosgene

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
2	0	0	N/A

6. Accidental release measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation.
Environmental Precautions Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from sunlight.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Tetrachloroethylene	TWA: 25 ppm STEL: 100 ppm	(Vacated) TWA: 25 ppm (Vacated) TWA: 170 mg/m^3 Ceiling: 200 ppm TWA: 100 ppm	IDLH: 150 ppm	TWA: 100 ppm TWA: 670 mg/m^3 TWA: 200 ppm TWA: 1250 mg/m^3 STEL: 200 ppm STEL: 1340 mg/m^3

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Long sleeved clothing.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Characteristic, sweet
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-22 °C / -7.6 °F
Boiling Point/Range	120 - 122 °C / 248 - 251.6 °F @ 760 mmHg
Flash Point	No information available
Evaporation Rate	6.0 (Ether = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	18 mbar @ 20 °C
Vapor Density	No information available
Density	1.619
Specific Gravity	1.625
Solubility	0.15 g/L water (20°C)
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	> 150°C
Viscosity	0.89 mPa s at 20 °C
Molecular Formula	C2 Cl4
Molecular Weight	165.83

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Exposure to moist air or water.

Incompatible Materials Strong acids, Strong oxidizing agents, Strong bases, Metals, Zinc, Amines, Aluminium

Hazardous Decomposition Products Chlorine, Hydrogen chloride gas, Phosgene

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tetrachloroethylene	LD50 = 2629 mg/kg (Rat)	LD50 > 10000 mg/kg (Rat)	LC50 = 27.8 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Tetrachloroethylene	127-18-4	Group 2A	Reasonably Anticipated	A3	X	A3

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)
STOT - repeated exposure Kidney Liver Blood

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest

pain, muscle pain or flushing

Endocrine Disruptor Information

Component	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Tetrachloroethylene	Group II Chemical	Not applicable	Not applicable

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Tetrachloroethylene	EC50: > 500 mg/L, 96h (Pseudokirchneriella subcapitata)	LC50: 4.73 - 5.27 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 11.0 - 15.0 mg/L, 96h static (Lepomis macrochirus) LC50: 8.6 - 13.5 mg/L, 96h static (Pimephales promelas) LC50: 12.4 - 14.4 mg/L, 96h flow-through (Pimephales promelas)	EC50 = 100 mg/L 24 h EC50 = 112 mg/L 24 h EC50 = 120.0 mg/L 30 min	EC50: 6.1 - 9.0 mg/L, 48h Static (Daphnia magna)

Persistence and Degradability Insoluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility . Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility.

Component	log Pow
Tetrachloroethylene	2.88

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Tetrachloroethylene - 127-18-4	U210	-

14. Transport information

DOT

- **UN-No** UN1897
- **Proper Shipping Name** TETRACHLOROETHYLENE
- **Hazard Class** 6.1
- **Packing Group** III

TDG

- **UN-No** UN1897
- **Proper Shipping Name** TETRACHLOROETHYLENE
- **Hazard Class** 6.1
- **Packing Group** III

IATA

- **UN-No** UN1897
- **Proper Shipping Name** TETRACHLOROETHYLENE
- **Hazard Class** 6.1

Packing Group III

IMDG/IMO

UN-No UN1897
Proper Shipping Name TETRACHLOROETHYLENE
Hazard Class 6.1
Subsidiary Hazard Class P
Packing Group III

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Tetrachloroethylene	X	X	-	204-825-9	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Tetrachloroethylene	127-18-4	>95	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Tetrachloroethylene	-	-	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Tetrachloroethylene	X		-

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive

Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Tetrachloroethylene	100 lb 1 lb	-

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Tetrachloroethylene	127-18-4	Carcinogen	14 µg/day	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Tetrachloroethylene	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant Y
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 10-Dec-2009
Revision Date 26-May-2017
Print Date 26-May-2017
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

SAFETY DATA SHEET

Creation Date 01-May-2012 **Revision Date** 16-Jan-2019 **Revision Number** 2

1. Identification

Product Name **Phenanthrene**

Cat No. : **A19646**

CAS-No 85-01-8
Synonyms No information available

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 4

Label Elements

Signal Word
Warning

Hazard Statements
Harmful if swallowed

Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Phenanthrene	85-01-8	>95

4. First-aid measures

General Advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Obtain medical attention. Wash off immediately with plenty of water for at least 15 minutes.

Inhalation Move to fresh air. Obtain medical attention. If not breathing, give artificial respiration.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects None reasonably foreseeable.

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media No information available

Flash Point No information available
Method - No information available

Autoignition Temperature
Explosion Limits
Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Combustion Products
Carbon monoxide (CO) Carbon dioxide (CO_2)
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
1	1	0	N/A

6. Accidental release measures

Personal Precautions Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.
Environmental Precautions Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods for Containment and Clean Up Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies.

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Phenanthrene		TWA: 0.2 mg/m³		

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Long sleeved clothing.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State Solid
Appearance Beige

Odor	Odorless
Odor Threshold	No information available
pH	No information available
Melting Point/Range	95 - 101 °C / 203 - 213.8 °F
Boiling Point/Range	336 °C / 636.8 °F
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	1 mmHg @ 116 °C
Vapor Density	Not applicable
Specific Gravity	1.063
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	C14 H10
Molecular Weight	178.23

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Avoid dust formation.

Incompatible Materials Strong oxidizing agents

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phenanthrene	1.8 g/kg (Rat)	Not listed	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Phenanthrene	85-01-8	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known
STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects,both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Phenanthrene	Not listed	LC50 = 3.2 mg/L 96h	Not listed	LC50 = 0.35 mg/L 48h

Persistence and Degradability May persist

Bioaccumulation/ Accumulation No information available.

Mobility . Is not likely mobile in the environment due its low water solubility.

