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March 30, 2026

Mr. Jason Kryszak
New York State Department of
Environmental Conservation, Region 9
700 Delaware Avenue
Buffalo, NY 14209

Subject: **Electron Donor (CarBstrate™) Injection Program Work Plan**
Former Scott Aviation Facility – West of Plant 2
Lancaster, New York
NYSDEC Site Code No. 9-15-149

Dear Mr. Kryszak:

On behalf of Tyco International and its successor Scott Figgie LLC, AECOM Technical Services, Inc. (AECOM) is pleased to provide for your review and approval this letter work plan for completing an electron donor injection program at the Former Scott Aviation Facility – West of Plant 2 site (the Site) in Lancaster, New York (refer to **Figure 1** for Site location). The objective of this groundwater injection event is to further remediate impacted Site groundwater. AECOM subcontractor Matrix Environmental Technologies, LLC. (Matrix) will attempt to re-develop two existing injection wells (IW-01 and IW-02) and install two additional injection wells (IW-03 and IW-04) with oversight provided by AECOM. Following the re-development of the two injection wells and the installation of the two additional injection wells, AECOM will perform the proposed injections over an estimated three-month period. AECOM will use CarBstrate™ from ETEC, Inc. to promote the continued dechlorination of chlorinated ethenes to non-toxic ethene and other non-chlorinated end products. The injection wells are located just upgradient of piezometer cluster MW-16S/D and screened in the shallow overburden groundwater zone; this is the area with the highest total volatile organic compound (VOC) concentrations detected in Site groundwater.

This letter work plan provides the following information:

- A brief summary of the Site background, including Site history, Site geology/hydrogeology, previous investigation and remediation activities, and Site remedial action objectives (RAOs),
- A summary of the most recent groundwater analytical data including VOCs, total organic carbon (TOC), and monitored natural attenuation (MNA) occurring at the Site (October 2025 and January 2026),
- A detailed scope of work for the proposed injection of an electron donor solution (CarBstrate™), a fully soluble, nutrient-amended carbohydrate substrate; and
- A schedule to complete the scope of work.

SITE BACKGROUND

The following discussion presents a summary of Site history, Site geology/hydrogeology, previous investigation and remediation activities, and Site RAOs.

Site History

A 3,000-gallon underground storage tank (UST) was previously located at the Site, immediately adjacent to the southwest corner of Scott Aviation Plant 2 (refer to **Figure 2** for Site features). The UST was used to store waste cutting oil and spent chlorinated organic solvents generated during manufacturing operations conducted in Plant 2.

During April 1991, the former Site owner, Figgie International, removed the aforementioned UST. Based on impacts discovered during the removal of the UST, Figgie entered into a remedial investigation/feasibility study (RI/FS) Order on Consent with the New York State Department of Environmental Conservation (NYSDEC) on July 9, 1992, and an RI was initiated by Versar, Inc. on behalf of Figgie in the immediate area surrounding the former UST. The final RI report, approved by the NYSDEC on December 13, 1993, indicated the presence of VOCs in excess of NYSDEC soil and groundwater guidance values to the west of Plant 2. A subsequent FS report was prepared by Figgie and approved by the NYSDEC on August 29, 1994.

Based on the results of the RI/FS, the NYSDEC prepared a Record of Decision (ROD), dated November 7, 1994, which required remedial actions to be initiated to address contaminated soils and groundwater at the Site. The ROD specified that soil remediation would be accomplished by excavating all soils with VOCs above Site-specific RAOs and subsequently treating the soil on-Site using an ex-situ soil vapor extraction system.

The ROD also specified that groundwater remediation would be performed by installing a groundwater collection trench (GWCT) west of Plant 2 to induce hydraulic capture of groundwater impacted with VOCs and by constructing an associated groundwater treatment system.

Site Geology/Hydrogeology

The native soils underlying the Site generally consist of interbedded silts and clays with discontinuous sporadic fine sand lenses (shallow overburden). A thin coarse-grained layer is located above the bedrock (deep overburden). Based on the deep overburden wells installed at the Site, the average thickness of the overburden is approximately 21 feet below ground surface (bgs); ranging from 20 feet in the south to 26 feet in the north.

Groundwater is first encountered at the Site in the shallow overburden zone and then again just above the bedrock (deep overburden zone). The natural flow of groundwater at the Site in both the shallow overburden and deep overburden zones is to the northwest.

Previous Investigation and Remediation Activities

Source Area Soil Excavation and Treatment

Following approval of the Remedial Design by the NYSDEC in September 1995, soil remediation actions were initiated. Soils to the west of Plant 2 in the vicinity of the former UST were excavated and treated on-Site (refer to **Figure 2**). Approximately 5,600 cubic yards of soil were excavated from depths ranging between 2 feet and 21 feet bgs (bedrock contact) and treated. Based on analytical results for the treated soil (each individual VOC <1 milligram per kilogram (mg/kg) and total VOCs <10 mg/kg), the NYSDEC approved backfilling the excavation with the originally excavated soil treated on-Site. Backfilling of the excavation was completed on December 19, 1995.

Groundwater Collection Trench

In accordance with the ROD, a 200-foot long GWCT was constructed approximately 90 feet west of Plant 2 during February 1996 (refer to **Figure 2**). The purpose of the trench was to maintain hydraulic control of VOC-impacted groundwater. The bottom of the trench was excavated down to the top of bedrock (approximately 25 feet bgs). The bottom five feet of the trench consists of rounded pea gravel and the top 20 feet of the trench was backfilled with remediated soils. A 6-inch diameter slotted high density polyethylene pipe located at the bottom of the trench conveys water to a wet well located at the north end of the trench. The water is transferred from the wet well using a submersible pump through a 1-inch diameter Schedule 80 polyvinyl chloride pipe to a treatment system located in the Groundwater Treatment Building (GWTB) immediately west of Plant 2.

The groundwater treatment system consists of a low-profile shallow tray air stripper (AS) unit. Treated water from the AS unit is discharged under a City of Buffalo Pollutant Discharge Elimination System permit via a 2-inch diameter force

main to the local sanitary sewer located south of the GWTB at Erie Street. Start-up of the groundwater treatment system occurred on March 1, 1996. **Figure 2** shows the location of the GWCT and GWTB.

Additional Investigation Activities

Annual groundwater monitoring completed in April 1998 indicated an increasing trend in VOC concentrations in MW-4, located to the west of the GWCT at the western property boundary of the Site. Additionally, light non-aqueous phase liquid (LNAPL) was observed at MW-4 on the water level probe during a quarterly monitoring event conducted in November 1998. In April 1999, four new monitoring wells (designated MW-7, MW-8, MW-9, and MW-10) were installed to evaluate the extent and potential source of VOCs and LNAPL observed in MW-4. Based on repeated detections of VOCs and LNAPL in the groundwater to the west of the GWCT, a comprehensive Site investigation was conducted in February 2003 to further assess the vertical and horizontal extent of VOCs and LNAPL.

During the 2003 investigation, LNAPL was observed in MW-8 only (note MW-8 was retrofitted from a 4-inch diameter casing to a 2-inch diameter casing and finer sand pack in February of 2004 and renamed MW-8R). A total of 21 direct push technology borings were advanced to the east and west of the GWCT to further assess the extent of impacted soils west of Plant 2. Results were summarized in the June 2003 Site Investigation Completion Report (SICR), and the data indicated the continued presence of VOCs above the RAOs in the saturated soil and groundwater, primarily to the west of the GWCT.

Remedial Alternatives Analysis

Based upon the results of the 2003 investigation, a remedial alternatives analysis was completed, and the results were reported in the SICR. DPE was recommended to be implemented to supplement the existing groundwater remediation system and to further remediate VOCs in soil and groundwater at the Site.

At the request of the NYSDEC, a Remedial Design Work Plan was prepared that provided a detailed description of the proposed DPE system recommended in the SICR. A discussion of DPE system construction, startup, and operation and maintenance activities during approximately the first year of operation (May 14, 2004 through July 19, 2005) is provided in the first Remedial Action Engineering Report.

Previous Groundwater Injections

Beginning on July 28, 2010, and concluding on October 29, 2010, O&M, Inc., on behalf of Scott and with NYSDEC approval, initiated an in situ chemical oxidation (ISCO) pilot test. The test consisted of injection of sodium persulfate with chelated iron activation at 10 injection points located within the area of the >100 micrograms per liter (µg/L) trichloroethene (TCE) plume as defined in 2010. A second series of ISCO injections was performed between June and October 2011; refer to **Figure 3** for the previous injection locations. A review of groundwater data at the source wells following the pilot test indicated a spike in TCE concentrations, possibly due to mobilization of product from the vadose zone and/or back diffusion from the treated aquifer matrix.

On November 6, 2014, AECOM submitted an Injection Pilot Test Work Plan to NYSDEC outlining a pilot test injection program to be conducted with the injectate Anaerobic BioChem and zero valent iron (ABC+®). Following NYSDEC approval, the pilot test was performed in November 2014 in a 1,200 square foot area centered between source area wells MW-4, MW-8R, and MW-16S; refer to **Figure 3** for previous ABC+® injection points. A total of eight injection points were completed with approximately 480 gallons of ABC+® injected at each location. Following the November 2014 injection of ABC+®, two rounds of groundwater samples were collected and analyzed for VOCs. The groundwater VOC data collected in January 2015 and April 2015 showed significant decreases in TCE concentrations in the area of the injections, with corresponding increases in cis-1,2-dichlorethene (cis-1,2-DCE), chloroethane, and vinyl chloride (VC).

On April 28, 2015, AECOM submitted an addendum to the Injection Pilot Test Work Plan to NYSDEC outlining a second phase of injections to be conducted with the injectate ABC+®. Following NYSDEC approval, the injection program was performed between April and May 2015 in an approximate 3,600 square foot area centered between monitoring wells MW-4, MW-8R, MW-13S/D, and MW-16S/D, and DPE wells DPE-3, DPE-4, DPE-5, DPE-7, and DPE-8; refer to **Figure**

3 for previous injection points. A total of 21 injection points were completed with approximately 410 gallons of ABC+® injected at each location. Note that this area was expanded vertically and horizontally from the first phase of injections in 2014 as well as overlapping (offset from) the first phase of injections.

During the week of November 26, 2018, AECOM completed a five-day supplemental injection program per the 2018 Injection Work Plan submitted to NYSDEC on October 31, 2018. ABC-Ole'® with zero valent iron (ZVI), a mixture of Anaerobic Biochem, ZVI, and emulsified fatty acids, was selected to remediate impacted groundwater in an approximate 4,500 square foot area within the 100 µg/L total VOC plume, which was based on October 2018 groundwater sample data. This area encompassed monitoring wells MW-4, MW-8R, MW-16S/D and MW-13S/D and dual phase extraction wells DPE-3, DPE-4, DPE-5, DPE-7, and DPE-8. The injectate ABC-Ole'® with ZVI, mixed as an approximately 15 percent by weight solution, was injected at 20 locations (**Figure 4**). Sixteen injection points received approximately 400 gallons of solution each, with the four locations adjacent to monitoring well cluster MW-16 receiving approximately 500 gallons of injectate each. The injectate was distributed at depth intervals of 11, 14, 17, and 20 ft bgs and targeted the shallow water bearing unit.

On September 15 and 16, 2021, AECOM completed bioaugmentation injections using microbial culture KB-1® Plus and KB-1® Primer (refer to **Figure 5** for injection locations). The bioaugmentation solution was injected into the subsurface via direct push technology injections, targeting either 3 or 4 discrete intervals ranging between 5 and 20 ft bgs depending on the location. Each injection point around locations MW-8R, DPE-4, and DPE-8 received approximately 200 gallons of KB-1® Plus/Primer (i.e., injectate) which was distributed at 5-foot depth intervals (5, 10, 15, and 20 ft bgs), targeting either the shallow or shallow and deep overburden groundwater zones. Each injection point around locations MW-16S and DPE-7 received approximately 150 gallons of injectate and was distributed at three depth intervals (8, 13, and 18 ft bgs), targeting the shallow overburden groundwater zone.

On March 3, 2023, following NYSDEC-approval of the Electron Donor Injection Program Work Plan (AECOM, March 2023), AECOM's drilling subcontractor Matrix installed two shallow overburden injection wells (IW-01 and IW-02) immediately upgradient of MW-16S; refer to **Figure 6** for the location of the injection wells. Following installation and development of the injection wells, the injections were initiated during the week of March 6, 2023.

The injectate consisted of an extended release electron donor solution (EDS-ER™: vegetable oil-based donor), a quick release donor solution (EDS-QR™: a soluble glycerol-based high hydrogen-content electron donor), a solution to stimulate biological activity (TersOX™, Nutrients-QR: a source of nitrogen and phosphorus to avoid nutrient limitations for biostimulation programs); and the "chaser" solution (KB-1® Primer: chemicals to drive source water anoxic, buffer pH, remove chlorine and protect organohalide respiring bacteria). The total volume of mixed injectate solution used was approximately 3,000 gallons.

Once the desired amount of injectate solution was mixed, it was tremmied/pumped into the water column in each of the two newly installed injection wells. In addition, three shallow overburden DPE wells (DPE-3, DPE-5, and DPE-8) were also used as injection points, with the DPE well system toggled both on- and off-line as needed to move the injectate horizontally through the subsurface. Five to ten gallons of donor solution were added to the injection points three days per week over a three-month period, or as fast as the subsurface would absorb the volume. The electron donor injections were completed on July 6, 2023.

