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PERIODIC REVIEW REPORT APRIL 2020-APRIL 2021

NYSDEC COSCO SITE

(ID NO. 3-44-035)

SPRING VALLEY, NEW YORK

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EXECUTIVE SUMMARY

In 1978, the Rockland County Department of Health (RCDOH) identified tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE), and 1,1,1-trichloroethane (1,1,1-TCA) in the well field operated by the Spring Valley Water Company (Aztech, 2020). The Consolidated Stamp Company (COSCO) Site (the Site) and Continental Plastic Company (CPC) facility were identified as potential sources for the contamination at the former Spring Valley Well Field Site (ID No. 3-44-018). The results of a survey performed by Spring Valley Water Company in 1979 found that the CPC facility was pumping approximately 20 to 30 gallons per minute (gpm) of TCE and PCE contaminated non-contact cooling water into Reach B Diversion. In addition, The COSCO facility was using TCE as part of a vapor degreasing process and discharging the rinse water into Reach B Diversion.

From 1987 to 1990, a Remedial Investigation/Feasibility Study was performed to evaluate potential source areas for Site-related constituents of concern, PCE and its associated degradation products TCE, DCE, and vinyl chloride. A Record of Decision (ROD) was issued for the Site in March 1990 and amended in 1999. Remedial actions to address the Site-related constituents of concern were conducted between 1990 and 2010.

In November 2003, the groundwater extraction and treatment system was placed into operation, consisting of two overburden recovery wells (RW-1S and RW-8S) and one bedrock recovery well (RW-3D). The groundwater extraction and treatment system initially included treatment of extracted groundwater via ultraviolet light and peroxide oxidation. In December 2011, the groundwater extraction and treatment system was redesigned, replacing the ultraviolet light and peroxide oxidation treatment with an air stripper. Currently only bedrock recovery well RW-3D is actively recovering groundwater. Overburden recovery wells RW-1S and RW-8S have been offline since the fall of 2015.

The current Institutional Controls governing the Site include the August 1999 ROD amendment and the 2016 Site Management Plan. Adherence to Institutional Controls are discussed within the Site Management Plan prepared by Aztech (Aztech, 2016). The Engineering Controls at the Site consist of the asphalt cap installed over the Tailings Dump Area, a security perimeter fence, the sub-slab depressurization system installed off-Site at 47 Commerce Street, the groundwater extraction and treatment system, and the overburden and bedrock monitoring well network.

Site monitoring and reporting activities are performed by Ramboll Americas Engineering Solutions, Inc, (Ramboll), and Operation and Maintenance activities are performed by LaBella Associates.

1. INTRODUCTION

1.1 Introduction

This Periodic Review Report (PRR) has been prepared by Ramboll Americas Engineering Solutions, Inc. (Ramboll) for the New York State Department of Environmental Conservation (NYSDEC) to document the implementation of, and compliance with, Site Management (SM) requirements for the Consolidated Stamp Company (COSCO) Site (the Site) located in Spring Valley, New York, as discussed in the 2016 Site Management Plan (SMP) (Aztech Environmental Technologies [Aztech], 2016). This PRR was prepared in accordance with the Work Assignment (WA) (#D009810-03) submitted to the NYSDEC on June 1, 2020 and approved on June 19, 2020.

This PRR covers the reporting period from April 4, 2020 through April 4, 2021 and summarizes the Site activities performed by Ramboll and Operation and Maintenance (O&M) activities performed by LaBella Associates (LaBella). The results and a general summary of the O&M activities performed by LaBella are also incorporated in this PRR. In addition, a summary of the Remedial System Optimization (RSO) performed during the reporting period is presented in Appendix G.

1.1.1 Site Location and Description

The Site is located at 15 West Street, in the village of Spring Valley, Rockland County, New York (**Figure 1-1**). The Site is managed under the New York State Inactive Hazardous Waste Disposal Site Remedial Program administered by NYSDEC (Ramboll, 2020). The Site is listed by the NYSDEC as a Class 4 Inactive Hazardous Waste Disposal Site (ID No. 3-44-035). Class 4 sites are hazardous waste sites that have been properly closed, but require continued O&M of remedial systems and/or continued site monitoring.