Component	log Pow
Phenanthrene	4.5

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN3077
Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class 9
Packing Group III

TDG

UN-No UN3077
Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class 9
Packing Group III

IATA

UN-No UN3077
Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*
Hazard Class 9
Packing Group III

IMDG/IMO

UN-No UN3077
Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Hazard Class 9
Packing Group III

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Phenanthrene	X	X	-	201-581-5	-		X	X	X	X	KE-28202

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Phenanthrene	85-01-8	>95	1.0

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Phenanthrene	-	-	-	X

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Phenanthrene	5000 lb	-

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Phenanthrene	X	X	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By
Health, Safety and Environmental Department
Email: tech@alfa.com
www.alfa.com

Creation Date	01-May-2012
Revision Date	16-Jan-2019
Print Date	16-Jan-2019
Revision Summary	SDS authoring systems update, replaces ChemGes SDS No. 85-01-8/3.

Disclaimer
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End of SDS

SAFETY DATA SHEET

Version 4.10
Revision Date 09/23/2016
Print Date 07/13/2017

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : 1,1,1-Trichloroethane

Product Number : 402877
Brand : Sigma-Aldrich
Index-No. : 602-013-00-2

CAS-No. : 71-55-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute toxicity, Inhalation (Category 4), H332
Skin irritation (Category 2), H315

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)
H315 Causes skin irritation.
H332 Harmful if inhaled.

Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.

P321	Specific treatment (see supplemental first aid instructions on this label).
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms	:	'Chlorothene' Methylchloroform
Formula	:	$C_2H_3Cl_3$
Molecular weight	:	133.40 g/mol
CAS-No.	:	71-55-6
EC-No.	:	200-756-3
Index-No.	:	602-013-00-2

Hazardous components

Component	Classification	Concentration
1,1,1-Trichloroethane		
	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; Ozone 1; H315, H319, H332	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
No data available

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
1,1,1-Trichloroethane	71-55-6	TWA	350.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment Liver damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		STEL	450.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Liver damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		C	350.000000 ppm 1,900.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		See Appendix C 15 minute ceiling value		
		TWA	350.000000 ppm 1,900.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate.		

		PEL	350 ppm 1,900 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	450 ppm 2,450 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		C	800 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
1,1,1-Trichloroethane	71-55-6	Methyl chloroform	40ppm	In end-exhaled air	ACGIH - Biological Exposure Indices (BEI)
	Remarks	Prior to last shift of workweek			
		Trichloroacetic acid	10.0000 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of the workweek (After four or five consecutive working days with exposure)			
		Total trichloroethanol	30.0000 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
		End of shift at end of workweek			
		Total trichloroethanol	1.0000 mg/l	In blood	ACGIH - Biological Exposure Indices (BEI)
		End of shift at end of workweek			

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 60 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an

industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: liquid, clear Colour: colourless
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	-35.0 °C (-31.0 °F)
f)	Initial boiling point and boiling range	72.0 - 75.0 °C (161.6 - 167.0 °F)
g)	Flash point	No data available
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 15 %(V) Lower explosion limit: 7.5 %(V)
k)	Vapour pressure	133.3 hPa (100.0 mmHg) at 20.0 °C (68.0 °F)
l)	Vapour density	No data available
m)	Relative density	1.34 g/cm3
n)	Water solubility	1.25 g/l at 23 °C (73 °F)
o)	Partition coefficient: n-octanol/water	log Pow: 2.49
p)	Auto-ignition temperature	537.0 °C (998.6 °F)
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information
No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.
Contains the following stabiliser(s):
Low alkyl epoxide (<=0.05 %)

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Strong oxidizing agents, Potassium, Magnesium, Sodium/sodium oxides, Zinc, Strong bases

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - No data available
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 9,600 mg/kg
Remarks: Cardiac:Pulse rate. Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

LD50 Oral - Mouse - 6,000 mg/kg
Remarks: Cardiac:Pulse rate. Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

LC50 Inhalation - Mouse - 2 h - 3911 ppm
Remarks: Behavioral:Excitement.

Dermal: No data available

LD50 Intraperitoneal - Rat - 3,593 mg/kg

LD50 Intraperitoneal - Mouse - 2,568 mg/kg

LD50 Subcutaneous - Mouse - 16.0 mg/kg
Remarks: Drowsiness Behavioral:Ataxia.

LD50 Intraperitoneal - Dog - 3,100 mg/kg
Remarks: Liver:Liver function tests impaired.

Skin corrosion/irritation
Skin - Rabbit
Result: Skin irritation - 24 h

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,1,1-Trichloroethane)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available

No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Exposure to and/or consumption of alcohol may increase toxic effects., prolonged or repeated exposure can cause:, narcosis, Liver injury may occur., Kidney injury may occur.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 42.3 mg/l - 96 h

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential

Bioaccumulation	Lepomis macrochirus (Bluegill) - 28 d - 0.0734 mg/l
	Bioconcentration factor (BCF): 9

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 2831 Class: 6.1 Packing group: III
Proper shipping name: 1,1,1-Trichloroethane
Reportable Quantity (RQ): 1000 lbs

Poison Inhalation Hazard: No

IMDG

UN number: 2831 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: 1,1,1-TRICHLOROETHANE

IATA
UN number: 2831 Class: 6.1 Packing group: III
Proper shipping name: 1,1,1-Trichloroethane

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
1,1,1-Trichloroethane	71-55-6	2007-07-01

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
1,1,1-Trichloroethane	71-55-6	2007-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
1,1,1-Trichloroethane	71-55-6	2007-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
1,1,1-Trichloroethane	71-55-6	2007-07-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Eye Irrit.	Eye irritation
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
Ozone	Hazardous to the ozone layer
Skin Irrit.	Skin irritation

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	
Flammability:	0
Physical Hazard	0

NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

Further information
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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the

product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Preparation Information
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 4.10 Revision Date: 09/23/2016 Print Date: 07/13/2017

SAFETY DATA SHEET

Creation Date 03-Feb-2010 **Revision Date** 14-Jul-2016 **Revision Number** 2

1. Identification

Product Name **Trichloroethylene**

Cat No. : **T340-4; T341-4; T341-20; T341-500; T403-4**

Synonyms Trichloroethene (Stabilized/Technical/Electronic/Certified ACS)

Recommended Use Laboratory chemicals.
Uses advised against

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney, Liver, Heart, spleen, Blood.	

