Final Close-Out Report

Peter Cooper Superfund Site
Cattaraugus County
Gowanda, New York

I. INTRODUCTION

The United States Environmental Protection Agency (EPA) has determined that all appropriate response actions for the Peter Cooper Superfund Site (Site) have been successfully implemented in accordance with the *Close-Out Procedures for National Priorities List Sites (OSWER Directive 9320.2-22, May 2011).*

All appropriate response actions at the Site have been successfully implemented. Specifically, based upon field observations associated with EPA oversight and the results of a final inspection of the Site on September 9, 2010, it has been determined that the remedy has been constructed in accordance with the 2005 Record of Decision (ROD).

The 2005 ROD required the implementation of institutional control such as restrictive covenants and environmental easements for limiting future use of the Site and the groundwater to ensure that the implemented remedial measures will not be disturbed and that the Site will not be used for purposes incompatible with the completed remedial action. The institutional control is in place. It has been determined that no further response, other than long-term monitoring, operations and maintenance, and five-year reviews, is warranted. Human exposures and contaminated groundwater releases are under control.

II. SUMMARY OF SITE CONDITIONS

Background

The Site is located off Palmer Street, in the Village of Gowanda, Cattaraugus County, New York. The Site consists of an inactive landfill and land associated with the former Peter Cooper Corporation (PCC) animal glue and adhesives manufacturing plant. The Site is bounded to the north by Cattaraugus Creek (Creek), to the south by Palmer Street, to the west by a former hydroelectric dam and wetland area, and to the east by residential properties. Regionally, the Village of Gowanda is located both in Erie County and Cattaraugus County and is separated by the Creek. In Erie County, the Village of Gowanda is included in the Town of Collins. The Town of Collins is bordered by the Seneca Nation of Indians Cattaraugus Reservation to the west. In Cattaraugus County, the Village of Gowanda is in the Town of Persia.

For purposes of the remedial investigation and feasibility study (RI/FS), the Site was divided into two sections. The western section, called the inactive landfill area (ILA), is approximately 15.6 acres in size and includes a five-acre portion referred to as the "elevated fill subarea" which was the former landfill. The westernmost portion of the elevated fill subarea is located on property

owned by the New York State Electric & Gas Corporation (NYSEG). The eastern section of the Site, the former manufacturing plant area (FMPA), is approximately 10.4 acres.

The RI identifies two primary groundwater zones at the Site: overburden and bedrock groundwater. Groundwater from both zones discharges to the Creek. Groundwater elevation data indicate that the depth to groundwater varies across the Site from approximately five feet to 20 feet. This variability is largely due to topographic changes across the Site. Groundwater in the overburden generally flows toward the north/northwest, discharging into the Creek. The landfill creates a small mounding effect on the groundwater surface. Based on groundwater elevation data collected from the overburden, there is a horizontal hydraulic groundwater flow toward the Creek and a downward hydraulic potential into the upper bedrock. A localized westerly flow direction occurs in the overburden near the elevated fill subarea. Groundwater flow in the bedrock is primarily along fractures and joint and bedding planes which tend to be strongly horizontally oriented toward the Creek. Although the groundwater in the area is classified as a potable water supply by NYSDEC, residents obtain their water from public water supplies that are monitored to ensure they meet appropriate federal and state regulations.

From 1904 to 1972, the PCC and its predecessor, Eastern Tanners Glue Company, manufactured animal glue at the Site. When the animal glue product line was terminated, PCC continued to produce synthetic industrial adhesives until the plant closed in 1985. The wastes from PCC's glue production were disposed of on the elevated fill subarea. Between 1925 and October 1970, PCC used the northwest portion of the property to pile sludge remaining after the animal glue manufacturing process. These wastes, known as "cookhouse sludge" because of a cooking cycle that occurred just prior to extraction of the glue, are derived primarily from chrome-tanned hides obtained from tanneries. The waste material has been shown to contain elevated levels of chromium, arsenic, zinc, and several organic compounds.

In June 1971, the New York State Supreme Court (8th J.D. Cattaraugus County) ordered PCC to remove all or part of the waste pile and terminate discharges into the Creek. In 1972, PCC reportedly removed approximately 38,600 tons of waste pile material and transferred it to a separate site in Markhams, New York. Between 1972 and 1975, the remaining waste pile at the Site was graded by PCC, covered with a 6-inch clay barrier layer and 18 to 30 inches of soil, and vegetated with grass. Stone rip-rap and concrete blocks were placed along the bank of the Creek to protect the fill material from scouring or falling into the Creek.