The Site is the location of the former COSCO facility located at 15 West Street, and the former Continental Plastic Company (CPC) facility, located at 2 North Cole Avenue, about 200 feet northwest of the former COSCO facility (NYSDEC, 1999). The COSCO property is bound to the east by West Street, to the south by West Central Avenue and to the north by an inactive Conrail line and right-of-way. Industrial and commercial facilities are located on the north side of the right-of-way including the former CPC facility, a communications tower, and the Spring Valley Department of Public Works (DPW) maintenance facility.

A drainage way, known as the Reach B Diversion (**Figure 1-1**) runs between the facilities. The drainage way originates to the southwest and continues to the northeast and discharges into the West Branch of Pascack Brook, east of the Site. The Tailings Dump Area is an approximate 18,750 square-foot, triangular-shaped, and fenced area at the western end of the property. At present, the Tailings Dump Area is the only portion of the original Site that remains within the Site boundaries as defined by NYSDEC.

1.2 Remedial History

In 1978, the Rockland County Department of Health (RCDOH) identified tetrachloroethene (PCE), trichloroethene (TCE), Dichloroethene (DCE), and 1,1,1-trichloroethane (1,1,1-TCA) in the well field operated by the Spring Valley Water Company (Aztech, 2020). The COSCO Site and CPC facility were identified as potential sources for the contamination at the former Spring Valley Well

Field Site (ID No. 3-44-018). The results of a survey performed by Spring Valley Water Company in 1979 found that the CPC facility was pumping approximately 20 to 30 gallons per minute (gpm) of TCE and PCE contaminated non-contact cooling water into Reach B Diversion. In addition, The COSCO facility was using TCE as part of a vapor degreasing process and discharging the rinse water into Reach B Diversion. In 1980, Reach B Diversion was diverted away from the former Spring Valley Well Field Site into the West Branch of the Pascack Brook. After re-configuring the discharge for Reach B Diversion, the former waterway was sampled at multiple locations for volatile organic compounds (VOCs) in soil, sediment, and surface water. In addition, semi-volatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs) were identified in the Tailings Dump Area (Aztech, 2016).

From 1987 to 1990, a Remedial Investigation (RI)/Feasibility Study (FS) was performed for the Site by GHR Engineering Associates, Inc. The objective of the RI/FS was to evaluate potential source areas for Site-related constituents of concern (COCs), PCE and its associated degradation products TCE, DCE, and vinyl chloride (VC).

As documented in the RI Report, the former soil source area was located north of the COSCO facility and extends east-west from the east side of bedrock monitoring well GP-4D to east of overburden recovery well RW-1S (Aztech, 2020). The northern extent of source area soil was located south of the Conrail track line that extends east-west north of the COSCO facility. The approximate impacted area of soil was 140-feet long by 40-feet wide (**Figure 1-2**). The maximum historical concentrations of PCE, TCE, and DCE in source area soils were 1.9 parts per million (ppm), 13 ppm, and 2.6 ppm, respectively. Cyanide, cadmium, lead, and zinc were detected in source area soils with maximum concentrations of 28 ppm, 4.2 ppm, 1,140 ppm and 4,120 ppm, respectively. Concentrations of other inorganic constituents detected in source area soils were within background values.

Site-related COCs were not detected in soils within the Tailings Dump Area during the RI. However, several SVOCs including polycyclic aromatic hydrocarbons (PAHs) were detected. The maximum concentrations of PAHs detected were approximately 90 ppm. In addition, pesticides 4,4-DDT and gamma chlordane, and PCBs were detected in one soil sample from the Tailings Dump Area. Inorganic constituents cyanide and cadmium were also detected in the Tailings Dump Area (similar to source area soils).