Label Elements

Signal Word
Danger

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May cause drowsiness or dizziness
Suspected of causing genetic defects
May cause cancer
May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Harmful to aquatic life with long lasting effects
WARNING! This product contains a chemical known in the State of California to cause cancer, birth defects or other reproductive harm.

3. Composition / information on ingredients

Component	CAS-No	Weight %
Trichloroethylene	79-01-6	100

4. First-aid measures

General Advice
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation
Move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a

	pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Most important symptoms/effects	None reasonably foreseeable. May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	410 °C / 770 °F
Explosion Limits	
Upper	10.5 vol %
Lower	8 vol %
Oxidizing Properties	Not oxidising
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Hydrogen chloride gas Chlorine Phosgene Carbon monoxide (CO) Carbon dioxide (CO_2)
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	0	N/A

6. Accidental release measures

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.
Environmental Precautions	Should not be released into the environment. Do not flush into surface water or sanitary sewer system.
Methods for Containment and Clean Up	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling	Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe vapors or spray mist. Do not ingest.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from light. Do not store in aluminum containers.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Trichloroethylene	TWA: 10 ppm STEL: 25 ppm	(Vacated) TWA: 50 ppm (Vacated) TWA: 270 mg/m³ Ceiling: 200 ppm (Vacated) STEL: 200 ppm (Vacated) STEL: 1080 mg/m³ TWA: 100 ppm	IDLH: 1000 ppm	TWA: 100 ppm TWA: 535 mg/m³ STEL: 200 ppm STEL: 1080 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Long sleeved clothing.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Characteristic
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-85 °C / -121 °F
Boiling Point/Range	87 °C / 188.6 °F
Flash Point	No information available
Evaporation Rate	0.69 (Carbon Tetrachloride = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	10.5 vol %
Lower	8 vol %
Vapor Pressure	77.3 mbar @ 20 °C
Vapor Density	4.5 (Air = 1.0)
Specific Gravity	1.460
Solubility	Slightly soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	410 °C / 770 °F
Decomposition Temperature	> 120°C
Viscosity	0.55 mPa.s (25°C)

Molecular Formula C2 H Cl3
Molecular Weight 131.39

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Light sensitive.

Conditions to Avoid Incompatible products. Excess heat. Exposure to light. Exposure to moist air or water.

Incompatible Materials Strong oxidizing agents, Strong bases, Amines, Alkali metals, Metals,

Hazardous Decomposition Products Hydrogen chloride gas, Chlorine, Phosgene, Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information
Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Trichloroethylene	LD50 = 4290 mg/kg (Rat) LD50 = 4920 mg/kg (Rat)	LD50 > 20 g/kg (Rabbit) LD50 = 29000 mg/kg (Rabbit)	LC50 = 26 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Trichloroethylene	79-01-6	Group 1	Reasonably Anticipated	A2	X	Not listed

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mutagenic Effects Mutagenic effects have occurred in humans.

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)
STOT - repeated exposure Kidney Liver Heart spleen Blood

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains. The product contains following substances which are hazardous for the environment. Contains a substance which is:. Harmful to aquatic organisms. Toxic to aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Trichloroethylene	EC50: = 175 mg/L, 96h (Pseudokirchneriella subcapitata) EC50: = 450 mg/L, 96h (Desmodesmus subspicatus)	LC50: 39 - 54 mg/L, 96h static (Lepomis macrochirus) LC50: 31.4 - 71.8 mg/L, 96h flow-through (Pimephales promelas)	EC50 = 0.81 mg/L 24 h EC50 = 115 mg/L 10 min EC50 = 190 mg/L 15 min EC50 = 235 mg/L 24 h EC50 = 410 mg/L 24 h EC50 = 975 mg/L 5 min	EC50: = 2.2 mg/L, 48h (Daphnia magna)

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

Component	log Pow
Trichloroethylene	2.4

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Trichloroethylene - 79-01-6	U228	-

14. Transport information

DOT

UN-No UN1710
Proper Shipping Name TRICHLOROETHYLENE
Hazard Class 6.1
Packing Group III

TDG

UN-No UN1710
Proper Shipping Name TRICHLOROETHYLENE
Hazard Class 6.1
Packing Group III

IATA

UN-No UN1710
Proper Shipping Name TRICHLOROETHYLENE

Hazard Class	6.1
Packing Group	III

IMDG/IMO

UN-No	UN1710
Proper Shipping Name	TRICHLOROETHYLENE
Hazard Class	6.1
Packing Group	III

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Trichloroethylene	X	X	-	201-167-4	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

Component	TSCA 12(b)
Trichloroethylene	Section 5

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Trichloroethylene	79-01-6	100	0.1

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Trichloroethylene	X	100 lb	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Trichloroethylene	X		-

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Trichloroethylene	100 lb 1 lb	-

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Trichloroethylene	79-01-6	Carcinogen Developmental Male Reproductive	14 µg/day 50 µg/day	Developmental Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Trichloroethylene	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 03-Feb-2010
Revision Date 14-Jul-2016
Print Date 14-Jul-2016
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

SAFETY DATA SHEET

Creation Date 11-Jun-2009 **Revision Date** 24-May-2017 **Revision Number** 3

1. Identification

Product Name **Toluene**

Cat No. : **T326F-1GAL; T326P-4; T326S-20; T326S-20LC**

Synonyms Tol; Methylbenzene

Recommended Use Laboratory chemicals.
Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 2
Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system, Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney, Liver, spleen, Blood.	
Aspiration Toxicity	Category 1

Label Elements

Signal Word
Danger

Hazard Statements
Highly flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
May cause drowsiness or dizziness
Suspected of damaging the unborn child
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
Fire
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