REMEDIAL ACTION OBJECTIVES

Cleanup criteria for Site soil and groundwater are based on the RAOs established in the ROD. The table below presents the Site-specific cleanup criteria.

VOC	Remedial Action Objectives	
	Soil (mg/kg)	Groundwater (µg/L)
Chloroethane	1	5
1,1-Dichloroethane	1	5
1,2-Dichloroethene	1	5
1,1,1-Trichloroethane	1	5
Trichloroethene	1	5
Vinyl chloride	1	5
Ethylbenzene	1	5
Toluene	1	5
Xylenes	1	5
Total VOCs	10	Not Applicable

The RAOs for the combined soil and groundwater remediation system include:

1. Maintain hydraulic control of shallow groundwater and eliminate potential off-Site migration of VOCs along the western property boundary.
2. Lower the groundwater table within the impacted source area to expose the aquifer matrix and subsequently extract soil vapors containing VOCs using enhanced vacuum extraction. By lowering the water table surface, the DPE system induces groundwater flow toward the system extraction wells, thereby allowing the applied vacuum to more effectively remove VOCs in the exposed aquifer matrix.
3. Reduce the mass of VOCs in the subsurface and remediate Site soil and groundwater toward meeting RAOs.
4. Obtain No Further Action status for the Site.

GROUNDWATER ANALYTICAL DATA

Volatile Organic Compounds

During the January 2026 groundwater sampling event, five chlorinated VOCs (CVOCs) were detected in groundwater above their associated Site-specific RAOs from monitoring wells and piezometers. The occurrences of constituents of potential concern were detected primarily in the vicinity of monitoring wells MW-4, MW-13S, and MW-16S and DPE wells DPE-4, DPE-5, and DPE-8; note DPE-1 also has elevated VOCs but is located on the east side of the GWCT and is not being targeted in this program. **Table 1** and **Table 2** summarize VOC results for groundwater samples collected in January 2026 from the monitoring wells and DPE wells.

The presence and distribution of TCE degradation products cis-1,2-dichlorethene and VC, and of 1,1,1-trichloroethane (1,1,1-TCA) degradation products 1,1-dichlorethane (1,1-DCA) and chloroethane, provides supportive evidence that the attenuation of TCE and 1,1,1-TCA continues to occur on the Site via reductive dechlorination. The occurrence of these degradation products appears to be directly related to the historic distribution of TCE and 1,1,1-TCA in the subsurface. In addition, the virtual elimination of TCE and 1,1,1-TCA concentrations between the Third Quarter of 2015 and the First Quarter of 2026 can be attributed to the previous injection programs conducted at the Site.

Total Organic Carbon

During the most recent groundwater sampling event (January 2026), samples were analyzed for TOC analysis to monitor the concentration of organic carbon source available for optimum microbial growth. TOC analysis indicated that the 2023 electron donor injection program, which was centered around MW-16S, caused a large increase in TOC concentrations down gradient of the injection points. As a result, the location with the highest historical concentrations

of contaminants of concern (MW-16S) has a January 2026 TOC concentration of 339 milligrams per liter [mg/L], which is well above the “rule of thumb” minimum TOC concentration of 20 mg/L that is generally required to maintain effective reductive dechlorination. The January 2026 TOC concentration detected at MW-16S decreased from the previous quarter result of 340 mg/L in October 2025. MW-4 and MW-8R have TOC concentrations of 29.4 mg/L and 12.0 mg/L, respectively. The October 2025 TOC concentrations detected in MW-4 and MW-8R were 32.9 mg/L and 21.4 mg/L, respectively. Refer to **Table 1** and **Table 2** for TOC concentrations detected in January 2026 at monitoring wells, piezometers, and DPE wells.

Monitored Natural Attenuation

In addition to the VOC and TOC analysis, MNA parameters were collected semi-annually from MW-4, MW-8R, MW-11, MW-13S, MW-16S, and MW-16D following the March 2023 electron donor injection event (note the most recent MNA analysis was performed in October 2025). Results from October 2025 MNA samples are summarized in **Table 3**. Per **Table 3**, all five monitoring wells sampled for MNA parameters (not including background monitoring well MW-11) show adequate to strong evidence for anerobic biodegradation of the targeted chlorinated organics to occur; background monitoring well MW-11, outside the contaminant plume, shows limited evidence for anerobic biodegradation of chlorinated organics.

The use of the enhanced reductive dechlorination amendments ABC+® and ABC-Ole’® with ZVI were designed to provide needed compounds, such as a soluble lactic acid carbon source, a phosphate buffer to control pH for optimum microbial growth, and ZVI, which accelerates abiotic dechlorination of chlorinated ethenes and ethanes. In September 2021, AECOM completed bioaugmentation injections using microbial culture KB-1® Plus and KB-1® Primer. Subsequent microbial analyses indicates that the necessary concentrations of bacteria such as *Dehalococcoides* (Dhc), which produces the enzymes tceA Reductase and VC reductase, remain present in the subsurface. Stimulation of the native bacteria by the injection of ABC+® and extra nutrients where chlorinated solvents are present in Site groundwater as well as the completion of bioaugmentation in September 2021 have dramatically reduced the concentrations of the original parent chlorinated VOCs, TCE and 1,1,1-TCA, over time. The initial concentrations of known TCA degradation products (1,1-DCA and chloroethane), as well as of TCE degradation products (1,2-DCE isomers and VC), suggest that reductive dechlorination of the chlorinated solvents present in site groundwater as a result of the November 2018 ABC+® injection event continues to occur. Induction of reducing conditions by the injection of ABC+® can accelerate the reductive dechlorination of parent chlorinated VOCs and increase the relative accumulation of degradation intermediates such as cis-1,2-DCE and VC before complete mineralization.

Between March 2023 and July 2023, AECOM performed an electron donor and bioaugmentation program using a mixture of injectates that consisted of an extended release electron donor solution (EDS-ER™: vegetable oil-based donor), a quick release donor solution (EDS-QR ™: a soluble glycerol-based high hydrogen-content electron donor), a solution to stimulate biological activity (TersOX ™ Nutrients-QR: a source of nitrogen and phosphorus to avoid nutrient limitations for biostimulation programs), and a “chaser” solution (KB-1® Primer: chemicals to drive source water anoxic, buffer pH, remove chlorine and protect organohalide respiring bacteria). The electron donor program was conducted to accelerate the reductive dechlorination of the remaining parent chlorinated VOCs and to increase the production of degradation intermediates such as cis-1,2-DCE and VC (without long-term accumulation) before complete mineralization occurs.

Dechlorinating Bacteria Analysis

During the October 2025 groundwater sampling event, AECOM collected groundwater samples at MW-8R and MW-16S, and submitted the samples to SiREM in Knoxville, Tennessee for volatile fatty acids (VFA) analysis (MW-8Rand MW-16S) and Gene-Trac® analysis (MW-16S). The following sections briefly summarize the VFA and Gene-Trac® analyses.

Volatile Fatty Acids

In addition to a TOC concentration greater than 20 mg/L, the quantification of VFAs is useful to assess the form of TOC present and its availability to promote the reductive dechlorination process. VFAs are fermented by a variety of pathways to produce the hydrogen necessary for complete reductive dechlorination of chlorinated VOCs to occur. In general, VFAs should be in excess of 10 to 20 mg/L to be useful. Pre- and post-injection VFA data is summarized in **Table 4**.

Lactate is a component of the ABC-Olé that was injected at the Site in November 2018. Lactate ferments to the VFAs acetate and propionate. Lactate can be used as a measure of the remaining unused reducing potential of the previously injected ABC-Olé®. At MW-8R, lactate reduced from a low detected concentration of 1.2 mg/L in August 2021 down to the detection limit (<0.62 mg/L, <0.30 mg/L) in April 2023 and October 2025, respectively. This indicates the depletion of this VFA at this well. At MW-16S, lactate was non-detect at <0.39 mg/L and non-detect at <6.0 mg/L between August 2021 and October 2025, which also indicates depletion of this VFA. For the electron donor program performed between March 2023 and July 2023, the carbon substrates being added (i.e., EDS-QR™ and EDS-ER™) do not contain lactate, so the concentration of lactate detected in MW-8R and MW-16S would not be expected to increase.

Acetate is fermented from lactate, ABC-Olé®, EDS-QR™, EDS-ER™, and sugars. *Dehalobacter* (Dhb) can use acetate as a low energy source while Dhc cannot. Dhb is implicated in the biodegradation of chlorinated ethenes such as tetrachloroethene (PCE) and TCE to cis-1,2-DCE and in the biodegradation of the chlorinated ethane 1,1,1-TCA to 1,1-DCA and subsequently to chloroethane. As a result, the presence of acetate indicates that partial reductive dechlorination can occur. However, complete reductive dechlorination to ethene and ethane will not occur without the presence of other VFAs and Dhc.

The electron donor injection program that injected EDS-QR™ and EDS-ER™ occurred between March and July 2023. Therefore, a comparison between the acetate results between April 2023 and October 2025 is appropriate to evaluate the impact of this program. Acetate decreased in MW-8R (2.2 mg/L to 1.2 mg/L) and increased in MW-16S (347 mg/L to 572 mg/L).

Propionate is fermented from lactate, ABC-Olé®, EDS-QR™, EDS-ER™, and alcohols. Propionate subsequently ferments to produce hydrogen and formate. Hydrogen is the preferred electron acceptor for reductive dechlorination because of its high energy yield. Dhc can only use hydrogen as an energy source. Slow fermentation of propionate results in efficient reductive dechlorination (less methanogenesis) and optimal Dhc growth. Propionate was not detected in MW-8R in August 2021, April 2023 (shortly after the electron donor injection program was initiated), or October 2025. Propionate concentration increased in MW-16S from 12 mg/L in August 2021 to 240 mg/L in April 2023 before subsequently decreasing to 11 mg/L in October 2025. The increase in propionate noted in April 2023 in MW-16S is most likely due to the electron donor program conducted between March 2023 and July 2023.

Formate is created from the fermentation of propionate. Formate is fermented to produce hydrogen and bicarbonate. Formate was not detected at MW-8R in August 2021 but detected in October 2025 at an estimated concentration of 0.37 mg/L. Formate was not detected at MW-16S in August 2021 or October 2025. Formate would not be expected to be created by the carbon sources injected during the 2023 electron donor injection program.

Butyrate is created from the fermentation of ABC-Olé®, EDS-QR™, EDS-ER™, and alcohols. Butyrate ferments to produce hydrogen and acetate. Slow fermentation of butyrate results in efficient reductive dechlorination (less methanogenesis) and optimal Dhc growth. Butyrate was not detected in MW-8R in August 2021 or October 2025. The butyrate concentration increased in MW-16S from 81 mg/L in August 2021 to 137 mg/L in April 2023 before subsequently decreasing to 37 mg/L in October 2025. The increase in butyrate observed in April 2023 in MW-16S is most likely due to the electron donor program.

Pyruvate is created from the fermentation of sugars. Pyruvate is subsequently fermented to propionate and acetate with some hydrogen production. Pyruvate was not detected in MW-8R during the August 2021 or October 2025 sampling events. Pyruvate was detected at a concentration of 0.71 mg/L in MW-16S in August 2021, a concentration

of 2.1 mg/L in April 2023, and was non-detect (<3.0 mg/L) in October 2025. It is uncertain whether the electron donor program contributed to the pyruvate that was detected.

Overall, the October 2025 VFA results for MW-8R indicate that the remaining TOC in the vicinity of this well is insufficient to promote complete reductive dechlorination based on the relative lack of VFAs detected even though TOC was detected in MW-8R at a concentration of 21.4 mg/L, which is slightly above the rule-of-thumb concentration of 20 mg/L.

For MW-16S, there was an initial increase in the concentration of three VFAs (propionate, butyrate, and pyruvate) following the initiation of the electron donor injection program in March 2023. The concentrations of these three VFAs have decreased between April 2023 and October 2025. Both propionate and butyrate produce hydrogen when fermented, which is essential for complete reductive dechlorination to occur. The concentrations of cis-1,2-DCE, VC, 1,1-DCA, and chloroethane remained elevated in October 2025, which indicates that reductive dechlorination is occurring. The concentration of cis-1,2-DCE has decreased from 150,000 µg/L in April 2023 to 110 µg/L in October 2025. The detection of ethene at a concentration of 74,000 µg/L and TOC at a concentration of 340 mg/L indicates that complete reductive dechlorination is occurring at MW-16S.

A discussion of Dhc, Dhb, and reductase results is provided in the next subsection.

Gene-Trac®

Gene-Trac® Dhc is used to detect Dhc in a groundwater sample. The detection of Dhc is significant as Dhc contains the greatest number of reductive dehalogenase genes of any microbial group. Dhc is capable of the reductive dechlorination of PCE, TCE, cis-1,2-DCE, 1,1-dichloroethene, trans-1,2-dichloroethene, and VC. Pre- and post-injection Gene-Trac® data is summarized in **Table 5**.