Sediment samples collected from the former waterway drainage channel (Reach B Diversion) had detected concentrations of PCE, TCE, and DCE with a maximum total VOC concentration of 38.7 ppm in a sediment sample collected from the DPW property (north of the soil source area).

Site-related COCs were detected in overburden groundwater at a maximum total concentration of 24,861 parts per billion (ppb) and in bedrock groundwater at a maximum total concentration of 15,437 ppb.

Following the RI, an FS was performed to identify, screen, and evaluate potential remedial alternatives and a Record of Decision (ROD) was issued for the Site in March 1990. The ROD detailed selected remedies to address contamination at the COSCO Site and CPC facility, which included:

- Source area groundwater extraction and treatment by ultraviolet (UV) chemical oxidation and polishing;
- Source area soil and sediment soil vapor extraction (SVE); and,
- Capping of the Tailings Dump Area to prevent erosion and disturbance.

Pursuant to the results of the RI and a petition from the Spring Valley Water Company to delist the Site, the Site boundaries were redefined, the COSCO Site and CPC facility were listed under the New York State Inactive Hazardous Waste Disposal Site Remedial Program, and the former Spring Valley Well Field Site was delisted in December 1990.

Two post-ROD groundwater studies were conducted to evaluate groundwater flow in the bedrock aquifer. The first study was performed in the summer of 1990 by COSCO and Sara Lee Corporation[1]. The second study, a supplemental RI, was performed in 1992 by COSCO, Sara Lee, and the Spring Valley Water Company. In March of 1996, COSCO and Sara Lee settled with NYSDEC to contribute past and future costs to the Site for remediation.

A pre-design investigation (PDI) was performed in 1997 and 1998 by Camp Dresser and McKee on behalf of NYSDEC to fill identified data gaps and evaluate the appropriateness of the remedial action recommended in the 1990 ROD. Field investigations performed during the PDI included:

- Soil and groundwater sampling;
- Aquifer pump testing; and,
- Vapor extraction pilot testing.

Six soil borings were completed in the source area. The soil borings were advanced from eight to twenty feet below grade, depending on location at the Site. Soil samples were collected at four-foot intervals. Fifteen soil samples were collected during the soil boring program. Total VOC concentrations detected in soil ranged from non-detect to 0.726 ppm (approximately one-quarter of the maximum concentration of total VOCs in soil reported during the RI). The soil boring program also identified the presence of low permeability soils in the source area, interbedded with more permeable soils.

The former drainage channel area (Reach B Diversion) could not be sampled during the PDI as the channel had been filled in and a communications tower had been constructed in the area following completion of the 1990 RI. As a result, five soil borings were advanced adjacent to the communications tower. Soil samples were collected at three of the five boring locations and a groundwater sample was collected at one boring location. The detected concentrations of VOCs in soil samples ranged from 0.0012 to 0.0099 ppm. The total VOC concentration detected in the groundwater sample was 1,270 ppb. These results suggested that the total VOC concentrations in overburden groundwater were still elevated near the former drainage channel, and that the total VOC concentration in soil was low.

As part of the PDI, two overburden monitoring wells (GW-1S and GW-4S) and four bedrock monitoring wells (GW-2D, GW-3D, GP-4D, and GW-5D) were installed at the Site and groundwater samples were collected for VOC analysis to compare to previous results.

[1] Sara Lee Corporation previously owned certain assets of the COSCO Site (NYSDEC, 1999).

Groundwater sample results collected from the six monitoring wells indicated that VOC concentrations in both the overburden and bedrock had decreased since the RI.

In addition, during the PDI it was noted that an asphalt cap was installed over most of the Tailings Dump Area. This asphalt cap satisfied the capping requirement presented in the 1990 ROD.