3. Composition / information on ingredients

Component	CAS-No	Weight %
Toluene	108-88-3	>95

4. First-aid measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Risk of serious damage to the lungs.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. Call a physician or Poison Control Center immediately. If vomiting occurs naturally, have victim lean forward.
Most important symptoms/effects	Breathing difficulties. Causes central nervous system depression: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.
Unsuitable Extinguishing Media	No information available
Flash Point	4 °C / 39.2 °F
Method -	No information available
Autoignition Temperature	535 °C / 995 °F
Explosion Limits	
Upper	7.1 vol %
Lower	1.1 vol %
Oxidizing Properties	Not oxidising
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical
Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products
Carbon monoxide (CO) Carbon dioxide (CO_2)
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
3	3	0	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
Environmental Precautions	Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat and sources of ignition.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Toluene	TWA: 20 ppm	(Vacated) TWA: 100 ppm (Vacated) TWA: 375 mg/m³ Ceiling: 300 ppm (Vacated) STEL: 150 ppm (Vacated) STEL: 560 mg/m³ TWA: 200 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³	TWA: 50 ppm TWA: 188 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Long sleeved clothing.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	aromatic
Odor Threshold	1.74 ppm
pH	Not applicable
Melting Point/Range	-95 °C / -139 °F
Boiling Point/Range	111 °C / 231.8 °F @ 760 mmHg
Flash Point	4 °C / 39.2 °F

Evaporation Rate	2.4 (Butyl acetate = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	7.1 vol %
Lower	1.1 vol %
Vapor Pressure	29 mbar @ 20 °C
Vapor Density	3.1
Specific Gravity	0.866
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	535 °C / 995 °F
Decomposition Temperature	No information available
Viscosity	0.6 mPa.s @ 20 °C
Molecular Formula	C7 H8
Molecular Weight	92.14

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials Strong oxidizing agents, Strong acids, Strong bases, Halogenated compounds

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Toluene	> 5000 mg/kg (Rat)	LD50 = 12000 mg/kg (Rabbit)	26700 ppm (Rat) 1 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes, respiratory system and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Toluene	108-88-3	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects Not mutagenic in AMES Test

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects Developmental effects have occurred in experimental animals.

Teratogenicity Possible risk of harm to the unborn child.

STOT - single exposure Respiratory system Central nervous system (CNS)
STOT - repeated exposure Kidney Liver spleen Blood

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Causes central nervous system depression: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Contains a substance which is:. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Toluene	EC50: = 12.5 mg/L, 72h static (Pseudokirchneriella subcapitata) EC50: > 433 mg/L, 96h (Pseudokirchneriella subcapitata)	50-70 mg/L LC50 96 h 5-7 mg/L LC50 96 h 15-19 mg/L LC50 96 h 28 mg/L LC50 96 h 12 mg/L LC50 96 h	EC50 = 19.7 mg/L 30 min	EC50: = 11.5 mg/L, 48h (Daphnia magna) EC50: 5.46 - 9.83 mg/L, 48h Static (Daphnia magna)

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Toluene	2.7

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Toluene - 108-88-3	U220	-

14. Transport information

DOT

UN-No UN1294
Proper Shipping Name TOLUENE
Hazard Class 3
Packing Group II

TDG

UN-No UN1294
Proper Shipping Name TOLUENE
Hazard Class 3
Packing Group II

IATA

UN-No UN1294
Proper Shipping Name TOLUENE
Hazard Class 3
Packing Group II

IMDG/IMO

UN-No	UN1294
Proper Shipping Name	TOLUENE
Hazard Class	3
Packing Group	II

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Toluene	X	X	-	203-625-9	-		X	X	X	X	X

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Toluene	108-88-3	>95	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Toluene	X	1000 lb	X	X

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Toluene	X		-

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs

Toluene	1000 lb 1 lb	-

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Toluene	108-88-3	Developmental	-	Developmental

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Toluene	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Serious risk, Grade 3

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

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Print Date 24-May-2017
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

Appendix B

Onsite Safety Meeting Forms

FIELD LEVEL RISK ASSESSMENT – RMS2

Project: _____ Project No: _____

Client: _____

Location: _____

Type of Work: _____

Start Date: _____

Documentation and Procedure Review

1.	Risk Management Strategy (RMS1) Form or HASP required Safe Work Practices (SWPs) and procedures reviewed?	☐ Yes ☐ **No***
2.	Site Specific Health and Safety Plan (HASP) and/or Emergency Response Plan Reviewed?	☐ Yes ☐ **No*** ☐ N/A
3.	Tested two-way communications (cell phone, satellite phone), and security measures?	☐ Yes ☐ **No***
4.	Attended Prime Contractor or Constructor Health and Safety meeting on site?	☐ Yes ☐ **No*** ☐ N/A
5.	Conducted site safety meeting with Subcontractors?	☐ Yes ☐ **No*** ☐ N/A
6.	Are there any new or unexpected hazards not identified in the RMS1/HASP? *If yes, include in the Job Safety Analysis (JSA).*	☐ Yes ☐ No
7.	Working alone or remote work? *If yes, Working Alone – Field/Safe Work Form must be completed.*	☐ Yes ☐ No

Notifications and Permits

8.	Are work permits required for this site? *If yes, have they been completed and submitted as required?*	☐ Yes ☐ No ☐ Yes ☐ **No***
9.	Are utility locates required for this site? *If yes, have they been completed and reviewed?*	☐ Yes ☐ No ☐ Yes ☐ **No***
10.	Does the Client require any notification prior to starting the work? *If yes, has the notification been provided?*	☐ Yes ☐ No ☐ Yes ☐ **No***

***Contact your Project Manager immediately.**

Personal Protective Equipment

List specific equipment as needed. Verify type and inspect condition.