For MW-16S, a Gene-Trac® sample was analyzed by SiREM during the pre-bioaugmentation injection in August 2021 and subsequent post-injection monitoring events in December 2021, April 2022, October 2022, April 2023, July 2023, October 2023, April 2024, October 2024, April 2025, and October 2025; the following compares the pre-bioaugmentation injection concentrations with the most recent post-bioaugmentation injection sampling event performed in October 2025.

The Gene-Trac® Dhc results increased from 1 x 10^9 Dhc gene copies per liter in August 2021 to 1. 3 x 10^9 Dhc gene copies per liter in October 2025. Per the technical notes from SiREM regarding interpretation of data, when the density of Dhc gene copies per liter is 1 x 10^7 or higher, this concentration is generally associated with significant rates of dechlorination. The Dhc concentrations were similar to April 2025.

Gene-Trac® *vcrA*, *bvcA*, and *tceA* gene analysis quantifies genes that code for reductase enzymes that dechlorinate chlorinated ethenes and other compounds. The *vcrA*, *bvcA*, and *tceA* genes play specific roles in reductive dechlorination. Specifically, the Gene-Trac® *vcrA* and *bvcA* test quantifies VC-reductase genes that produce enzymes that convert VC to ethene. The *vcrA* reductase gene is reported to be the most commonly identified VC reductase gene in the environment, whereas *bvcA* is generally less common but can predominate in more oxidizing groundwater and possibly where DCE is dominant. The Gene-Trac® *tceA* test quantifies the TCE reductase gene that produces an enzyme that primarily converts TCE to cis-1,2-DCE and VC.

The *vcrA* reductase gene was detected in MW-16S at 1 x 10^9 gene copies per liter in the August 2021 pre-injection sample and increased to 1.74 x 10^9 gene copies per liter in the October 2025 post-injection sample collected. The *bvcA* reductase gene was detected in MW-16S at 1 x 10^8 gene copies per liter in August 2021 and at 2.15 x 10^8 gene copies per liter in October 2025. The *tceA* reductase gene was detected in MW-16S at 1 x 10^9 gene copies per liter in August 2021 and at 1.30 x 10^8 gene copies per liter in October 2025. Per the technical notes from SiREM, the potential for complete dechlorination is very high when Dhc, *vcrA*, *bvcA*, and *tceA* are present at greater than or equal to 1 x 10^7 gene copies per liter. Additionally, VC stall is unlikely when *vcrA* is greater than 1 x 10^7 gene copies per liter, and ethene is detectable. Ethene was detected at 33,000 µg/L and 74,000 µg/L in August 2021 and October 2025, respectively.

Gene-Trac® Dhb is used to detect Dhb in a groundwater sample. Dhb is implicated in the biodegradation of PCE and TCE to cis-1,2-DCE. The detection of Dhb indicates that dechlorination activities attributed to Dhb may be active. Increasing concentrations of Dhb are indicative of increased potential for degradation of PCE and TCE. Dhb was detected at 5×10^7 gene copies per liter in August 2021 and at 4.35×10^6 gene copies per liter in October 2025. The Dhb results were similar for April 2025.

In summary, Dhc, *vcrA*, *bvcA*, and *tceA* are present at MW-16S at concentrations that continue to indicate a significant potential for complete reductive dechlorination to occur. TOC concentration in this well was 340 mg/L in October 2025, indicating that sufficient TOC is present in the vicinity of the well to promote reductive dechlorination. Additional time is needed to evaluate the overall impact of the electron donor injection program in the vicinity of this well.

SCOPE OF WORK

Task 1 – Project Management / Premobilization Activities

Under Task 1, AECOM will provide project management and coordination, premobilization activities, and communication with AECOM subcontractors, GSF, AVOX Systems Inc, and NYSDEC.

The following premobilization activities will also be conducted:

- Amend the health and safety plan (HASP), as necessary, to address the injection scope of work and physical and chemical elements of concern.
- Prepare this letter work plan describing the scope of work for the injection program.
- Issue purchase orders to the drilling subcontractor (Matrix) and the injectate chemical vendor (ETEC, Inc.).
- Prepare forms for use by AECOM personnel to document daily health and safety meetings, injection tracking, and/or other daily general notes.
- Coordinate the delivery and receipt of the injectate.

Task 2 – Injection Well Re-Development and Installation

There are two existing injection wells on-Site (IW-01 and IW-02), but following the 2023 electron donor injection program, significant biofouling of the wells has occurred. As a result, AECOM and subcontractor Matrix will attempt to redevelop the wells using hydrogen peroxide. Based on previous re-development attempts at these wells, it is not likely that all of the biofouling will be able to be removed, and the wells will not be able to accept the proposed total volume of injectate and chase water. Therefore, Matrix will install two additional injection wells (IW-03 and IW-04) immediately upgradient (south and southeast) of MW-16S and in the vicinity of the two existing injection wells (refer to **Figure 7** for the approximate locations of IW-03 and IW-04). Following underground utility clearing by UDig NY, and hand clearing to 5 feet below ground surface (bgs), the injection wells will be installed to a depth of approximately 18 feet bgs using hollow stem rotary augers on track-mounted GeoProbe® drill rig, The intent of these additional injection wells is to target the shallow overburden groundwater zone in the area of MW-16S. An AECOM field geologist will be on-Site to monitor the Matrix well installation activities.

The new injection wells will be constructed with a 10-foot-long, 2-inch inside diameter Schedule 40 polyvinyl chloride (PVC), No. 0.010 slot screen, attached to 2-inch inside diameter Schedule 40 PVC blank riser, and installed within a 4-inch steel protective casing (refer to **Figure 8** for the injection well construction diagram). The soil spoils from the installation of the new injection wells will be placed in the existing on-Site drum containing operation and maintenance solids (F002 waste code) to be disposed by AECOM's transportation and disposal subcontractor Arcwood, LLC. Note AECOM recertified the wastestream with Arcwood, LLC on January 16, 2026; the wastestream includes hazardous soil in the profile.

Newly installed injection wells (IW-03 and IW-04) will be developed by an AECOM field geologist. Each injection well will be developed by pumping until the discharged water is relatively sediment free. Developing the injection well

removes sediment from the surrounding formation and sand pack, improving the hydraulic properties. A visual assessment of turbidity will be used as a guide for discontinuing well development. Approximately 15 gallons of development water are estimated for removal from each newly installed well based on five well volumes; assuming a 2-inch well casing, 10-foot long saturated sand pack and 3-inch diameter borehole. Development water will be decanted/filtered to remove solids and treated through the on-Site remedial system; decanted/filtered solids will be solidified and placed in the drum containing the soil spoils.

As mentioned above, AECOM will attempt to redevelop the two existing injection wells (IW-01 and IW-02) using hydrogen peroxide so they can be included in the injection program if determined to be useable (i.e., able to accept injectate).

The injection well installation, including construction of the concrete well pad and installation of the steel protective casing, and well development of the two new injection wells and the two existing injection wells is anticipated to take two eight-hour days to complete.

Task 3 – CarBstrate™ Injection

The injectate will be purchased from ETEC, Inc. and consists of CarBstrate™ (a fully soluble, nutrient-amended carbohydrate substrate); refer to **Attachment 1** for the ETEC, Inc. product proposal. The total volume of mixed injectate solution is approximately 1,600 gallons. The injectate will be mixed on Site in 5-gallon batches at a 1 part CarBstrate™ to 1 part water ratio.

Once the desired amount of injectate solution is mixed, it will be delivered via gravity feed into the water column in each of the injection wells and three DPE wells (DPE-5, DPE-4, and DPE-8), with the remaining DPE wells (DPE-1, DPE-2, DPE-3, and DPE-7) on-line. It is anticipated that 5 gallons of donor solution will initially be added to the injection and DPE wells every other day, followed by 5 gallons of chase water between injection days, 6 days a week (no injections will be performed on Sundays). It is anticipated that the injection program will take approximately 3 months to complete, depending on how fast the subsurface will absorb the volume of injectate. Also note that per discussion with the injectate vendor, there is no expiration date on the individual injection components if open containers are kept clean (i.e., preventing water, debris, or dirty tubing in the containers) and keeping the containers closed and indoors when not being used. An AECOM scientist/geologist will perform and track the injection program with support from the AECOM project manager and engineer as needed.

HEALTH AND SAFETY PLAN

The Site-specific HASP will be updated, as necessary, with the above scope of work, including copies of the injectate safety data sheets, and approved by AECOM's District Safety, Health, and Environment Manager. A copy of the approved HASP will be available on Site.

SCHEDULE

Following NYSDEC approval of this work plan, the electron donor injection program will be initiated. AECOM would like to tentatively schedule the installation of the two new injection wells in early April 2026 and begin the injections in May 2026.

If you have any questions regarding this submission, please do not hesitate to contact me at (716) 923-1125 or via e-mail at dino.zack@aecom.com.

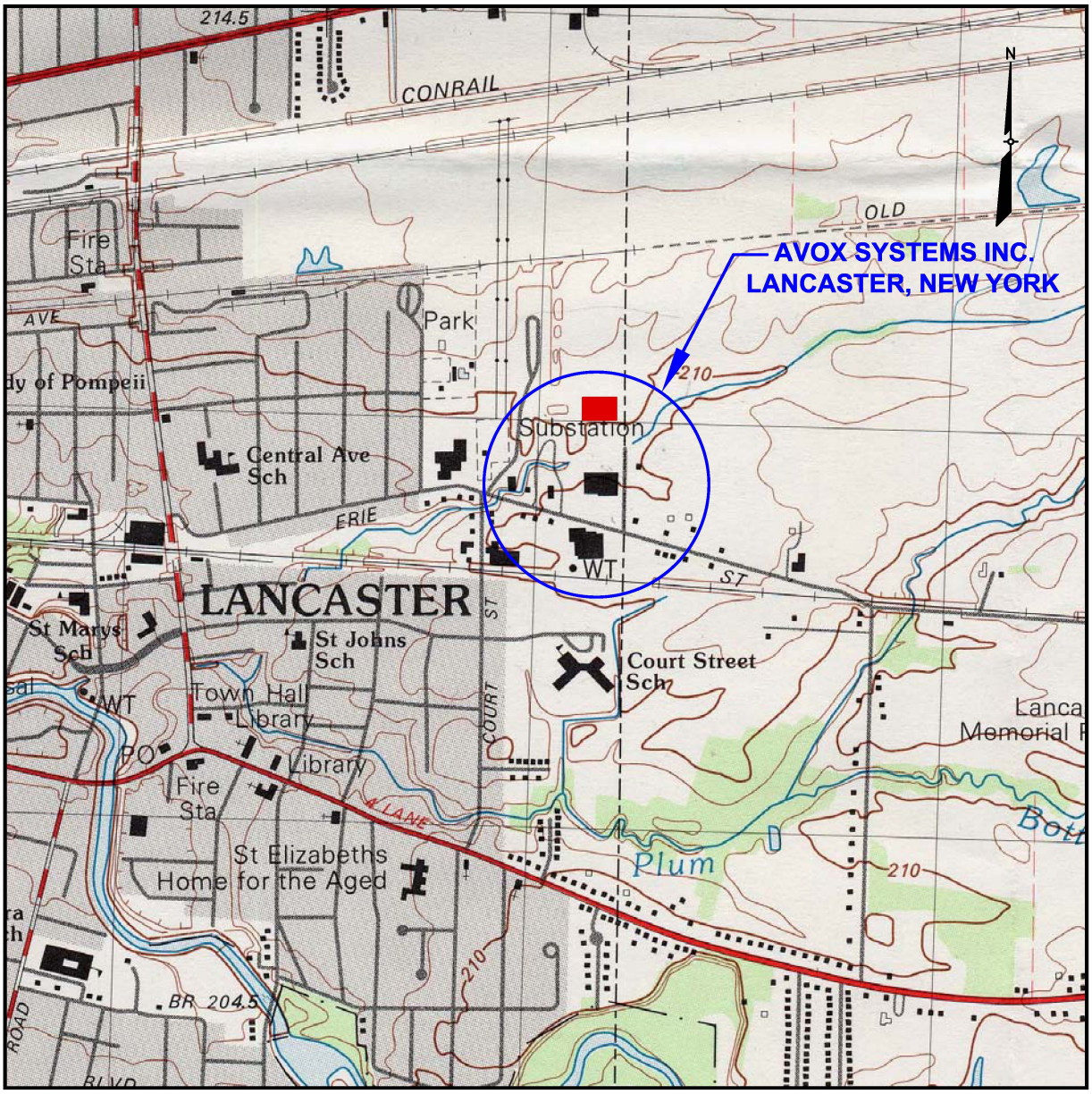
Yours sincerely,

Dino L. Zack, PG, STS
dino.zack@aecom.com

\Enclosures

cc: Mr. Benjamin McPherson, NYSDEC (electronic copy)
Mr. Troy Chute, GSF Management Company, LLC (electronic copy)
Mr. Christopher Barton, GSF Management Company, LLC (electronic copy)
Mr. Stephen Angora, AVOX Systems Inc (electronic copy)
Mr. Rob Murphy, AECOM (electronic copy)
Mr. Timothy Renn, AECOM (electronic copy)
Project File 60771775

Figures



SOURCE:
1982 GEOLOGIC SURVEY 7.5 X 15 MINUTE TOPOGRAPHIC QUADRANGLE
LANCASTER, NEW YORK

LEGEND

AVOX PLANT 3 ADDED AFTER PUBLICATION OF LANCASTER, NEW YORK TOPOGRAPHIC QUADRANGLE.