In July 1976, the assets of original PCC, including the manufacturing plant and property located in Gowanda, were purchased by Rousselot Gelatin Corporation and its parent, Rousselot, S.A., of France. Rousselot Gelatin was renamed Peter Cooper Corporation and this newly-formed PCC sold the Site to JimCar Development, Inc. in April 1988. The property was subsequently transferred to the Gowanda Area Redevelopment Corporation (GARC) in 2009. Excluding the portion of the Site owned by NYSEG, the remainder of the property is presently owned by GARC.

From 1981 and 1983, New York State Department of Environmental Conservation (NYSDEC) conducted several investigations at the facility and identified the presence of arsenic, chromium and

- Backfilling of excavated areas with clean fill; collecting the leachate seeps, pretreating the leachate as necessary, then discharging the leachate to the Public Owned Treatment Works (POTW) collection system for further treatment and discharge. As a contingency, if treatment of the leachate seep at the POTW is not available, the leachate would be treated and discharged to Cattaraugus Creek. Since the installation of the cap and groundwater diversion system (described below) should reduce leachate generation, the volume of seep leachate requiring treatment is anticipated to be reduced or nearly eliminated over time;

- Installing a groundwater diversion system to limit groundwater migration through the elevated fill subarea. The ROD provides for the potential that if additional data collected in the remedial design phase of the project support the conclusion that installation of a diversion wall will result in a minimal increase in the collection of contaminants by the leachate collection system, the diversion wall would not be installed;

- Installing a passive gas venting system for proper venting of the five-acre elevated fill subarea of the ILA;

- Stabilizing the banks of the Cattaraugus Creek;

- Performing long-term operation and maintenance including inspections and repairs of the landfill cap, gas venting, and leachate systems;

- Performing air monitoring, surface water and groundwater quality monitoring; and

- Evaluating Site conditions at least once every five years to determine if the remedy remains protective.

The remedy also included institutional controls such as restrictive covenants and environmental easements for limiting future use of the Site and the groundwater to ensure that the implemented remedial measures will not be disturbed and that the Site will not be used for purposes incompatible with the completed remedial action. The institutional controls include a Site Management Plan (SMP) to ensure appropriate handling of subsurface soils during redevelopment.

To ensure that engineering controls and institutional controls remain in place and effective for the protection of public health and the environment, an annual certification, commencing from the date of implementation, is required by the parties responsible for the remediation.

Consistent with the future use of the property, following issuance of the ROD, the Village of Gowanda and the PRPs entered into discussions concerning the Village's redevelopment goals. An agreement was reached and GARC took ownership of the Site and agreed to perform certain post-remedial operation, maintenance and monitoring activities in exchange for provision of specific non-remedial construction activities and funding by the PRPs to facilitate park

zinc in soil and sediment samples. As a result of this investigation, NYSDEC oversaw PCC's development of an RI/FS for the Site. However, because the waste detected at the Site did not meet the New York State statutory waste definition in effect in 1991 for an inactive hazardous waste disposal site, NYSDEC removed the Site from its Registry of Inactive Hazardous Waste Sites and a remedy was not selected.

In 1996, the EPA Superfund Technical and Assessment Response Team (START) collected and analyzed soil, groundwater, surface water, and sediment samples from the Site. Results of the sampling and analysis confirmed contamination, including the presence of arsenic, chromium and other hazardous substances.

During the Site assessments, EPA personnel observed that the existing retaining wall was subject to severe erosion. It was determined that the retaining wall and rip-rap had to be repaired or upgraded to prevent the continued erosion of landfill materials into the Creek. On October 24, 1996, EPA and NYSEG entered into an Administrative Order on Consent (AOC). Pursuant to the AOC, NYSEG installed approximately 150 feet of rip-rap revetment along the south bank of the Creek and adjacent to the landfill to prevent further erosion of materials from the landfill into the Creek.

Based on this information, the Site was proposed to the National Priorities List (NPL) on September 25, 1997 and placed on the NPL on March 6, 1998.