☐ Head Protection Type: _____	☐ Hearing Protection: _____	☐ Gloves Type: _____
☐ Foot Protection Type: _____	☐ Respiratory Protection (type): _____	☐ Water Safety Gear: _____
☐ Eye Protection Type: _____	☐ Fire Retardant Coveralls: _____	☐ _____
☐ High Visibility Vest: _____	☐ Fall Protection (type): _____	☐ _____

Tools and Equipment

☐	☐	☐
☐	☐	☐
☐	☐	☐

Job Safety Analysis (JSA)

Basic Job Steps	Potential Hazards	Controls to Reduce or Eliminate Hazard

Additional Discussion Items/Subcontractor Input

Date:		Subcontractor Signature:	
Team Lead/Field Supervisor Signature:		Subcontractor Signature:	
Signature:		Subcontractor Signature:	
Signature:			

Are you ready to work safely?

DAILY RENEWAL – RMS2/FIELD-LEVEL RISK ASSESSMENT		Job Number:	
Date:	**Weather:**		
Identified changes to risk and additional controls (e.g.: new crew member, impact on others, inclement weather, etc.):			
Field Supervisor/Field Crew Leader (Print & Sign):			
Field Crew Signed:			
Sub-Contractor:			
Date:	**Weather:**		
Identified changes to risk and additional controls (e.g.: new crew member, impact on others, inclement weather, etc.):			
Field Supervisor/Field Crew Leader (Print & Sign):			
Field Crew Signed:			
Sub-Contractor:			
Date:	**Weather:**		
Identified changes to risk and additional controls (e.g.: new crew member, impact on others, inclement weather, etc.):			
Field Supervisor/Field Crew Leader (Print & Sign):			
Field Crew Signed:			
Sub-Contractor:			
Date:	**Weather:**		
Identified changes to risk and additional controls (e.g.: new crew member, impact on others, inclement weather, etc.):			
Field Supervisor/Field Crew Leader (Print & Sign):			
Field Crew Signed:			
Sub-Contractor:			

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Field Level Risk Assessment (RMS2)
Seven (7) Day

This form is intended for projects of up to 7 consecutive days on one site. If work will last longer than the days provided on this form, please start a new RMS2 to refresh hazard awareness.

Project Number: _____ **Date:** _____

Project Name: _____

Project Location: _____

Description of Work:

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
HASP/RMS1 reviewed with staff on site	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
Review of STOP Work Authority with staff & subs	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
Emergency plan adequate and communicated	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
Tools and appropriate PPE inspected before use	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
Last Minute Risk Assessment process reviewed	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐

If the answer to any of the questions above is not "Yes" Stop work and contact your supervisor.

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Field crews have certifications on site	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐
Utility locates on site and understood	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐
Working alone plan in place	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐
Work permits completed	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐
Client site safety meeting conducted/attended	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐
Are there additional critical risks, JSA tasks or energy hazards? If yes, update the JSA and communicate to the team		Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐	Yes ☐ N/A ☐

For work-related symptoms or injuries, and speak to a medical professional for guidance and treatment options contact

WorkCare
(24-hour service)

1-888-449-7787

Workers' Compensation Claims Coordinator (Canada)
Ph. 905-944-6854; cell 416-951-5663

Workers' Compensation Claims Coordinator (US)
cell: 513-720-3706

JOB SAFETY ANALYSIS (JSA)				
	Basic Job Steps	Describe Energy Hazard	Controls	Person Responsible
1				
2				
3				
4				
5				
6				
7				
8				

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Field Level Risk Assessment (RMS2)
Seven (7) Day

CRITICAL RISKS						
Driving ☐ Yes	Working at Heights ☐ Yes	Traffic Control ☐ Yes	Wildlife, Insects and Vegetation ☐ Yes	Mobile and Heavy Equipment ☐ Yes	Environments with water or ice ☐ Yes
Ground Disturbance ☐ Yes	Ergonomic Hazards and Manual Handling ☐ Yes	Hazardous Materials and Environments ☐ Yes	Control of Hazardous Energy ☐ Yes	Hot Work ☐ Yes	Confined Spaces ☐ Yes

ENERGY HAZARD			
	Thermal: Open flame, electric ignition sources (including phones and friction), hot or cold surfaces, liquids or gasses, weather conditions including humidity levels and snow/ice		**Gravity**: Falling objects, collapsing objects, slipping, tripping or falling
	Chemical: Flammable vapors, reactive hazards, carcinogens or other toxic compounds, corrosives, pyrophorics, combustibles, oxygen deficient atmospheres, fumes, dusts, naturally occurring gases		**Motion**: Vehicles (car, truck, ATV, ARGO, boat, snowmobile, bicycles, transit, mobile equipment, trailer), workers and other people (lifting, pushing, pulling, carrying, use of hand and power tools, body position, walking), flowing water, sprung branches
	Biological: Animals, bacteria, viruses, insects, blood borne pathogens (needles), poisonous and noxious plants, contaminated water, human behaviors (protesters, concerned citizens, onlookers)		**Mechanical**: Rotating equipment (augers, pulleys, drive shafts), compressed springs, drive belts, conveyors and motors
	Radiation: Welding, NORMs (Naturally Occurring Radioactive Material), X rays, Nuclear Densometers, Lasers, Microwaves, Solar, Radioactive waste and sources		**Electrical**: Power and communication lines (overhead and buried), static charge, lightning, energized equipment, wiring, batteries, GFCI cords/plugs, lighting levels, double insulated tools, wet environment
	Noise: Stationary or mobile equipment, impact noise, high pressure release, impact of noise on communication		**Pressure**: pressure piping, compressed cylinders (fire extinguisher, calibration gas, propane), control lines, vessels, tanks, hoses, pneumatic and hydraulic equipment

Meeting details	
Day 1	
Date:	Weather:
Pre-start time:	
Notes:	
Mid-day time:	
Notes:	
End of day time:	
Notes:	
Toolbox Discussion Leader Name:	Toolbox Leader Signature:

Day 2	
Date:	Weather:
Pre-start time:	
Notes:	
Mid-day time:	
Notes:	
End of day time:	
Notes:	
Toolbox Discussion Leader Name:	Toolbox Leader Signature:
Day 3	
Date:	Weather:
Pre-start time:	
Notes:	
Mid-day time:	
Notes:	
End of day time:	
Notes:	
Toolbox Discussion Leader Name:	Toolbox Leader Signature:
Day 4	
Date:	Weather:
Pre-start time:	
Notes:	
Mid-day time:	
Notes:	
End of day time:	
Notes:	
Toolbox Discussion Leader Name:	Toolbox Leader Signature:

Day 5

Date:	Weather:
Pre-start time:	
Notes:	
Mid-day time:	
Notes:	
End of day time:	
Notes:	
Toolbox Discussion Leader Name:	Toolbox Leader Signature:

Day 6

Date:	Weather:
Pre-start time:	
Notes:	
Mid-day time:	
Notes:	
End of day time:	
Notes:	
Toolbox Discussion Leader Name:	Toolbox Leader Signature:

Day 7

Date:	Weather:
Pre-start time:	
Notes:	
Mid-day time:	
Notes:	
End of day time:	
Notes:	
Toolbox Discussion Leader Name:	Toolbox Leader Signature:

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Field Level Risk Assessment (RMS2)
Seven (7) Day

Review/Sign-off Print the company that you work for, your name and indicate which fitness level you are under the corresponding time column: Fit for Duty = F Alternate Plan = AP													
		Date:			**Date:**			**Date:**			**Date:**		
Company name	**Print your name**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**
		F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:
		AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:
		F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:
		AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:
		F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:
		AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:
		F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:
		AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:
		F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:
		AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:
		F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:	F:
		AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:
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		AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:	AP:
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Stantec

Field Level Risk Assessment (RMS2)
Seven (7) Day

Review / Sign-off

Print the company that you work for, your name and indicate which fitness level you are under the corresponding time column:
Fit for Duty = F Alternate Plan = AP

		Date:			**Date:**			**Date:**		
Company name	**Print your name**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**
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Appendix C

Incident Reporting

Incident Reporting Protocol - US

Health, Safety, Security, & Environment

IMMEDIATE ACTIONS FOR ALL INJURIES, and SERIOUS or SIGNIFICANT INCIDENTS
(see HSSE Program Manual s.14 for definitions)

1. Keeping safety in mind, care for injured people (if applicable) and stabilize the scene.
2. For life threatening injuries, **immediately contact 911.** Accompany the injured employee to the medical facility whenever possible.
3. Call **WorkCare (24-hour service): 1-888-449-7787** for work-related symptoms or injuries, and speak to a medical professional for guidance and treatment options.
4. Make voice contact with your supervisor within 1 hour or less of the incident occurring. Leaving a voicemail does not count. If you cannot contact your supervisor, contact the HSSE Manager or HSSE Advisor for your region.
5. Supervisors must immediately contact their HSSE Manager or HSSE Advisor by phone to discuss incident severity and determine if further notifications (internal or external) are required.
6. When an employee is guided by WorkCare to obtain medical assistance, or the employee requests medical attention for a non-life threatening injury, and after alerting the supervisor; the employee must **immediately call Melissa Helton, Stantec's US WC Claims Coordinator at 513-720-3706** for assistance.
7. In most cases, WorkCare will provide guidance about which clinic is available and provide directions. Some job sites already have prescribed clinics such as US HealthWorks. Here is a link accessing additional clinic locations: Clinic Search link .
8. Additional notifications may be required based on the client requirements.

Contacts		Landline	Cell
HSSE Manager – US Central	Wes Cline	615-885-1144	916-281-7459
HSSE Manager – US South	Randy Jones	615-499-7161	907-707-9305
HSSE Manager – US Northeast	Fred Miller	610-235-7315	610-235-7315
HSSE Manager – US West	Tony Wong	805-250-2860	805-234-6227
HSSE Manager - International	Kev Metcalfe	780-917-7023	780-231-2185
Director HSSE Operations - US	Keith Kuhlmann	740-816-6170	740-816-6170
HSSE Senior Vice President	Jon Lessard	713-548-5700	281-513-5538
Your OSEC or HSSE Advisor Master HSSE Representative Listing			

Region	WC Claims Coordinator	Landline	Cell
US (All Regions)	Melissa Helton	513-720-3706	513-720-3706

REPORTING

- **Within 24 hours of the incident, an HSSE Event Report (RMS3) must be completed with as much information as possible and emailed to hsse@stantec.com.**
- Do not delay submitting the report to wait for signatures. Follow-up with signatures when possible.
- Complete the balance of the RMS3 within 5 business days, including signatures. Include information and corrective actions determined during the investigation/ Incident Causation Analysis (ICA), as coordinated by HSSE Advisor and/or HSSE Manager.
- Other protocols dictated by a client or project agreement, or internal practice may also need to be completed. **See HSSE Program Manual s.14 for Incident Notification.**

HSSE EVENT REPORT – RMS3

Incidents involving injury, potential injury, or report of pain, soreness, or discomfort must be reported immediately (within one hour) to a supervisor. Supervisors will then immediately contact their HSSE manager/advisor to discuss incident severity and determine further notification. This form must be completed and **submitted within 24 hours** of any incident. Do not delay submission waiting for signatures. **Email to hsse@stantec.com or fax unsigned report to (780) 969-2030** and file locally in compliance with the corporate records retention policy and practices once all signatures have been obtained.

This document contains privileged and confidential information prepared at the request of Stantec's Legal Counsel. The contents of this report are restricted to HSSE, HR personnel, Risk Management Representatives, Project Manager and BC Leader, and Stantec's Insurer, Adjuster and Legal Counsel. Information collected will be used solely for the purpose of meeting the requirements of Stantec's HSSE and insurance programs, complying with applicable legislation, and will be used in accordance with any governing privacy legislation. The information collected will be maintained electronically and may be included in **required** reports.