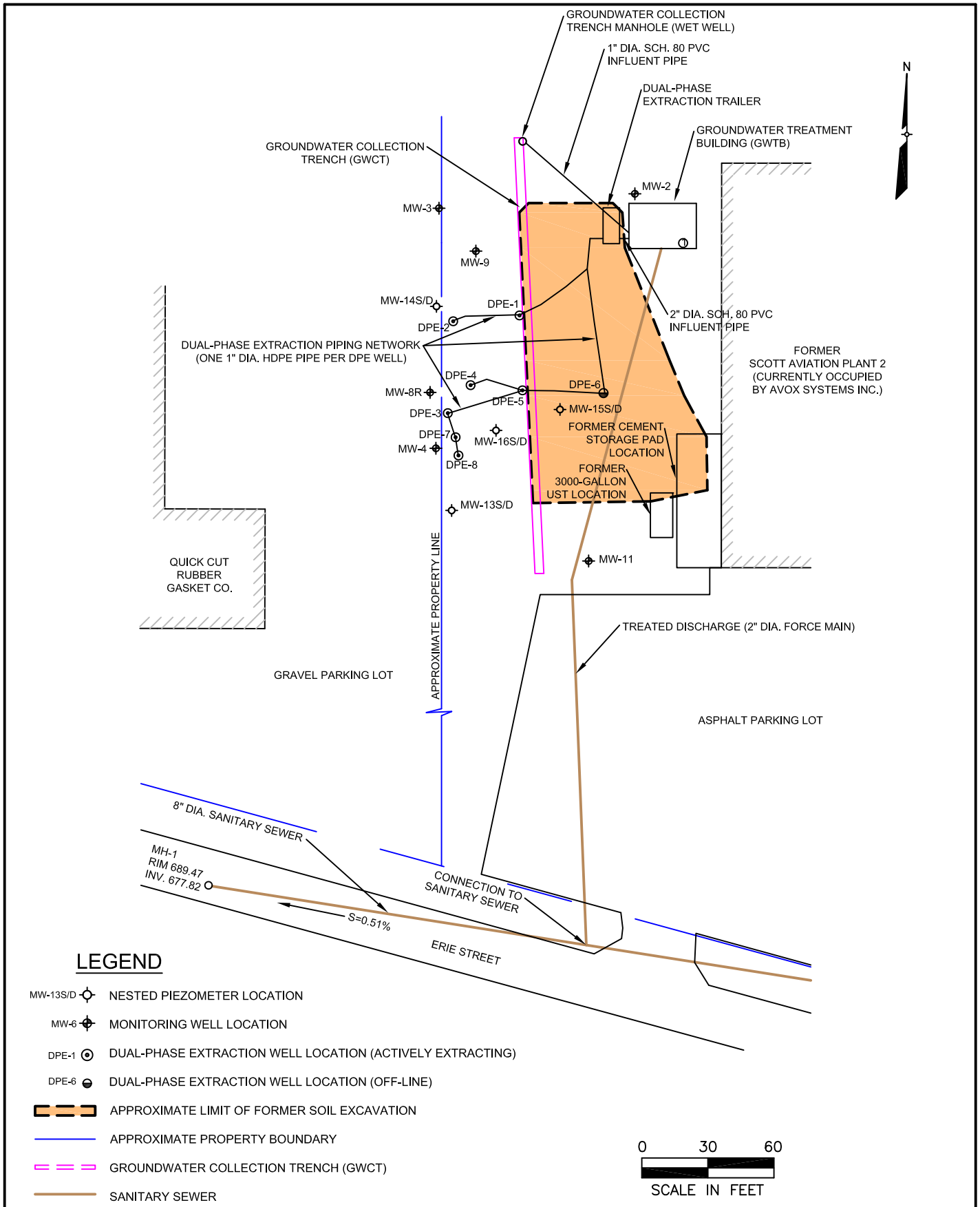
0 1000 2000
SCALE IN FEET

AECOM

FIGURE 1
SITE LOCATION MAP

FORMER SCOTT AVIATION FACILITY
LANCASTER, NEW YORK

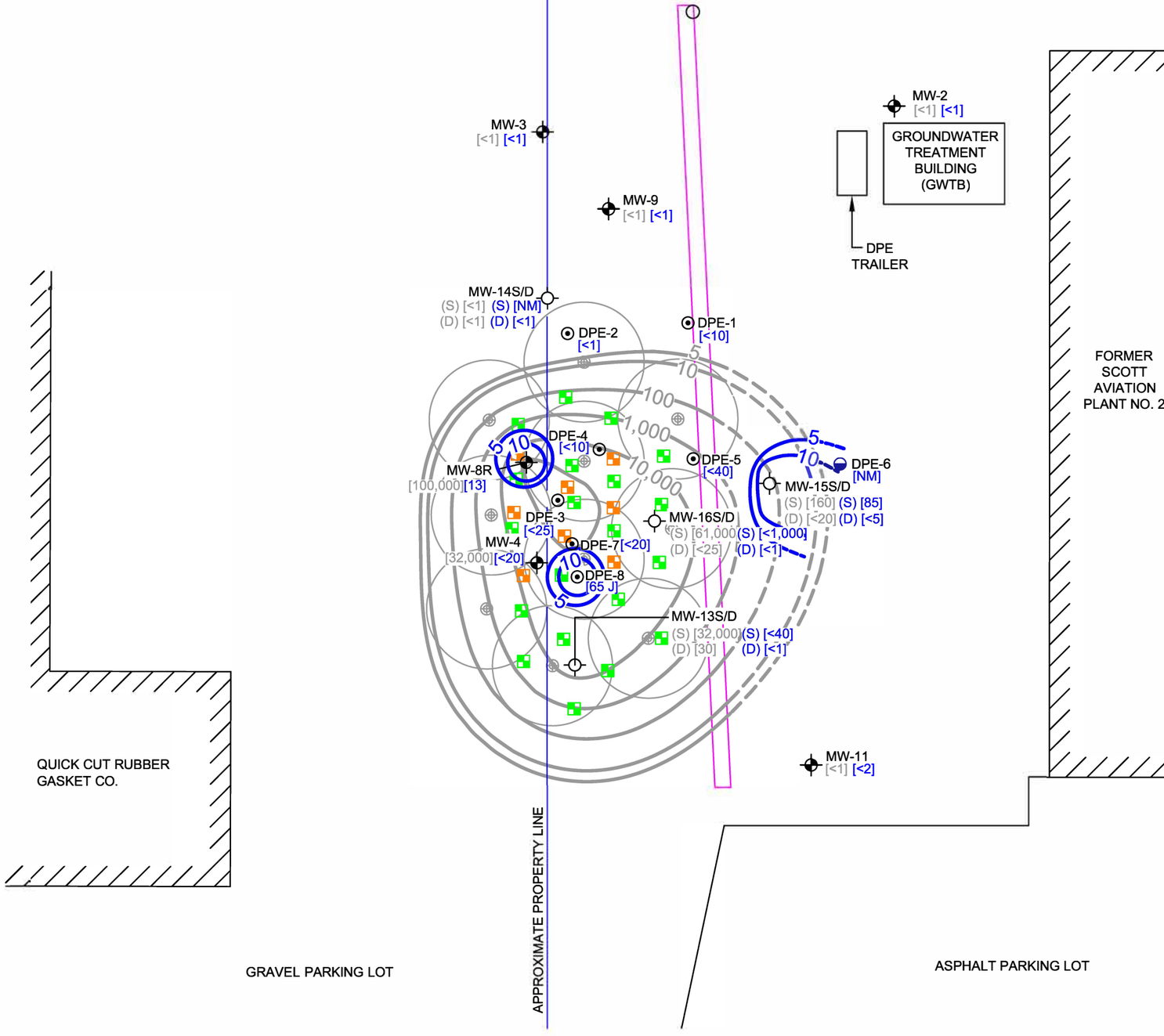
\\URSBuffalo.us.ie.urs\Buffalo\Projects_ENV\60676130_West_of_Plant_2\900_CAD_GIS\910_CAD\2022\60676130_000 Site Loc Map_Jan2022.dwg, 1/24/2022 5:37:14 PM, Adobe PDF



AECOM

FIGURE 2
WEST OF PLANT 2 SITE FEATURES MAP

FORMER SCOTT AVIATION FACILITY
LANCASTER, NEW YORK



LEGEND

- MW-9 — MONITORING WELL LOCATION
- MW-13S/D — NESTED PIEZOMETER LOCATION
- DPE-1 — DUAL-PHASE EXTRACTION WELL LOCATION (ACTIVELY EXTRACTING)
- DPE-6 — DUAL-PHASE EXTRACTION WELL LOCATION (OFF-LINE)
- NOVEMBER 2014 INJECTION POUNTS (ABC+)
- MAY 2015 INJECTION POUNTS (ABC+)
- OCT2010/OCT2011 INJECTION POINTS (PERSULFATE)
- [85] — TRICHLOROETHENE CONCENTRATION (µg/L) (APRIL 2018)
- 10 — TRICHLOROETHENE ISOCONCENTRATION CONTOUR (µg/L) (APRIL 2018)
- 5 — REMEDIAL ACTION OBJECTIVE FOR TRICHLOROETHENE (µg/L) (APRIL 2018)
- [160] — TRICHLOROETHENE CONCENTRATION (µg/L) (APRIL 2014)
- 10 — TRICHLOROETHENE ISOCONCENTRATION CONTOUR (µg/L) (APRIL 2014)
- 5 — REMEDIAL ACTION OBJECTIVE FOR TRICHLOROETHENE (µg/L) (APRIL 2014)
- < — BELOW REPORTING LIMIT
- (S) — SHALLOW PIEZOMETER
- (D) — DEEP PIEZOMETER
- GROUNDWATER COLLECTION TRENCH (GWCT)
- APPROXIMATE PROPERTY BOUNDARY
- J — RESULT IS LESS THAN THE RL BUT GREATER THAN OR EQUAL TO THE MDL AND THE CONCENTRATION IS AN APPROXIMATE VALUE
- NM — NOT MEASURED

NOTE

1. THE HIGHEST CONCENTRATION OF TCE WAS USED AT PIEZOMETER PAIR LOCATIONS TO GENERATE ISOCONCENTRATION CONTOURS.

0 15 30 60

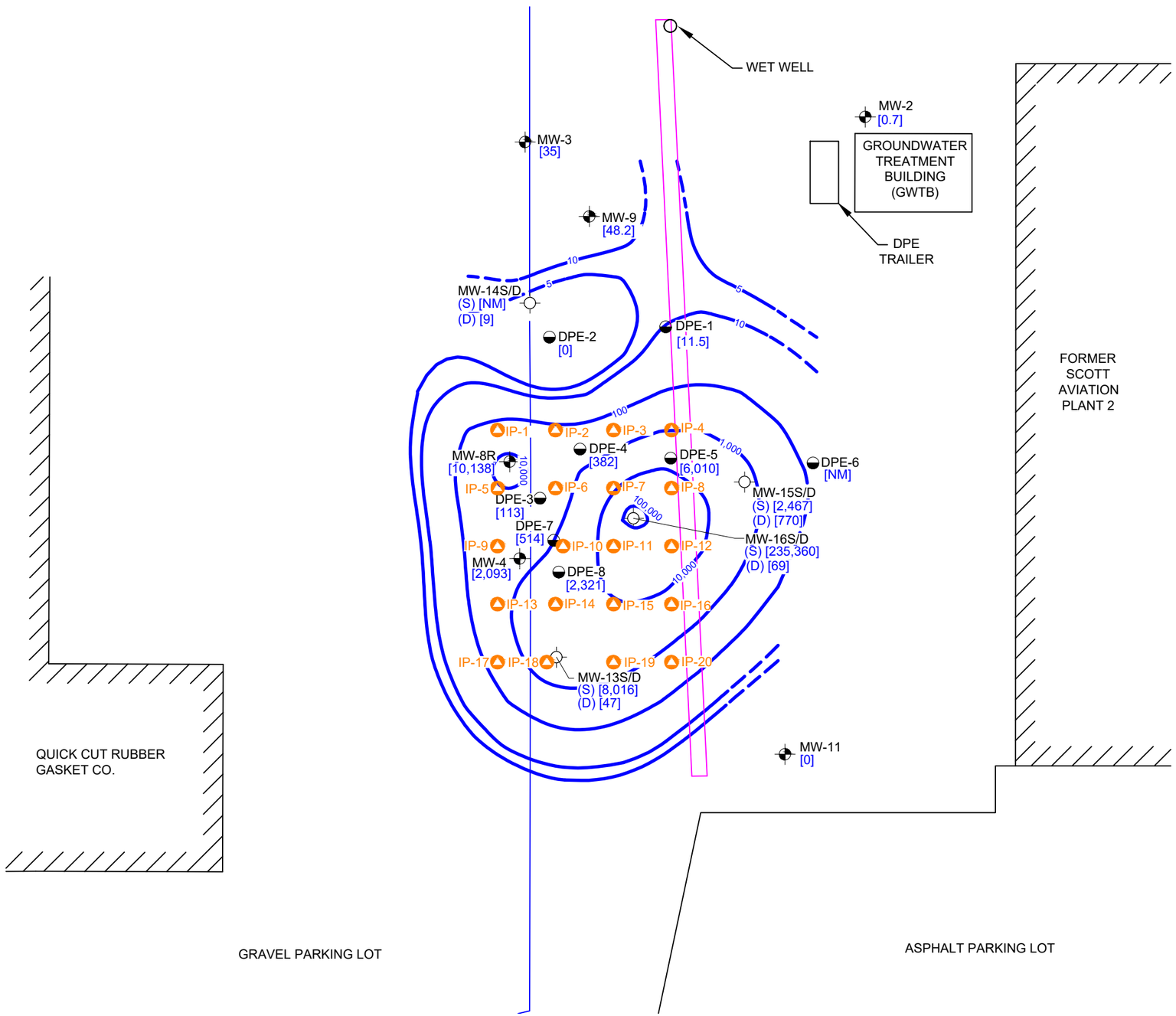
SCALE IN FEET

AECOM

FIGURE 3
LOCATION OF PREVIOUS INJECTION POINTS

FORMER SCOTT AVIATION FACILITY
LANCASTER, NEW YORK

L:\work\71149\CADD\71149_174 Location of Injection Points_w Apr2018 data.dwg, 10/30/2018 9:36:18 AM, Splawnm