Negotiations with the potentially responsible parties (PRPs) to conduct the RI/FS on consent were not successful. As a result, on March 30, 2000, EPA issued a unilateral administrative order (UAO) to fourteen PRPs directing that they complete the RI/FS for the Site. The UAO became effective May 1, 2000. The RI/FS was performed by Benchmark Environmental Engineering and Science, PLLC and Geomatrix Consultants, Inc., consultants for the PRPs, with EPA oversight. The RI was initiated in August 2000 and the results were summarized in the ROD issued by EPA in 2005.

Remedy Selection

The FS was completed by the PRPs in July 2004 and was finalized in June 2005. The FS evaluated potential alternatives to address the soil contamination at the Site. A preferred alternative was presented to the public for review and comment in July 2005 and the Site remedy was selected and memorialized in the Site ROD which was issued on September 30, 2005. The elements of the selected remedy were as follows:

- Excavating three hot spot areas and consolidating waste from these areas within the elevated fill subarea, capping the five-acre elevated fill subarea of the inactive landfill area with a low permeability, equivalent design barrier cap, consistent with the requirements of 6 New York Codes, Rules and Regulations (NYCRR) Part 360, including seeding with a mixture of seeds to foster natural habitat;

- Conducting post-excavation confirmatory soil sampling;

redevelopment. Non-remedial construction activities that were slated to be performed by the PRPs, concurrent with remedial activities, are listed below.

- Removal of up to 1,000 tons of non-hazardous construction and demolition debris from the former manufacturing plant area of the Site, with disposal of the materials beneath the elevated fill subarea cover (in a manner to prevent settlement) or off-Site at a permitted disposal facility.

- Construction of a clean utility corridor (i.e., waterline) to facilitate utility service to a future multi-use building, pavilion, or other park development.

- Elevated fill subarea cover system grading and contouring to facilitate Site development plans. This will involve creating a benched area along the creek side of the landfill that may provide a level area for future construction of a bike or walking path.

Remedial Action Objectives (RAOs)

The RAOs established in the ROD for each medium at the Site are as follows:

Soils

- Reduce or eliminate any direct contact threat associated with the contaminated soils/fill;
- Minimize or eliminate contaminant migration from contaminated soils to the groundwater; and
- Minimize or eliminate contaminant migration from groundwater to the Creek.

Groundwater

Due to the limited risks and exposure to the groundwater at this Site, and the stated RAO above to minimize or eliminate contaminate migration from the groundwater to the Creek, institutional controls are deemed adequate to address any potential future exposure. Specifically, deed restrictions will be imposed to prevent the use of groundwater as a source of potable or process water unless groundwater quality standards are met. Long-term monitoring will be conducted to ensure that the selected Site remedy is protective of human health and the environment. The groundwater will be monitored as part of the response action to ensure that, following the soil capping and hot spot excavation, the contamination is attenuating, and groundwater quality continues to improve. As a result, no RAO is established for groundwater.

Surface Water

Results from the RI indicate that contamination at the Site has not significantly impacted the surface water of the Creek. The Site-specific human health and ecological risk assessments indicate the surface water does not contribute to the Site-specific risks or hazards. As a result, no RAO is established for surface water.

Sediment

Results from the RI indicate that contamination at the Site has not significantly impacted the sediment above background levels. The Site-specific human health and ecological risk assessments indicate that sediment poses very low risks to human health and ecological receptors. As a result, no RAO is established for sediment.

Remedial Construction Activities

The ROD was implemented pursuant to a Consent Decree (CD) entered into by EPA and the performing settling defendants (PSDs, a subgroup of the PRPs). On February 12, 2009, the CD was entered in United States District Court. On March 15, 2009, Benchmark, the PSD consultant, was approved as the supervising contractor to conduct the remedial design (RD) and construction work at the Site. The ROD included provisions for the evaluation of the construction of a diversion wall around the elevated fill area in the event the wall would change the effectiveness of the planned remedial actions. In accordance with the ROD, EPA and NYSDEC concurred with the findings of an analysis performed by the PSDs prior to the entry of the CD, showing that the installation of an upgradient groundwater diversion wall around the elevated fill subarea would not materially change the effectiveness of the planned remedial measures; therefore, the diversion wall component of the ROD was not implemented.

In accordance with the requirements of the CD the PSDs prepared a RD work plan. The RD work plan outlined the following remedial construction measures: mobilization;
Site preparation including hotspot excavation; groundwater/seep collection; and cover system construction (barrier layer material placement and compaction, topsoil and seeding, and passive gas venting).