The 1990 ROD was amended in August 1999 (1999 ROD amendment). The changes to the 1990 ROD were based on the results of the 1997-1998 PDI which concluded relatively low-level VOC concentrations remained in the soil and sediments at the Site and therefore the effectiveness of the recommended SVE would be limited. In addition, the soil samples collected adjacent to the communications tower constructed near the former drainage channel had VOC detections below NYSDEC Soil Clean-up Objectives. As a result, NYSDEC selected the following for the 1999 ROD amendment:

- No further action for source area soils and sediments;
- Extraction of contaminated overburden and bedrock groundwater in the source area and treatment by chemical oxidation and polishing technologies;
- Completion/repair of the existing asphalt cap over the Tailings Dump Area; and,
- Long-term groundwater monitoring to evaluate the effectiveness of both the groundwater extraction and the Tailings Dump Area.

1.2.1 Soil Vapor Intrusion Evaluations

Two soil vapor intrusion (SVI) evaluations were conducted for the Site – one on-Site and the other off-site. The on-Site SVI evaluation was conducted by Environmental Resources Management, Inc. in January 2006. Six overburden groundwater samples and six soil vapor samples were collected and analyzed for VOCs in the area north of the COSCO facility building and along the Conrail railroad line and right-of-way. Two of the six groundwater samples had detections of Site-related COCs at concentrations less than 100 ppb. Site-related COCs were also detected in soil vapor samples.

Based on the results of the 2006 on-Site SVI evaluation, an off-Site supplemental SVI evaluation was performed to evaluate the residential and commercial area east of the Site. The off-Site SVI evaluation was performed by AECOM from December 2008 through March 2009. The off-Site supplemental SVI evaluation included collection of sub-slab soil gas samples with co-located indoor air samples at residential and commercial properties east of the Site on Commerce Street. The results of the off-Site supplemental SVI evaluation identified concentrations of PCE and TCE in the sub-slab sample collected at 47 Commerce Street in excess of the New York State Department of Health (NYSDOH) soil vapor/indoor air guideline values listed in Matrix A and Matrix B (NYSDOH, 2017). The analytical results for the other properties included in the off-Site supplemental SVI evaluation (35 Commerce Street, 37 Commerce Street, 39 Commerce Street, 41 Commerce Street, 43 Commerce Street, and 45 Commerce Street) had elevated VOC reporting limits, resulting in non-detection of VOCs.

In February 2010, an additional round of SVI sampling was performed to compare to the initial off-Site supplemental SVI results. The results of the additional round of off-Site supplemental SVI sampling indicated that concentrations of PCE and TCE were still present in the sub-slab soil

vapor at 47 Commerce Street and Site-related COCs were not detected at the six other properties. Based on the detected concentrations of PCE and TCE in sub-slab soil vapor at 47 Commerce Street, a sub-slab depressurization system (SSDS) was installed to mitigate the sub-slab vapor intrusion to the property. The SSDS at 47 Commerce Street continues to operate with maintenance and inspection activities being performed by HDR Engineering, Inc. of Mahwah, New Jersey.

As recommended by NYSDEC and NYSDOH, a final round of off-Site SVI sampling was performed at 41 Commerce Street, 43 Commerce Street, and 45 Commerce Street in March 2012. The results of the final round of off-Site SVI sampling indicated that no further action or mitigation was warranted. SVI sampling was also proposed for 39 Commerce Street, however, the property owner did not grant access.

A summary of the remedial Site history is provided in **Appendix A**.

1.3 Regulatory Requirements and Current Site Status

As discussed above, the components of the 1990 ROD were amended in August 1999 at the Site. The components of the 1999 ROD amendment include the following:

- No further action for source area soils and sediments;
- Extraction of contaminated overburden and bedrock groundwater in the source area and treatment by chemical oxidation and polishing technologies;
- Completion/repair of the existing asphalt cap over the Tailings Dump Area; and,
- Long-term groundwater monitoring to evaluate the effectiveness of both the groundwater extraction and the Tailings Dump Area.