LEGEND

- IP-1 — INJECTION LOCATION
- MW-13S/D — NESTED PIEZOMETER LOCATION
- MW-9 — MONITORING WELL LOCATION
- DPE-6 — DUAL-PHASE EXTRACTION WELL LOCATION (OFF-LINE)
- [69] — TOTAL VOC CONCENTRATION (µg/L) (April 2018)
- 10 — TOTAL VOC CONTOUR (April 2018) (DASHED WHERE INFERRED)
- (S) — SHALLOW PIEZOMETER
- (D) — DEEP PIEZOMETER
- GROUNDWATER COLLECTION TRENCH (GWCT)
- APPROXIMATE PROPERTY BOUNDARY
- NM — NOT MEASURED

NOTE

1. GROUNDWATER DATA IS FROM APRIL 2018.
2. TOTAL VOC FROM THE SHALLOW PIEZOMETER PAIR LOCATIONS (i.e. MW-13S, MW-14S, MW-15S, MW-16S) WERE USED TO CREATE THE TOTAL VOC CONTOURS.
3. SHALLOW/DEEP OVERBURDEN GROUNDWATER FLOW IS TO THE NORTHWEST.

0 15 30 60

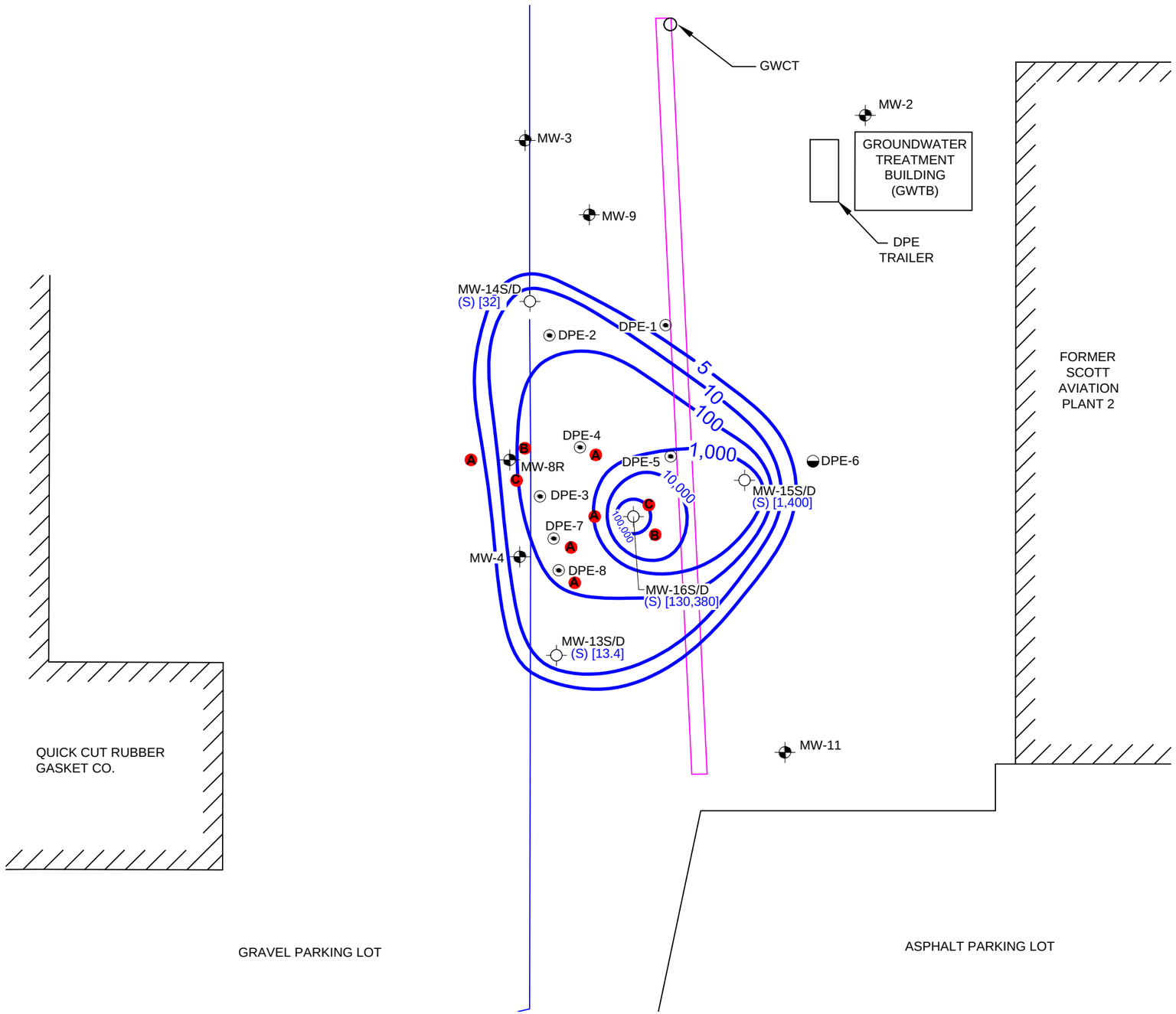
SCALE IN FEET

AECOM

FIGURE 4
NOVEMBER 2018 INJECTION POINTS

FORMER SCOTT AVIATION FACILITY
LANCASTER, NEW YORK

L:\work\71149\CADD\71149_207 Nov2019 Injection Points.dwg, 6/12/2019 9:38:08 AM, stubblefieldr



LEGEND

- 2021 BIOAUGMENTATION INJECTION LOCATION
- MW-13S/D — NESTED PIEZOMETER LOCATION
- MW-9 — MONITORING WELL LOCATION
- DPE-6 — DUAL-PHASE EXTRACTION WELL LOCATION (OFF-LINE)
- DPE-1 — DUAL-PHASE EXTRACTION WELL LOCATION (ACTIVELY EXTRACTING PRIOR TO INJECTION)
- [13.4] — TOTAL VOC CONCENTRATION (µg/L)
- 10 — TOTAL VOC CONTOUR
- (S) — SHALLOW PIEZOMETER
- (D) — DEEP PIEZOMETER
- GROUNDWATER COLLECTION TRENCH (GWCT)
- APPROXIMATE PROPERTY BOUNDARY

NOTES

1. GROUNDWATER DATA IS FROM APRIL 2021.
2. TOTAL VOC FROM THE SHALLOW PIEZOMETER PAIR LOCATIONS (i.e. MW-13S, MW-14S, MW-15S, MW-16S) WERE USED TO CREATE THE TOTAL VOC CONTOURS.
3. SHALLOW/DEEP OVERBURDEN GROUNDWATER FLOW IS TO THE NORTHWEST.

0 15 30 60

SCALE IN FEET

AECOM

FIGURE 5
2021 BIOAUGMENTATION INJECTION POINTS

FORMER SCOTT AVIATION FACILITY
LANCASTER, NEW YORK

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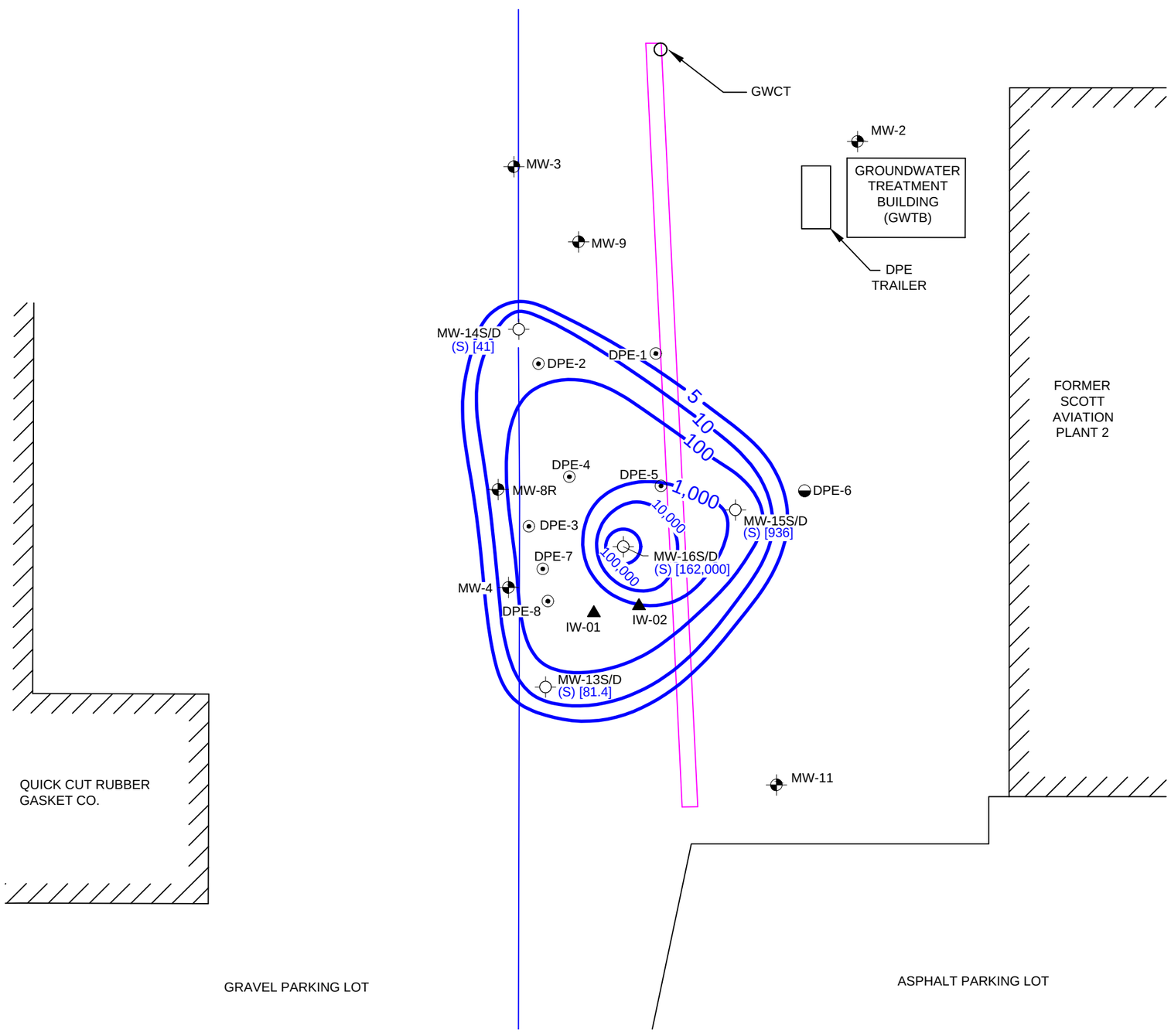

N

LEGEND

- IW-01 ▲ — 2023 ELECTRON DONOR INJECTION WELL LOCATION
- MW-13S/D — NESTED PIEZOMETER LOCATION
- MW-9 — MONITORING WELL LOCATION
- DPE-6 — DUAL-PHASE EXTRACTION WELL LOCATION (OFF-LINE)
- DPE-1 — DUAL-PHASE EXTRACTION WELL LOCATION (ACTIVELY EXTRACTING)
- [81.4] — TOTAL VOC CONCENTRATION (µg/L)
- 10 — TOTAL VOC CONTOUR
- (S) — SHALLOW PIEZOMETER
- (D) — DEEP PIEZOMETER
- GROUNDWATER COLLECTION TRENCH (GWCT)
- APPROXIMATE PROPERTY BOUNDARY

NOTES

1. GROUNDWATER DATA IS FROM APRIL 2022.
2. TOTAL VOC FROM THE SHALLOW PIEZOMETER PAIR LOCATIONS (i.e. MW-13S, MW-15S, MW-16S) WERE USED TO CREATE THE TOTAL VOC CONTOURS.
3. SHALLOW/DEEP OVERBURDEN GROUNDWATER FLOW IS TO THE NORTHWEST.