In 2009, the RD report and design plans and specifications were implemented under a design-build contract for Site remediation. The RD report identified: materials to be employed for major remedial components; construction requirements; quality control requirements; and measures to protect workers, the surrounding community, and the environment during the remedial work.

From July through August 2009, the PSDs conducted certain preparatory activities at the Site to facilitate the remedial construction. These activities included the removal of small trees, shrubs, brush, and stumps. Clearing and grubbing in and around the area of the elevated fill area was performed with a hydro ax. The staged trees, stumps, and brush were ground into mulch and was hauled off-Site for off-Site processing at a permitted facility.

The excavation of the three "hotspot" areas of contaminated soil/fill began on August 24, 2009 and was competed August 25, 2009. Soil excavated from the impacted areas was hauled to the elevated fill subarea of the ILA for placement and compaction prior to placing the soil cover system. The excavated areas were then backfilled with clean soil.

Confirmatory sampling of the excavation sidewalls and bottom indicated arsenic and volatile organic compounds (VOCs) concentrations were below the Site cleanup goals. Impacted arsenic-contaminated soil/fill excavated from the two arsenic contaminated hotspots totaled approximately 171 cubic yards. Results of the verification sampling indicated that arsenic concentrations ranged from nine milligrams per kilogram (mg/kg) to 86 mg/kg, which were below the cleanup goal for arsenic of 120 mg/kg based on exposures to the soils by a future construction worker. Impacted soil/fill excavated from the VOC-contaminated hotspot totaled approximately 196 cubic yards. Results of the verification sampling indicated VOCs were below their respective site-specific cleanup goals (carbon tetrachloride, 0.5 mg/kg; chloroform, 0.3 mg/kg; and tetrachloroethene (PCE), 1.4 mg/kg).

Following these preparatory activities, construction of the remedial action commenced on October 15, 2009 for the implementation of the seep/groundwater collection system and the landfill cap.

Groundwater/Seep Collection and Conveyance

Construction of the seep/groundwater collection system began in October 2009 and was substantially completed in December 2009. The collection system includes: the creek bank re-grading and bedrock channel excavation; pump station installation; pretreatment building construction; force main piping; and sanitary sewer tie-in. The seep/groundwater collection system was placed into full-time operation in May 2010, with operation and maintenance duties transferred to GARC. A description of the seep/groundwater collection system components and construction is presented below.

The remedial measures for the elevated fill subarea involved re-grading of the adjacent bank (excluding the riprap-stabilized area on NYSEG's property) and removal of concrete blocks and boulders to provide a more uniform slope for reduced erosion potential. A seep collection trench was then excavated into the surface of the weathered shale bedrock at the toe of the slope to intercept and collect the seeps. A perforated drainage pipe and granular media envelope collect and transmit water to a packaged leachate pump station.

The slope of the regraded bank is lined with a geocomposite drainage layer, leading to the collection trench, covered by a geomembrane liner to prevent seep breakout and mitigate Creek and surface water infiltration during high water conditions. The liner extends vertically to the 100-year floodplain elevation and is protected from erosion by a surface layer of medium and large riprap over a non-woven geotextile fabric and gravel bed.

Collected seep water and shallow groundwater are conveyed from the pump station by a force main to a pretreatment building where an oxidant delivery system is available to mitigate hydrogen sulfide odors, as needed. Pretreated seep water/groundwater is discharged to the Village of Gowanda's sanitary sewer collection system on Palmer Street for treatment at the Village POTW consistent with the approved discharge permit.

Landfill Cap Construction

The final cap includes all the construction components in the approved RD report. The final landfill cap meets the grading requirements of 6 NYCCR Part 360-2.13(q)2(ii) that requires that the barrier component of the cap have a slope of no less than 4 percent to promote positive drainage and no more than 33 percent to minimize erosion. The cover system was installed from August 3, 2009 to July 30, 2010.

Containment/isolation with soil cover enhancement involved: clearing and grubbing the approximate five-acre elevated fill subarea; moderate regrading and/or filling of low spots across the five-acre area to facilitate runoff; supplementing existing cover to provide for a minimum 18-inch thickness of recompacted soil barrier layer and placement of six inches of topsoil over the five-acre area; and reseeding of the elevated fill subarea cover to provide for a good stand of grass that will foster natural habitat. Cover soils were tested to assure conformance with the lesser of the Soil Cleanup Objectives for commercial worker direct contact or for levels protective of groundwater quality as published in 6 NYCRR Part 375-6.8.