SECTION 1: GENERAL INFORMATION			
Office location:		BC number:	
Location of incident:			
Incident date:		Incident time:	
Incident reported-date:		Incident reported-time:	
Project name:		Project number:	
Client name:			
Person in charge:		Person in charge phone:	

SECTION 2: INVOLVED STANTEC EMPLOYEE INFORMATION (if more than one identify extras in incident details below)			
Name:		Phone:	
Job position:		Group name:	
Time employee began work:		Job experience (in years)	
Type of employment:	Full Time ☐ ; Visitor ☐ ; Contract ☐ ; Volunteer ☐ ; Seasonal ☐		
Supervisor:		Supervisor phone:	

SECTION 3: INCIDENT DETAILS	
Type of Incident:	*incident types marked with an asterisk, please complete sections 1, 2 and 3 and sign below. **See StanNet for a list of Incident Type Definitions**

Incident Severity (0-4 Serious):		**Incident Likelihood: (1-4 Very Likely)**	
☐ **Report Only*	☐ First Aid	☐ Motor Vehicle Incident	☐ 3rd Party Incident (i.e., Public)
☐ **Hazard Identification*	☐ Medical Aid – No Lost Time	☐ Property Damage - Vehicle	☐ Spill or Release
☐ **Near Miss*	☐ Restricted Work	☐ Property Damage - Other	☐ Utility Strike
☐ **Safety Opportunity*	☐ Lost Time	☐ Security	☐ Fire/Explosion/Flood
☐ ***Critical Risk?***	☐ Fatality	☐ Contractor Recordable Incident	☐ Stop Work Authority
☐ ***High Potential Incident?***	☐ Violence or Harassment	☐ Non-compliance	☐ Work Refusal

Describe incident in detail: (include any issues related to people, equipment, materials, environment, and processes)

Immediate corrective actions taken:

Submitted by (add signature):

Canada East (Atlantic) – Kyle Ferguson (902-240-3847); Canada East (ON) – Jared Memory (647-969-3709);
Canada East (Quebec) – Claudine Tremblay (514-668-4820); Canada Mountain – Shawna Robichaud (587-894-2635);
Canada Prairies – Yvonne Beattie (780-616-8909); International – Kev Metcalfe (780-231-2185); US Northeast – Fred Miller (610-235-7315);
US Central – Wes Cline (916 281-7459); US South – Randy Jones (615 499-7161); US West – Tony Wong (805-234-6227);
Australia & New Zealand – Martin Holliday (+61 409 869 449)

SECTION 4: MEDICAL INFORMATION

Name of first aid attendant:	Injury recorded in first aid log? Yes ☐ No ☐ N/A ☐
Description of first aid or medical treatment administered:	
Clinic/hospital sent to:	
Attending physician/paramedic (if known):	

Area of Injury – Please check all that apply:

☐	Head	☐	Teeth	☐	Upper back	Left		Right	Left		Right	Left		Right	Left		Right
☐	Face	☐	Neck	☐	Lower back	☐	Shoulder	☐	☐	Wrist	☐	☐	Hip	☐	☐	Ankle	☐
☐	Eye(s)	☐	Chest	☐	Abdomen	☐	Arm	☐	☐	Hand	☐	☐	Thigh	☐	☐	Foot	☐
☐	Ear(s)			☐	Pelvis	☐	Elbow	☐	☐	Finger(s)	☐	☐	Knee	☐	☐	Toe(s)	☐
☐	Other	Specify				☐	Forearm	☐				☐	Lower Leg	☐			

Has the injured employee had a previous similar injury or disability?	Yes ☐	No ☐

SECTION 5: PROPERTY OR VEHICLE DAMAGE: STANTEC

Ownership Details (choose one):	☐ Rented (attach rental agreement)	☐ Stantec Owned	☐ Personal (employee vehicle)
Year, Make, and Model of Vehicle:		Vehicle ID # (VIN)	
Nature of damage:		Estimated cost of damage:	$
Description of damaged property:			
Attending police officer (if known):		Badge #:	
Copy of police report received	Yes ☐ No ☐ If yes, file number:	(attach copy of police report)	

PROPERTY OR VEHICLE DAMAGE: 3RD PARTY

Name of owner and contact number:			
Year, Make, and Model of Vehicle:		License Plate Number:	
Insurer and Policy Number:			
Injured parties? Yes ☐ No ☐	If yes, describe Injuries:		
Diagram or photographs attached?	Yes ☐ No ☐		

WITNESS INFORMATION - #1

Name:		Phone Number:	
Witness statement provided?	Yes (attached) ☐	No ☐	

WITNESS INFORMATION - #2

Name:		Phone Number:	
Witness statement provided?	Yes (attached) ☐	No ☐	

SECTION 6: SPILL OR RELEASE

Substance:			
Quantity:		Employee(s) exposed via:	☐ Inhalation ☐ Contact ☐ Ingestion ☐ n/a
Off-site impacts observed or anticipated?	Yes ☐ No ☐ If yes, describe:		
Name of regulatory agencies contacted:			
Contact name, number, date and time of call:			

SECTION 7: ANALYSIS

DIRECT CAUSES

A. ACTIONS TO IMPROVE (check off as many as necessary)

- ☐ Operating equipment without authority
- ☐ Lack of warning
- ☐ Did not secure
- ☐ Operating at improper speed
- ☐ Disabling/removing safety devices
- ☐ Using defective/improper equipment
- ☐ Using equipment improperly
- ☐ Did not use personal protective equipment (PPE)
- ☐ Improper loading
- ☐ Improper placement
- ☐ Improper lifting or handling
- ☐ Improper position for a task
- ☐ Servicing equipment in operation
- ☐ Horseplay
- ☐ Procedure, policy, or practice, not followed
- ☐ Hazard or risk not identified
- ☐ Inattention
- ☐ Communication/coordination needs improvement
- ☐ Influence of alcohol or drugs suspected
- ☐ Did not check/monitor
- ☐ Did not react or correct