0 15 30 60

SCALE IN FEET

AECOM

FIGURE 6

2023 ELECTRON DONOR INJECTION WELL LOCATIONS

FORMER SCOTT AVIATION FACILITY
LANCASTER, NEW YORK

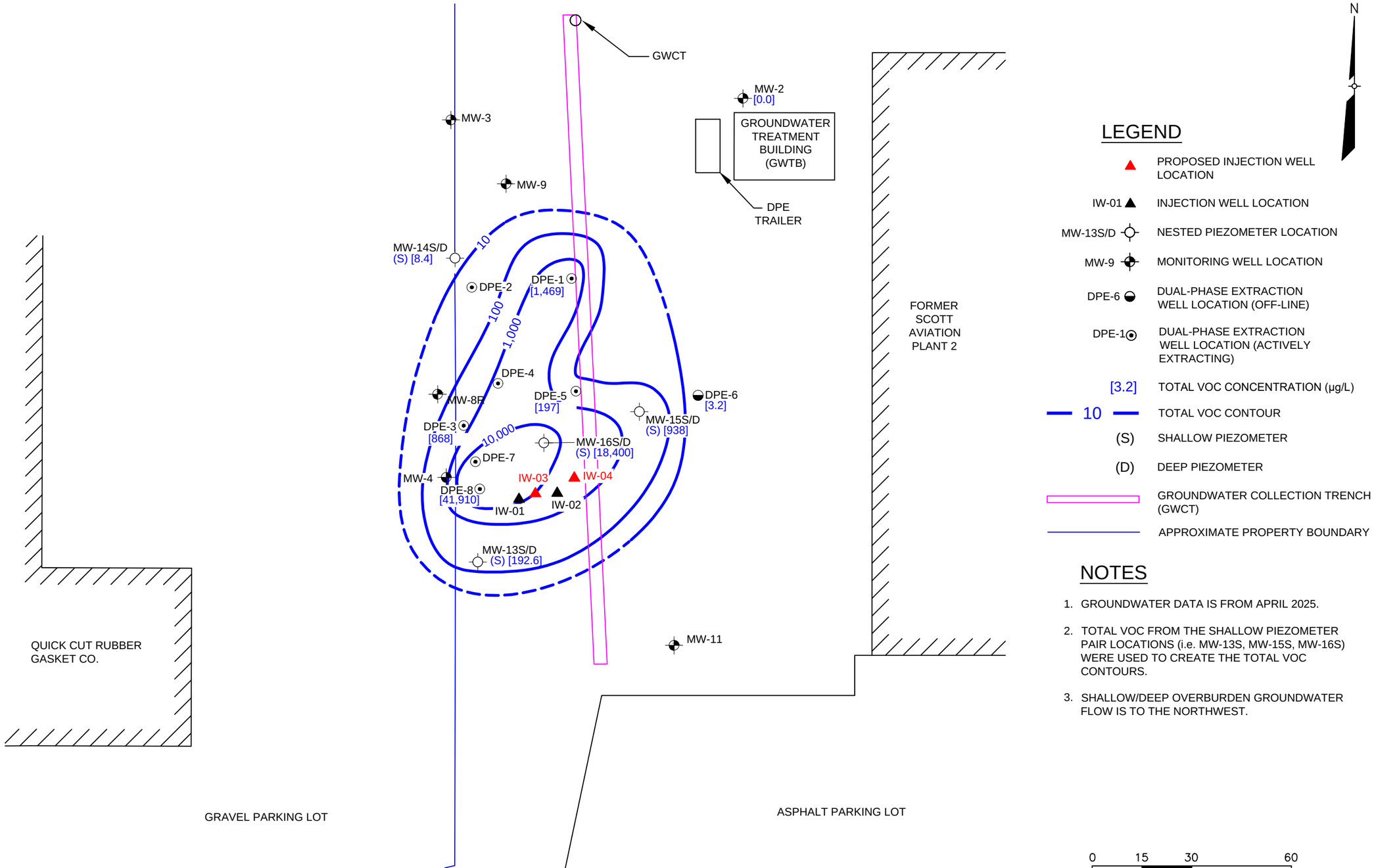

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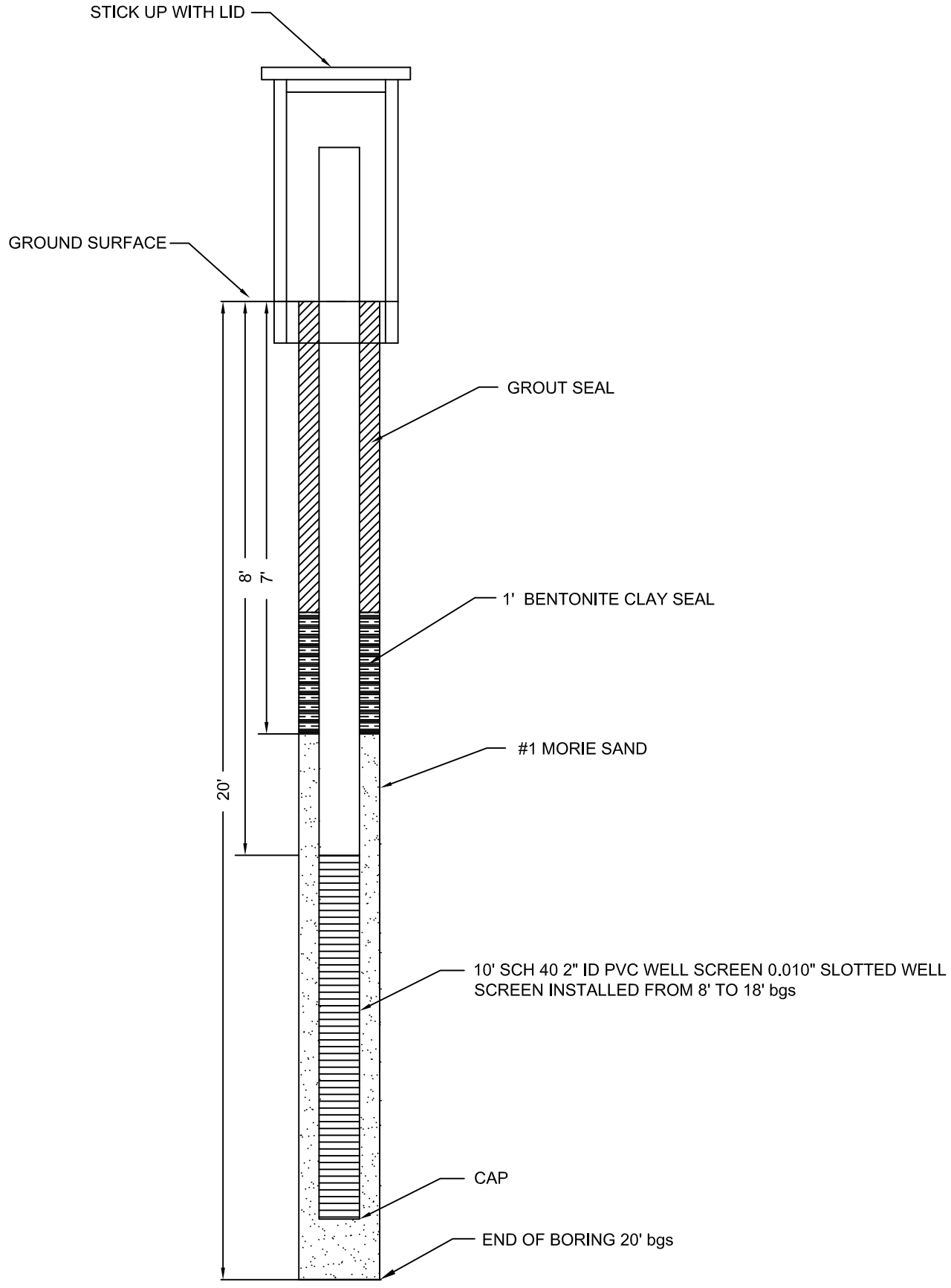
FIGURE 7
PROPOSED INJECTION WELL LOCATIONS

FORMER SCOTT AVIATION FACILITY
LANCASTER, NEW YORK



AECOM

FIGURE 8
TYPICAL INJECTION WELL
CONSTRUCTION DIAGRAM

FORMER SCOTT AVIATION FACILITY
LANCASTER, NEW YORK

Tables

Table 1

Summary of Monitoring Well Analytical Data - January 2026
Former Scott Aviation Facility - West of Plant 2
NYSDEC Site Code No. 9-15-149
Lancaster, New York

Sample ID	Groundwater	MW-2	MW-3	MW-4	MW-8R	MW-11
Date Collected	RAO/TOGS 1.1.1	01/08/26	01/07/26	01/07/26	01/07/26	01/08/26
Lab Sample ID	Objective	480-235607-11	480-235553-2	480-235553-3	480-235553-4	480-235607-9
Volatile Organic Compounds by Method 8260C (µg/L)						
1,1-Dichloroethane	5*	**5.9**	**11**	< 2.0 U	< 1.0 U	< 1.0 U
Acetone	50	< 40 U	< 10 U	< 20 U	**9.0 J**	< 10 U
Benzene	1	< 4.0 U	< 1.0 U	**1.0 J**	**0.42 J**	< 1.0 U
Chloroethane	5*	< 4.0 U	< 1.0 U	**65**	**2.6**	< 1.0 U
cis-1,2-Dichloroethene	5*	< 4.0 U	**1.9**	**4.7**	**0.98 J**	**1.3**
Toluene	5*	< 4.0 U	< 1.0 U	**3.1**	**0.86 J**	< 1.0 U
Vinyl chloride	5*	< 4.0 U	**8.2**	**4.1**	< 1.0 U	< 1.0 U
Total Volatile Organic Compounds	NL	5.9	21.1	77.9	13.9	1.3
Total Organic Carbon by Method 9060A (mg/L)	NL	8.9	2.5	29.4	12.0	3.2

Table 1

Summary of Monitoring Well Analytical Data - January 2026
Former Scott Aviation Facility - West of Plant 2
NYSDEC Site Code No. 9-15-149
Lancaster, New York

Sample ID	Groundwater	MW-13S	MW-13D	MW-16S	MW-16D
Date Collected	RAO/TOGS 1.1.1	01/07/26	01/07/26	01/08/26	01/08/26
Lab Sample ID	Objective	480-235553-6	480-235553-7	480-235607-12	480-235607-13
Volatile Organic Compounds by Method 8260C (µg/L)					
1,1-Dichloroethane	5*	< 2.0 U	< 1.0 U	**320**	< 10 U
Acetone	50	< 20 U	< 10 U	< 1,000 U	< 10 U
Benzene	1	< 2.0 U	< 1.0 U	< 100 U	< 100 U
Chloroethane	5*	< 2.0 U	**1.2**	**1,300**	**29**
cis-1,2-Dichloroethene	5*	**30**	< 1.0 U	**2,100**	< 10 U
Toluene	5*	< 2.0 U	< 1.0 U	**560**	< 10 U
Vinyl chloride	5*	**120**	< 1.0 U	**5,800**	< 10 U
Total Volatile Organic Compounds	NL	150	1.2	10,080	29
Total Organic Carbon by Method 9060A (mg/L)	NL	3.8	2.4	339	8.0

Notes:
Bold font indicates the analyte was detected.
Bold font and bold outline indicates the screening criteria was exceeded.
* Site-specific RAO per ROD (November 1994).
Site-specific RAO's 1,1,1-Trichloroethane, 1,2-Dichloroethene, Ethylbenzene, and Xylenes were not detected above the reporting limit.
J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
U - Not detected at or above reporting limit.
NL - Not listed.

Table 2

Summary of Dual Phase Extraction Well Groundwater Analytical Data - January 2026
Former Scott Aviation Facility - West of Plant 2
NYSDEC Site Code No. 9-15-149
Lancaster, New York

Sample ID	Groundwater	DPE-1	DPE-2	DPE-3	DPE-4	DPE-5	DPE-6	DPE-7	DPE-8
Date Collected	RAO/TOGS 1.1.1	01/08/26	01/08/26	01/08/26	01/08/26	01/08/26	01/08/26	01/08/26	01/08/26
Lab Sample ID	Objective	480-235607-7	480-235607-8	480-235607-1	480-235607-2	480-235607-3	480-235607-4	480-235607-5	480-235607-6
Volatile Organic Compounds by Method 8260C (µg/L)									
1,1-Dichloroethane	5*	**180**	< 1.0 U	< 5.0 U	< 20 U	**20**	**2.9**	< 1.0 U	**150 J**
2-Butanone (MEK)	50	**190 J**	< 10 U	< 50 U	< 200 U	< 50 U	< 10 U	< 10 U	< 2,000 U
Acetone	50	**660**	< 10 U	< 50 U	< 200 U	**62**	< 10 U	< 10 U	< 2,000 U
Chloroethane	5*	**8.7 J**	< 1.0 U	< 5.0 U	< 20 U	**73**	< 1.0 U	**3.5**	< 200 U
Chloroform	7	< 20 U	< 1.0 U	< 5.0 U	< 20 U	< 5.0 U	< 1.0 U	< 1.0 U	**8,000 J**
cis-1,2-Dichloroethene	5*	**220**	< 1.0 U	< 5.0 U	**880**	**43**	**2.2**	< 1.0 U	< 200 U
Toluene	5*	**24**	< 1.0 U	< 5.0 U	< 20 U	**11**	< 1.0 U	< 1.0 U	< 200 U
Trichloroethene	5*	**25**	< 1.0 U	< 5.0 U	< 20 U	**2.4** J	< 1.0 U	< 1.0 U	< 200 U
Vinyl chloride	5*	**44**	< 1.0 U	< 5.0 U	**260**	**9.6**	< 1.0 U	< 1.0 U	**2,500**
Total Volatile Organic Compounds	NL	1,352	0.0	0.0	1,140	221	5.1	3.5	10,650
Total Organic Carbon (mg/L)	NL	332	6.4 F1	3.0 J	28.1	45.5	3.3	4.6	159

Notes:

Bold font indicates the analyte was detected.