Passive Gas Venting

Following construction of the cap, five passive gas vents were installed through the sludge fill in the elevated fill subarea to relieve gas buildup beneath the cover system. The vents were constructed with individual risers that extend to a sufficient height above ground surface to promote atmospheric dispersion of odor-causing constituents and prevent direct inhalation of vented gases by trespassers or future recreational Site users.

Inspections and Post-Remediation

On September 9, 2010, a final inspection was conducted. Based on the results of the inspection, it was determined that the Site construction was complete, and the remedy was implemented consistent with the ROD. The final inspection concluded that the PSDs constructed the remedy in accordance with the RD plans and specifications, and no further response (other than maintenance of the cap and cover, and long-term groundwater monitoring) is anticipated. EPA approved the remedial action report (RAR) for the Site on June 17, 2011. The RAR documented all the remedial activities conducted at the Site and included as-built drawings to document Site conditions at completion. The PSDs and GARC, as current property owner, are sharing responsibilities for management of the Site in accordance with the SMP developed for post-remediation uses of the Site. Site management responsibilities are expected to be transferred to GARC pursuant to an agreement being negotiated between the PSDs and GARC.

Institutional Controls

The ROD called for the imposition of institutional controls in the form of an environmental easement and/or restrictive covenant to restrict the use of on-Site groundwater as a source of potable or process water and to restrict activities on the Site that could compromise the integrity of the cap. The restrictions are memorialized in an environmental easement filed with the

Cattaraugus County Clerk on March 30, 2009.

Reuse/Redevelopment

Concurrent with completion of RI activities, the Village of Gowanda in association with the University at Buffalo developed a Reuse Assessment and Concept Plan for the Site that concluded that the "highest and best use" of the remainder of the property outside of the five-acre elevated fill subarea after cleanup would be as a multi-use recreational facility.

Following completion of the remedial construction GARC performed several steps toward redevelopment of the Site, including:

- Clearing and re-grading the portion of the Site outside of the elevated fill subarea in preparation for park construction;
- Importing several thousand cubic yards of clean fill for use as cover soil;
- Constructing a Creek access point at the eastern end of the Site; and
- Constructing an asphalt pathway along the Creek bank.

Currently all areas of the Site designated for passive recreational use have been covered with a minimum of one foot of clean, vegetated cover soil or pavement and those designated for active recreational use have been covered with a minimum of two feet of clean, vegetated cover soil or pavement. Cover material import testing was performed and provided to the EPA and NYSDEC for review prior to use. Inspections were performed by GARCs designated engineer to verify that the minimum required soil thicknesses were achieved.

As part of the redevelopment efforts, the following park amenities and improvements were constructed during 2016 and 2017:

- Regulation (90 foot) Ballfield
- Playground and Equipment
- Paved Parking Area and Extension of Asphalt Path
- Ballfield Backstop
- 24' x 24' Gazebo

Site Management Plan

The ROD called for the development of an SMP to provide for the proper management of all post-construction remedy components. The components of the SMP include:

- An Operation, Maintenance, and Monitoring (OM&M) Plan describing ongoing measures that will be undertaken in the post-remedial period to assure the continued effectiveness of the remedy.

- A Soil/Fill Management Plan identifying procedure to be undertaken if future work or development activities on the Site uncover residual contamination, and protocols for handling excess soil generated from future work activities, if any and
- An Environmental Easement that describes the institutional controls incorporated into the remedy, and how certification that the institutional controls remain enforced and in-effect will take place.

The SMP was approved in December 2010.

III. MONITORING RESULTS

The most recent post remedial site inspection of the elevated fill subarea was performed during the October 2018 groundwater monitoring event. The inspection report indicated no irregularities or changes to the property access or security. The gas-vent system is intact and operational with no objectionable odors noted. The soil cover system and vegetative cover remain intact with no evidence of erosion, burrowing, or vegetative stress. Similarly, riprap erosion control remains in place with no visual or olfactory evidence of leachate breakout.