B. CONDITIONS TO IMPROVE (check off as many as necessary)

- ☐ Inadequate guards/barriers
- ☐ Improper/inadequate PPE
- ☐ Defective tools or equipment
- ☐ Congested work area
- ☐ Inadequate warning system
- ☐ Fire and explosion hazards
- ☐ Poor housekeeping; disorder
- ☐ Noise exposure
- ☐ Radiation exposure
- ☐ Temperature extremes
- ☐ Inadequate or excess illumination
- ☐ Inadequate ventilation
- ☐ Presence of harmful materials or environment
- ☐ Instructions/procedures need improvement
- ☐ Inadequate information/data
- ☐ Preparation/planning needs improvement
- ☐ Opportunity to improve support/assistance
- ☐ Road conditions
- ☐ Weather conditions
- ☐ Communications need improvement (hardware/software)

ROOT CAUSES

C. PERSONAL FACTORS (check off as many as necessary)

- ☐ Physical Capability
- ☐ Physical Stress
- ☐ Mental Stress
- ☐ Lack of Skill
- ☐ Lack of Knowledge
- ☐ Improper Motivation
- ☐ Abuse or Misuse
- ☐ Mental/Psychological Capability

D. JOB FACTORS (check off as many as necessary)

- ☐ Leadership or supervision
- ☐ Engineering
- ☐ Purchasing
- ☐ Maintenance (scheduled or preventative)
- ☐ Tools or equipment
- ☐ Work standards
- ☐ Excessive wear and tear
- ☐ Communications
- ☐ Other: Specify

SECTION 8: FOLLOW-UP

Short-term:	**Corrective Action**	**Assigned To**	**Target Date**	**Completion Date**
Long-term:	**Corrective Action**	**Assigned To**	**Target Date**	**Completion Date**

REVIEW COMMENTS		
Involved Employee Comments:		
Signature: Job Title:	Print Name:	Date:
Supervisor/Project Manager:		
Signature: Job Title:	Print Name:	Date:
HSSE Representative (OSEC/JH&S Committee/HSSE Manager/HSSE Advisor):		
Signature: Job Title:	Print Name:	Date:
Management Review: (☐ not applicable)		
Signature: Job Title:	Print Name:	Date:
Additional Comments:		

APPENDIX C
Community Air Monitoring Plan

Appendix D
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road, Avon, NY 14414-9516
P: (585) 226-5353 I F: (585) 226-8139
www.dec.ny.gov

May 21, 2018

Mr. Joseph Lobozzo II
Ridgecrest Associates, L.P.
135 Orchard Park Blvd
Rochester, NY 14609

Subject: 820 Linden Ave Site (#C828200)
820 Linden Ave, Pittsford, NY 14625
Remedial Investigation Work Plan, October 2017

Dear Mr. Lobozzo II:

The New York State Departments of Environmental Conservation (NYSDEC) and Health (NYSDOH; collectively referred to as the "Departments") have completed the review of the document entitled *"Remedial Investigation Work Plan"* dated September 2017, certified on October 11, 2017, and prepared by Stantec for the 820 Linden Ave Brownfield Cleanup Program (BCP) site. In accordance with 6 NYCRR Part 375-1.6, the Departments have determined that the Work Plan, with the following modifications, substantially addresses the requirements of the Brownfield Cleanup Program:

1. A conceptual site model, as defined in DER-10 Section 3.2.2 will be provided in the RI report in accordance with DER-10.

2. Additional subsurface soil samples within the Newport Corporation space (northern building) will be collected to further assess potential impacts to the soil in areas that were not yet investigated. If locations acceptable to the Departments cannot be accessed, the reasons will be documented in the RI report.

3. Any revised investigation locations will be approved by the NYSDEC prior to commencing work.

4. Section 6.2: Stantec personnel will be onsite during any field activities associated with the RIWP including but not limited to the sewer video survey, geophysical survey, etc. to supervise the activities undertaken in accordance with Part 375-1.6(a)(3).

5. The units on Figures 7a and 7b are $\mu g/m^3$.

6. Emerging contaminants (1,4-dioxane and PFAS) in groundwater will be sampled where full TAL/TCL sampling is proposed (see attached guidance for additional information).

7. If/when completing field work inside the building or tight to the building, the following Community Air Monitoring Plan (CAMP) requirements must be followed:

   Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m3 or less at the monitoring point.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work with Co-Located Residences or Facilities
Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under “Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures” except that in this instance “nearby/occupied structures” would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

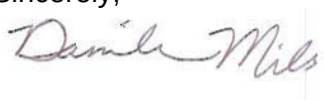
8. An Interim Remedial Measure Work Plan to mitigate known and potential on-site indoor air exceedances associated with soil vapor intrusion will be submitted to the Departments by **June 20, 2018**.

With the understanding that the modified Work Plan is agreed to, the Remedial Investigation Work Plan is hereby approved. By **June 5, 2018** and before field work begins, please attach a copy of this letter to the RIWP and provide copies of the RIWP as follows:

- Danielle Miles (NYSDEC – Avon, 1 bound hard copy);
- The document repository at the Pittsford Community Library located at 24 State St. Pittsford, NY 14534 (1 bound hard copy); and,
- Kristin Kulow (NYSDOH – Oneonta, electronic file/CD).

We look forward to working with you. Please notify the NYSDEC at least 7 days prior to any field work. If you have questions or concerns on this matter, please contact me at (585) 226-5349 or danielle.miles@dec.ny.gov.

Sincerely,



Danielle Miles, EIT
Environmental Engineer

Attach:

- Collection of Groundwater Samples for Perfluorooctanoic Acid (PFOA) and Perfluorinated Compounds (PFCs) from Monitoring Wells Sample Protocol, June 2016
- Groundwater Sampling for Emerging Contaminants, April 2018

ec w attach:
Mike Storonsky, Stantec
Stephanie Reynolds Smith, Stantec
Linda Shaw, Knauf Shaw LLP
Frank Sowers, NYSDEC
Bernette Schilling, NYSDEC
Justin Deming, NYSDOH
Kristin Kulow, NYSDOH
Dusty Tinsley, NYSDEC