Bold font and bold outline indicates the screening criteria was exceeded.

* Site-specific RAO per ROD (November 1994).

Total Organic Carbon by Method 9060A.

J - Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

U - Not detected at or above reporting limit.

NL - Not listed.

Table 3

Bioattenuation Screening Summary - October 2025
Former Scott Aviation Facility - West of Plant 2
NYSDEC Site Code No. 9-15-149
Lancaster, New York

Parameter	Units	Criteria	Score Value	Monitoring Well Identification											
				MW-4		MW-8R		MW-11		MW-13S		MW-16S		MW-16D	
				Plume Well		Plume Well		Background well		Plume Well		Plume Well		Plume Well	
					Score		Score		Score		Score		Score		Score
Dissolved Oxygen	mg/L	< 0.5 mg/L	3			0.07	3			0.07	3	0.07	3		
		>0.5 mg/L	-3	0.80	-3			0.80	-3					0.94	-3
Nitrate	mg/L	< 1 mg/L	2	0.022	2	<0.050	2	<0.050	2	<0.050	2	0.022	2	<0.050	2
Ferrous Iron	µg/L	> 1 mg/L	3	<0.10	0	<0.10	0	<0.10	0	<0.10	0	17.0	3	<0.10	0
Sulfate	mg/L	< 20 mg/L	2	6.8	2	5.6	2	13.2	2	5.9	2	8.1	2	<20	2
Sulfide	mg/L	> 1 mg/L	3	<1.0	0	1.2	3	<1.0	0	<1.0	0	<1.0	0	<1.0	0
Methane	µg/L	< 500 µg/L	0												
		> 500 µg/L	3	15,000	3	16,000	3	1,600	3	19,000	3	8,800	3	17,000	3
Ethene	µg/L	> 10 µg/L	2	1,700	2	<1,500	0	<150	0	710	2	74,000	2	<770	0
Ethane	µg/L	> 100 µg/L	3	580	3	<1,700	0	<170	0	2,000	3	<1,700	0	<830	0
ORP	mV	< 50 mV	1					-71.0	1	-70.0	1				
		< -100 mV	2	-114.9	2	-141.7	2					-100.3	2	-104.1	2
pH	s.u.	5 < pH < 9	0	6.82	0	7.25	0	6.36	0	6.68	0	6.41	0	6.71	0
		5 > pH > 9	-2												
Temperature	°C	> 20°C	1	15.8	0	15.6	0	16.2	0	14.5	0	14.2	0	12.5	0
TOC	mg/L	> 20 mg/L	2	32.9	2	21.4	2	4.9	0	4.0	0	340	2	13.6	0
Carbon Dioxide	µg/L	> 2x background	1	61,000	0	33,000	0	100,000	0	44,000	0	97,000	0	60,000	0
Alkalinity	mg/L	> 2x background	1	609	0	539	0	448	0	459	0	640	0	387	0
PCE[1]	µg/L	----	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	0
TCE[2]	µg/L	----	0	ND	0	1.2	0	ND	0	ND	0	ND	0	ND	0
DCE[3]	µg/L	----	2	8.7	2	1.9	2	1.0	2	120	2	110	2	8.5	2
VC[4]	µg/L	----	2	4.4	2	0.97	2	ND	0	200	2	4,200	2	ND	0
1,1,1-TCA[5]	µg/L	----	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	0
1,1-DCA[6]	µg/L	----	2	2.1	2	ND	0	0.44	2	ND	0	380	2	ND	0
CA[7]	µg/L	----	2	93	2	4.5	2	ND	0	ND	0	1,100	2	33	2
					21		**23**		**9**		**20**		**27**		**10**

Notes:

DCE = dichloroethene
°C = degrees Celsius
µg/L = micrograms per liter
mg/L = milligrams per liter
mV = millivolts
ORP = oxidation-reduction potential
s.u. = standard unit
PCE = tetrachloroethene
TCE = trichloroethene
TOC = total organic carbon
VC = vinyl chloride

0 to 5 points: There is inadequate evidence for anaerobic biodegradation of chlorinated organics.
6 to 14 points: There is limited evidence for anaerobic biodegradation of chlorinated organics.
15 to 20 points: There is adequate evidence for anaerobic biodegradation of chlorinated organics.
>20 points: There is strong evidence for anaerobic biodegradation of chlorinated organics.

[1] = Material Released
[2] = Daugher product of PCE
[3] = Daugher product of TCE (score if cis-1,2-DCE is 80% of total DCE)
[4] = Daugher product of DCE
[5] = Material Released
[6] = Daugher product of 1,1,1-TCA under reducing conditions
[7] = Daughter product of 1,1-DCA or VC under reducing conditions

Table 4

Pre- and Post-Bioaugmentation Injection VFA Data Comparison
Former Scott Aviation Facility - West of Plant 2
NYSDEC Site Code No. 9-15-149
Lancaster, New York

Sample ID	Sample Date	Sample Dilution Factor	Lactate	Acetate	Propionate	Formate	Butyrate	Pyruvate
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-8R	8/26/2021	50	1.2	70	<0.31	<0.22	<0.41	<0.69
MW-8R	12/9/2021	50	<0.39	28	<0.31	<0.22	<0.41	<0.69
MW-8R	4/6/2022	50	<0.39	37	<0.31	<0.22	<0.41	<0.69
MW-8R	10/10/2022	50	1.4	145	<0.13	<0.22	1.2	<0.69
MW-8R	4/12/2023	50	<0.62	2.2	<0.10	<1.3	<0.06	<0.15
MW-8R	7/28/2023	50	<0.62	520	352	<1.3	212	<0.15
MW-8R	10/12/2023	50x	<0.50	158	269	<0.25	38	0.82 J
MW-8R	4/18/2024	50	<0.50	33	<0.26	1.1 J	<0.20 J	<0.75
MW-8R	10/4/2024	50	1.2 J	1.8 J	<0.26	<0.25	<0.06	<0.75
MW-8R	4/4/2025	50X	<0.50	<0.50	<0.30	<0.30	<0.15	<0.50
MW-8R	10/8/2025	50X	<0.30	1.2 J	<0.15	0.37 J	<0.15	<0.15
MW-16S	8/26/2021	50	<0.39	495	12	<0.22	81	0.71
MW-16S	12/9/2021	1000	<7.8	921	14	<4.4	98	<13.8
MW-16S	4/7/2022	1000	<7.8	532	<6.2	<4.4	48	<0.69
MW-16S	10/10/2022	50	1.0	427	<0.13	<0.22	<0.41	<0.69
MW-16S	4/12/2023	50	<0.62	347	240	<1.3	137	2.1
MW-16S	7/28/2023	50	<0.62	595	<0.10	776.0	351	<0.15
MW-16S	10/12/2023	1,000x	60	1,537	4,387	9.9 J	625	41
MW-16S	4/2/2024	1000	<10	758	22 J	<5.0	67	<15
MW-16S	10/4/2024	1000	26 J	725	<5.3	<5.0	76	<15
MW-16S	4/4/2025	1,000x	<10	716	26	<6.0	46	<10
MW-16S	10/8/2025	1,000x	<6.0	572	11	<6.0	37	<3.0

Notes:
VFA - Volatile fatty acid
mg/L - milligram per liter
J - The associated value is an estimate result between the quantitation limit and the reporting limit.
< - The compound analyzed for but not detected, associated value is quantitation limit.
The bioaugmentation injection was performed on September 15 and 16, 2021.
The electron donor injection was performed between March 2023 and July 2023.

Table 5

Pre- and Post-Bioaugmentation Injection Gene-Trac Data Comparison
Former Scott Aviation Facility - West of Plant 2
NYSDEC Site Code No. 9-15-149
Lancaster, New York

Sample ID	Sample Date	Dehalococcoides (Dhc)		Dehalobacter (Dhb)		VC Reductase (vcrA)		BAV1 VC Reductase (bvcA)		TCE Reductase (tceA)	
		Percent Dhc	Enumeration/Liter	Percent Dhb	Gene Copies/Liter	Percent vcrA	Gene Copies/Liter	Percent bvcA	Gene Copies/Liter	Percent tceA	Gene Copies/Liter
MW-16S	8/26/2021	8 - 23 %	1×10^9	0.3 - 1 %	5×10^7	8 - 22 %	1×10^9	1 - 3 %	1×10^8	7 - 18 %	1×10^9
MW-16S	12/9/2021	6 - 17 %	1×10^9	0.08 - 0.2 %	2×10^7	5 - 15 %	1×10^9	0.3 - 1 %	6×10^7	2 - 5 %	3×10^8
MW-16S	4/7/2022	31 - 67 %	5×10^9	0.07 - 0.2 %	1×10^7	33 - 71 %	6×10^9	0.3 - 0.8 %	4×10^7	1 - 3 %	2×10^8
MW-16S	10/10/2022	39 - 80 %	3×10^9	0.08 - 0.2 %	5×10^6	28 - 63 %	2×10^9	2 - 4 %	9×10^7	3 - 8 %	2×10^8
MW-16S	4/12/2023	6 - 17 %	7×10^8	0.09 - 0.23 %	1×10^6	7 - 19 %	8×10^8	0.8 - 2 %	8×10^7	0.7 - 2 %	8×10^7
MW-16S	7/28/2023	2 - 5 %	1×10^9	0.001 - 0.004 %	9×10^5	2 - 7 %	2×10^9	0.2 - 0.5 %	1×10^8	0.2 - 0.5 %	1×10^8
MW-16S	10/12/2023	0.4 - 1 %	3×10^7	0.001 - 0.003 %	6×10^4	0.7 - 2 %	4×10^7	0.04 - 0.1 %	2×10^6	0.07 - 0.2 %	4×10^6
MW-16S	4/2/2024	2.7%	9.93×10^8	0.004%	1.60×10^6	2.9%	1.07×10^9	0.2%	8.94×10^7	0.5%	1.98×10^8
MW-16S	10/4/2024	4.49%	1.42×10^9	0.0158%	5.02×10^6	3.26%	1.03×10^9	0.263%	8.34×10^7	0.569%	1.80×10^8
MW-16S	4/4/2025	6.76%	1.53×10^9	0.0096%	2.19×10^6	4.11%	9.33×10^8	0.644%	1.46×10^8	0.364%	8.28×10^7
MW-16S	10/8/2025	11.50%	1.30×10^9	0.03850%	4.35×10^6	15.40%	1.74×10^9	1.90%	2.15×10^8	1.15%	1.30×10^8

Notes:
The bioaugmentation was performed on September 15 and 16, 2021.
The electron donor injection was performed between March 2023 and July 2023.

Attachment

December 2025

PRODUCT PROPOSAL

Former Scott Aviation Facility – West of Plant 2 (NYSDEC 9-15-149) 25A Walter Winter Drive, Lancaster, NY 14086

Version number 1.1

Presented to
Dino Zack, PG (NY/AK), STS
AECOM Technical Services, Inc.

Presented by
Jordan Bochner
ETEC, Inc.

Introduction

As requested, this proposal provides recommendations for a gravity-feed, in-situ bioremediation event at the Former Scott Aviation Facility – West of Plant 2 site in Lancaster, NY. ETEC recommends the use of CarBstrate™ (a fully soluble, nutrient-amended carbohydrate substrate) delivered via gravity feed through the two existing shallow overburden injection wells (IW-01 and IW-02, installed in 2023) to restore/extend bioavailable carbon and drive complete reductive dechlorination of residual chlorinated solvent daughter products (primarily cis-1,2-DCE and vinyl chloride) in the shallow overburden zone.

Bioremediation product injections are being proposed to ensure the development of a strong microbial community and ensure the appropriate amount of amendments are delivered to the subsurface, to achieve mass balance and reach remedial goals.