Groundwater Quality Monitoring

The PSDs are required to perform groundwater sampling at the Site to monitor groundwater flow and quality conditions. Two primary groundwater zones were identified at the Site: overburden and bedrock groundwater. Groundwater in the overburden and bedrock ultimately discharges to the Creek creating an upward gradient toward the Creek within the bedrock zone. Because of this upward gradient in the bedrock, downward migration of contaminants is not likely to occur; therefore, the overburden monitoring wells at the Site are considered adequate to evaluate upgradient and downgradient groundwater quality. Groundwater monitoring is being performed at the following network locations, where the "S" identifier indicates a shallow overburden monitoring well:

- Upgradient on-site monitoring well (MW)-7S.
- FMPA monitoring wells MWFP-2S and MWFP-3S.
- ILA monitoring wells MW-2SR (replaced by MW-1SR in 2015), MW-5S.

Groundwater monitoring was performed during 10 separate events in June 2011, January 2012, June 2012, January 2013, June 2013, June 2014, October 2015, October 2016, November 2017 and October 2018.

All samples were analyzed for inorganic parameters (total metals), VOCs (chlorinated aliphatics only) and water quality parameters (ammonia, hardness, chloride, total sulfide). Total metals analyses include hexavalent chromium, total chromium, arsenic, and manganese. Groundwater results are compared to the more stringent of the state or federal promulgated standards.

upward trending. These data support the ROD assumption that the groundwater contamination is localized and the decrease in frequency indicates that limited residual groundwater contamination has attenuated. The environmental easement placed on the Site property restricts the use of groundwater as a source of potable or process water unless groundwater quality standards are met. Groundwater quality will continue to be monitored in accordance with the SMP.

Results of Surface Water Samples

Surface water samples were collected in June 2011, January 2012, June 2012, January 2013, June 2013, June 2014, October 1015, November 2016, October 2017 and October 2018 from three locations along the Creek.

In 2011 and 2013, iron was detected above the Surface Water Quality Standards (SWQS) of 0.3 mg/L at all the surface water locations at a maximum concentration of 32.1 mg/L from sample location SW-3. In June 2011, manganese was detected above the SWQS of 0.3 mg/L at all of the surface water locations at a maximum concentration of 0.62 mg/L from sample location SW-3. Although iron and manganese concentrations were reported above standards, this appears attributable to naturally occurring conditions as evidenced by their presence of concentrations above the standards in upstream surface water sample SW-1 at a maximum concentration for iron of 19.5 mg/L. In addition, iron does not have a primary standard, and is not considered a contaminant of concern for the Site. VOCs, sulfide, chloride were not detected during any sampling event. In October 2015, ammonia was detected above the SWQS of 0.035 mg/L at surface water locations SW-1 and SW-3 at concentrations of 0.30 mg/L and 0.13, respectively.

Conclusion

Overall the data indicate few exceedances of the standards, some of which are upstream, with no observed impact from the Site to the Creek. This indicates that there is no contaminated groundwater plume emanating from the landfill area.

IV. SUMMARY OF OPERATION AND MAINTENANCE REQUIRED

A long-term monitoring program in being implemented in accordance with the Post-Remedial OM&M Plan and was designed to ensure that the implemented remedy remains effective. The majority of the long-term monitoring program, which is being conducted by Benchmark under contract to the PSDs, includes the annual inspection of the landfill cover system; monitoring of the gas venting system; inspection of groundwater level monitoring; collection of groundwater samples from selected wells; collection of surface water samples from the Creek at three locations and groundwater samples from five wells; and providing annual reports on these activities to NYSDEC and EPA. The Groundwater/Seep Collection and Pretreatment systems are monitored semi-annually by the Village of Gowanda, on behalf of GARC.

In addition to media monitoring, O&M activities include periodic certification that the institutional controls established in the environmental easement attached to the Site property are

Results of total metals, VOC analyses and water quality parameters

Metals. The metals concentrations reported for hexavalent chromium were nondetect or below New York State Groundwater Quality Standards and Guidance Values (GWQS/GV) at all monitoring locations. Total chromium was reported as nondetect or below the GWQS of 0.05 milligram/liter (mg/L) at all monitored locations, with the exception of two minor exceedances at well MWFP-2S in June 2012 (0.056 mg/L) and October 2017 (0.054 mg/L). These sporadic, slight exceedances of total chromium GWQS criteria are not considered significant.

Arsenic was reported above the federal Maximum Contaminant Levels (MCLs) of 0.010 mg/L at monitoring wells MW-7S, MWFP-2S and MW-1SR. At well MW-7S, arsenic was detected above the MCL during eight of the ten sampling rounds, with concentrations ranging from 0.011 mg/L to 0.043 mg/L. At well MWFP-2S, arsenic was detected above the MCL during five of the ten sampling rounds, with concentrations ranging from .0.014 mg/L to 0.026 mg/L. At well MW-2SR, arsenic was detected above the MCL during one sampling round (October 2017) at a concentration of 0.18 mg/L. Well MW-7S is upgradient of the Site, so the exceedances in MWFP-2S and MW-1SR are not Site-related.

Manganese was reported above the GWQS of 0.03 mg/L at most of the monitoring well sample locations during all sampling rounds, with concentrations ranging from 0.37 mg/L at well MWFP-2S to 6.6 mg/L at well MWFP-3S. The screening criteria is a secondary MCLs. Secondary MCLs do not require regulatory actions since they represent aesthetic parameters.

VOCs. The VOC concentrations were nondetect or below the GWQS/GV at all monitoring locations, with the exception of PCE and *cis*-1,2-dichloroethene (*cis*-1,2- DCE) at well MWFP-3S. PCE was detected above the GWQS of 5 ug/L during eight of the ten sampling rounds, with concentrations ranging from 5.9 micrograms per liter (ug/L) to 13 ug/L. *Cis*-1,2- DCE was detected above the GWQS of 5 ug/L during three of the ten sampling rounds, with concentrations ranging from 5.4 ug/L in to 8.5 ug/L. These sporadic, slight VOC exceedances of GWQS criteria are not considered significant, and do not constitute a contaminant plume requiring response action.

Sulfide. Chloride, Ammonia. The water quality parameters reported for all sampling events were nondetect or below the GWQS for sulfide and chloride at all sampling locations. Ammonia was detected above the GWQS of 2.0 mg/L during all monitoring events at concentrations ranging from 3.5 mg/L to 10.8 mg/L at well MW-5S and at concentrations ranging from 9.3 mg/L to 23 mg/L at well MW-7S. In January 2012, ammonia was also detected slightly above the standards of 2 mg/L at well MWFP-2S (3.2 mg/L) and well MWFP-3S (3.8 mg/L).

Conclusion

The groundwater data review indicates that the low levels of contamination in Site groundwater are attenuating and groundwater quality has improved compared to baseline levels measured prior to commencement of remedial activities. In general, the data indicate minor/seasonal changes in concentration for the monitored parameters at each of the sample locations with no

unchanged and that nothing has occurred that would impair the ability to protect public health and the environment. This certification is provided in the Annual Report by the PSDs.

V. DEMONSTRATION OF CLEANUP ACTIVITY QA/QC

RA activities conducted at the Site were undertaken in a manner consistent with the ROD and with the RD plans and specifications, as modified by the as-built documentation. All applicable EPA and NYSDEC quality assurance and quality control (QA/QC) procedures and protocols were incorporated into the RD. All procedures and protocols followed during the RA are documented in the RD reports and the sample analyses were performed at state-certified laboratories.

The QA/QC program used throughout the RA was rigorous and in conformance with EPA and NYSDEC standards; therefore, EPA and NYSDEC have determined that all analytical results are accurate to the degree needed to assure satisfactory execution of the RA, and that they are consistent with both the ROD and the RD plans and specifications, as modified by the as-built documentation.

VI. FIVE-YEAR REVIEW

Because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure a statutory five-year review is required. The first five-year review was completed in April 2015. The review concluded that the remedy is functioning as intended by the decision documents and is protective of human health and the environment. The five-year review did not include any issues or recommendations. The next five-year review will be completed before April 2020.

VII. SITE COMPLETION CRITERIA

The Site meets all the Site-completion requirements as specified in *Close Out Procedures for National Priorities List Sites* (OSWER Directive 9320.2-22, May 2011). Specifically, the implemented remedy achieved the degree of cleanup specified in the ROD for all pathways of exposure. The remedy, remedial action objectives, and associated cleanup goals are consistent with agency policy and guidance. No further Superfund response action is needed to protect human health and the environment.

The only continuing remedial efforts at the Site are the ongoing maintenance of the landfill cap, the groundwater and surface water monitoring and insuring that the institutional controls in the form of restrictive covenant to restrict the use of on-Site groundwater as a source of potable or process water and to restrict activities on the Site that could compromise the integrity of the cap remain in place and continue to be effective. Five-year reviews will continue to be performed to ensure the remedy remains protective.

Approved:

Pat Evangelista, Acting Director
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EPA – Region 2

5/1/19
Date

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