Site Conditions

ETEC's approach is based on the information provided in AECOM's recent reports (Annual through April 2025 and 3Q 2025 / July sampling), the 2023 injection Work Plan, and Dino's email. A concise summary follows:

- Remedy & infrastructure: Long-running combined GW collection trench (GWCT, installed 1996) and dual-phase extraction (DPE) with air stripping provide hydraulic capture along the western Plant 2 boundary. Multiple in-situ programs completed since 2010 (ISCO; ABC+/ABC-Ole+ with ZVI; bioaugmentation in 2021; electron-donor program in 2023). Two shallow overburden injection wells (IW-01, IW-02) installed upgradient of MW-16S in March 2023.
- Hydrogeology: Interbedded silts/clays with discontinuous fine sand lenses. Shallow and deep overburden groundwater zones present. Groundwater generally flows to the northwest; GWCT/DPE induce local flow reversal/capture near the western boundary.
- Current groundwater quality (July 2025 key points): Source hotspot at/near MW-16S shows daughter products indicative of active reductive dichlorination. Polishing zone around MW-8R shows TCE below RAO with low-to-moderate TOC. Total organic carbon (TOC) remains high near MW-16S (hundreds of mg/L) following the 2023 donor program, but TOC tapers westward (e.g., low-tens mg/L at MW-4 and mid-teens mg/L at MW-8R), consistent with a need to refresh and extend carbon toward the perimeter.
- Operational constraints (per Dino): Extremely tight formation; gravity-feed only (no pressurized injections due to prior breakthrough via legacy boreholes). Preference to rely on IW-01 and IW-02 and minimize new points. Prior gravity-feed acceptance was very low (days to pass just a few gallons).

We use the information provided to estimate required bioamendment quantities.

Our Approach

Recommendations

ETEC recommends a controlled, low-head, gravity-feed CarBstrate™ campaign via IW-01 and IW-02 to maintain robust reducing conditions around MW-16S and extend a low-amplitude carbon front west/northwest toward MW-8R to polish residual CVOCs, all while adhering to the site's no-pressure constraint.

- Total estimated bioamendment quantities as follows:
    - CarBstrate™ – 800 lbs. based on the estimated mass of contaminants.

CarBstrate™

A fully soluble, carbohydrate-based substrate containing a highly effective electron donor. Also contains all required nutrients to sustain a robust bacterial population.

Bioremediation product application plan:

1. Prior to and during the bioremediation injection event, extraction from wells within and in the vicinity of the impacted area may take place. This extraction will create groundwater gradients promoting the distribution of the injectate. Additionally, the extracted water can be utilized as makeup water for mixing of the bioremediation products.
    a. Supplemental water from a hose bib may be needed for the balance of the makeup water.
2. CarBstrate™ will be mixed at an approximate ratio of 1-pound CarBstrate™: 1 gallon of makeup water. The solution can be mixed in batches as needed.
    a. The estimated total injection solution = 800 gallons, consisting of 800 lbs. CarBstrate™.
3. Injections will be conducted via gravity feed through 2 existing injection wells (IW-01 and IW-02) within the shallow overburden treatment zone between 10-20 ft bgs. The injection process will be concentrated around existing monitoring wells where contaminant concentrations are highest or exceed regulatory limits.
4. Following the injection of the bioremediation products, the injection wells should be flushed with approximately 25-100 gallons of chase water to encourage distribution of the bioremediation products.

Exact product dosing for each location will be determined based on how readily the wells used for injection receive the bioremediation solution. The overall goal is to ensure distribution of the biological products throughout the target treatment zone.

Progress Monitoring Sampling Recommendation

To maximize the effectiveness of the proposed remedial approach and determine progress and subsequent injection requirements (if necessary), the collection of specific parameters is recommended by ETEC and are often required as part of a State issued injection approval. These parameters include:

FIELD READINGS	INORGANIC PARAMETERS
• pH • ORP • Conductivity • DO	• Ammonia-nitrogen • Nitrate-nitrogen • Sulfate • Dissolved iron • Dissolved manganese • Total Organic Carbon (TOC)

ETEC recommends these parameters be sampled and analyzed from site wells within and around the remediation zone before and after the injections. ETEC typically observes the

greatest reduction in concentrations between 3 to 6 months following the injections and recommends sampling be conducted accordingly.

GW monitoring will be the responsibility of AECOM.

ETEC ADVANCED BIOREMEDIATION SOLUTIONS

CarBstrate™

A *complete* substrate for **Enhanced Reductive Dechlorination**

A powerful electron donor that also includes all the nutrients – including B-vitamin – needed to rapidly build a microbial population for ERD. CarBstrate destroys contaminants by creating the right conditions to fully support bioremediation.

Description

CarBstrate™ is a B-vitamin and nutrient-amended carbohydrate substrate specifically designed for in situ application. In addition to its high solubility and low-retardation factor, it is a non-toxic, food-grade product that includes the macro-nutrients that are necessary for effective microbial growth (i.e. N and P) as well as a specific suite of trace elements that are critical for active anaerobic microbial activity.

Our Difference

Water Soluble

Solubility allows for better subsurface distribution, improved microbial availability, and easier field application.

Complete Solution

Combining fast acting fully nutrient amended carbohydrate substrate. CarBstrate™ provides everything needed for rapid bacterial population growth when introduced to a contaminated site.

Electron Donor/Food Source

CarBstrate™ uses a fast-acting, soluble carbohydrate electron donor to drive reductive dechlorination of solvents like PCE and TCE. This rapidly fermentable food source quickly depletes competing electron acceptors, fostering an anaerobic environment that accelerates contaminant breakdown by microbes like Dehalococcoides.

Nutrients

CarBstrate™ is fortified with B-vitamins, nitrogen, phosphorus, and trace minerals to boost microbial growth for reductive dechlorination. These essential nutrients enhance bacterial activity, ensuring efficient, safe, and sustained remediation with its non-toxic, food-grade formula.

Application

- Easily dissolved and applied via mobile injection, direct push, or through a recirculation system. Can be applied dry to open excavation.
- Recommended volume dependent on contaminant concentrations.

Specs	CarBstrate™ Characteristics
Packaging	50 LB bags
Physical Composition	Dry powder/granules
Changes groundwater pH	No
Water Soluble	Yes
Field Application Assistance	Yes, upon request
Safe for workers	Yes, non-hazardous

INFO@ETEC.BIO | (971) 222-3616 | HTTPS://ETEC.BIO

Advanced Bioremediation Solutions

3307 Evergreen Way
Ste 707, PMB 133
Washougal, WA 98671
(971) 222-3903 Fax
www.etec.bio

Safety Data Sheet

Revision Date: 05/19/2025

Section 1: Product and Company Identification

Product Name: **CarBstrate™**
MSDS Number: Not Assigned
Chemical Name: Proprietary
Chemical Family: Substrate Mixture

Recommended Use: Anaerobic bioremediation product
Restrictions on Use: No Data

Company:
ETEC, Inc.
3830 S Truman Rd. Bldg. 12
Washougal, WA 98671
USA

Telephone: (971) 222-3616

Emergency Telephone: (800) 535-5053
Medical Emergencies: (800) 301-7976
U.S. Coast Guard National Response Center: (800) 424-8802

Section 2: GHS Hazards Identification

Skin Irritant	Category 2
Eye Irritant	Category 2
STOT - Single exposure, Respiratory tract irritation	Category 3

Label Elements:

Signal Word: Warning

Hazard Statements:
May cause skin irritation.
May cause eye irritation.
May cause respiratory irritation.

Precautionary Statements:

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.
IF ON SKIN: Wash with plenty of soap and water.
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.
Call a POISON CENTER or doctor/ physician if you feel unwell.
Specific treatment (see supplemental first aid instructions on this label).
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS - none

Section 3: Composition/Information on Ingredients

Ingredients as defined by 29 CFR 1910.1200:

Chemical Ingredients:	CAS Number:	Percent Range:
Trade Secret	-	~20%

The specific chemical identity and/or exact percentage of the composition has been withheld as Trade Secret in accordance with paragraph (i) of §1910.1200.

Section 4: First Aid Measures

Description of first aid measures:

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Call a poison center or doctor/physician if you feel unwell.

Skin Contact: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Eye Contact: 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: Never give anything by mouth to an unconscious person. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed: See sections 2 and/or 11.

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

Section 5: Fire Fighting Measures

Suitable Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Unsuitable Extinguishing Media: No known information.

Specific Hazards Arising from the chemical/substance: May decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Combustion Products: Nitrogen oxides, phosphorous oxides, ammonia.

Protective Equipment and Precautions for Fire-Fighters: As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Do not breathe dust/fume/gas/mist/vapors/spray.

Environmental Precautions: Do not release to the environment. See section 12 for further environmental data.

Methods for Containment/Cleaning Up: Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Precautions for Safe Handling: Avoid breathing dust. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Keep out of reach of children. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities:

Storage: Store locked up. Keep in tightly closed container, store in a cool, dry, ventilated place.

Section 8: Exposure Controls/Personal Protection

Exposure Limits: There are no OSHA PEL's, NIOSH REL's, or ACGIH TLV's applicable to this material.

Engineering Controls: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment:

Eye Protection: Wear appropriate eye protection/face protection.

Hand Protection: Wear appropriate protective gloves.

Skin and Body Protection: Wear appropriate protective clothing to prevent skin exposure. Take off contaminated clothing and wash before reuse.

Respiratory Protection: Use only in a well-ventilated area. Avoid breathing dust. Wear appropriate NIOSH approved respirator if exposure limits are exceeded or irritation occurs.

Hygiene Measures: Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Appearance/Physical State:	Crystals
Color:	White to Yellow
Odor:	Not Available
Odor Threshold:	Not Available
pH:	Not Applicable
Melting/Freezing Point:	Not Available
Initial Boiling Point:	Not Available
Flash Point:	Not Available
Evaporation Rate:	Not Applicable
Flammability (solid, gas):	Not Available
Lower Explosive Limit:	Not Available
Upper Explosive Limit:	Not Available
Vapor Pressure:	Not Available
Vapor Density:	Not Applicable
Relative Density:	1.00
Solubility:	Completely soluble in water
Partition Coefficient:	Not Available
Autoignition Temperature:	Not Available
Decomposition Temperature:	Not Available

Section 10: Stability and Reactivity

Reactivity: No information available.

Stability: Stable under ordinary conditions of use and storage.

Possibility of hazardous reactions: No information available.

Conditions to Avoid: Extremes in temperature and direct sunlight.

Incompatible Materials: Strong oxidizing agents, strong acids, strong bases, Magnesium.

Hazardous Decomposition Products: Other decomposition products - No data available. In case of fire: see section 5.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Information on Likely Routes of Exposure:

Inhalation:	May cause respiratory irritation.
Ingestion:	No data available.
Skin Contact:	May cause skin irritation.
Eye Contact:	May cause eye irritation.

Toxicity Data:

Chemical Name	LD50 ORAL	LD50 DERMAL	LC50 INHALATION
Trade Secret	6500 mg/kg (Rat)	7950 mg/kg (Rabbit)	No data

Symptoms: No information available.

Delayed and Immediate Effects, Chronic Effects from Short and Long Term Exposure:

Sensitization: No information available.
Mutagenic Effects: No information available.
Reproductive Toxicity: No information available.
STOT – Single Exposure: May cause respiratory irritation.
STOT – Repeated Exposure: No information available.
Aspiration Hazard: No information available.
Chronic Exposure: No information available.
Aggravation of Pre-existing Conditions: Asthma

Carcinogenicity:

Component	CAS	NTP	IARC	OSHA
Trade Secret	N/A	Not listed	Not listed	Not listed

Additional Information: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

Ecotoxicity:

This product is safe for the environment at the concentrations predicted under normal use conditions.

Persistance and Degradability: No information available.

Bioaccumulative Potential: No information available.

Mobility in Soil: No information available.

Other Adverse Effects: No information available.

Section 13: Disposal Considerations

Dispose of contents/container in accordance with all applicable local, state and federal regulations.

Section 14: Transport Information

For Transportation Emergencies Involving This Material, Call:
ChemTrec 1-800-424-9300 Company Code: E419

DOT (LAND): Not regulated.

Section 15: Regulatory Information

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

SARA 311/312 Hazard Categories:

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

SARA 313: The Trade Secret component is subject to reporting levels (>1.0%) established by SARA Title III, Section 313:

State Right-to-Know:

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Trade Secret	-	X	X	-	-

TSCA: Not Applicable

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.

Section 16: Other Information

NFPA Rating:

Health Hazard:	1
Fire:	0
Reactivity Hazard:	0

Legend:

ACGIH: American Conference of Governmental & Industrial Hygienists
CAS: Chemical Abstract Service
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL/NDSL: Domestic Substances List/Non-Domestic Substances List
IARC: International Agency for the Research of Cancer
IATA: International Air Traffic Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organizations
NFPA: National Fire Protection Association Health, Flammability & Reactivity; Hazard Scale 0 =minimal/none 4= significant
NTP: National Toxicology Program
OSHA: Occupational Safety & Health Administration
PEL: Permissible Exposure Limits
RCRA: Resource Conservation & Recovery Act
RQ: Reportable Quantity

RTK: Right-To-Know
SARA: Superfund Amendments & Reauthorization Act
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average
TCLP: Toxicity Characteristic Leaching Procedure
VOC: Volatile Organic Compounds

Disclaimer: The information contained in this SDS is presented in good faith and believed to be accurate based on the information provided. The SDS does not purport to be all inclusive, and shall be used only as a guide. While ETEC, INC. believes that the data contained herein comply with 29 CFR 1910.1200, they are not to be taken as a warranty or representation for which ETEC, INC. assumes legal responsibility. ETEC, INC. shall not be held liable or accountable for any loss or damage associated with the use of this material and information. The recommended industrial hygiene and safe use, handling, storage, and disposal procedures are believed to be generally applicable. However, since the use, handling, storage, and disposal are beyond ETEC, INC. control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability of loss, damage, or expense arising out of the material's improper use.