As discussed above, remedial actions were initiated at the Site beginning in the late 1990's when the Tailings Dump Area was capped with asphalt. In November 2003, the groundwater extraction and treatment (GWE&T) system was placed into operation (Aztech, 2020) and consists of two overburden recovery wells (RW-1S and RW-8S) and one bedrock recovery well (RW-3D). Recovery wells RW-1S and RW-3D are repurposed monitoring wells, formerly GW-1S and GW-3D. The wells were installed as part of the PDI in December 1997 by American Auger and Ditching, of Constantia, New York.

The GWE&T system initially included treatment of extracted groundwater via UV light and peroxide oxidation. Operational issues resulted in a system shutdown within the first two years of operation. The GWE&T system design was re-evaluated to maximize treatment efficiency, minimize cost, and to continue to meet the goals of the 1999 ROD amendment. The GWE&T system redesign was completed in December 2011, replacing the UV light and peroxide oxidation treatment with an air stripper.

Since 2011, extracted groundwater is conveyed via underground piping from the recovery wells to the treatment system shed (see **Figure 1-2**) and is contained in a 1,500-gallon polyethylene batch tank prior to treatment. The extracted groundwater passes through two bag filter units, connected in parallel, prior to treatment in a ShallowTray® model 2341-P air stripper. The air stripper comprises four stripper trays and a sump tank. The air stripper is also equipped with sight tub and alarm switches and gauges connected to a programmable logic controller (PLC) to

monitor the operation of the treatment system. Treated groundwater is discharged to Reach B Diversion via underground piping. Reach B Diversion ultimately discharges into Pascack Brook.

Currently only bedrock recovery well RW-3D is actively recovering groundwater. Overburden recovery wells RW-1S and RW-8S have been offline since the fall of 2015.

2. SITE INSTITUTIONAL AND ENGINEERING CONTROLS

The Site is managed under the New York State Inactive Hazardous Waste Disposal Site Remedial Program administered by NYSDEC and is listed by the NYSDEC as a Class 4 Inactive Hazardous Waste Disposal Site (ID No. 3-44-035). Class 4 sites are hazardous waste sites that have been properly closed but, require continued O&M of remedial systems and/or continued site monitoring.

2.1 Institutional Controls

The current Institutional Controls (ICs) governing the Site include the August 1999 ROD amendment and the 2016 SMP. Adherence to ICs are discussed within the SMP prepared by Aztech (Aztech, 2016). Adherence to ICs under the SMP include:

- Compliance with the SMP by the owner and remedial party (the remedial party for the purpose of the SMP is the NYSDEC);
- All Engineering Controls (ECs), discussed in greater detail below, must be operated or maintained as specified in the SMP;
- All ECs at the Site must be inspected at a frequency and manner defined in the SMP;
- Environmental monitoring for public health must be performed as defined in the SMP; and,
- Data and information pertinent to management of the Site must be reported at the frequency and in a manner defined in the SMP.

ICs, and Site restrictions, may not be discontinued without amendment to the SMP and approval from the NYSDEC. The following Site restrictions apply:

- The Site may only be used for commercial/industrial use provided that long-term ECs and ICs included in the SMP are employed;
- The Site may not be used for a higher level of use, such as unrestricted or restricted-residential use, without additional remediation and amendment of the SMP, as approved by the NYSDEC;
- Future activities conducted at the Site that disturb in-situ source soil and/or fill material that could contain potential Site-related COCs must be conducted in accordance with the SMP;
- The use of groundwater underlying the property is prohibited;
- Vegetable gardens and farming on the property are prohibited; and,
- A written statement certifying: 1). The ECs and/or ICs employed at the Site are unchanged from the previous certification or that any changes to the ECs and/or ICs were approved by the NYSDEC; and, 2). ECs and/or ICs have not been impaired to protect public health and the environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access the Site at any time in order to

evaluate the continued maintenance of any and all ECs and/or ICs. The certification shall be submitted annually (or at an alternate time period acceptable to NYSDEC) and, will be made by an expert that the NYSDEC finds acceptable.

2.2 Engineering Controls

The ECs at the Site consist of the asphalt cap installed over the Tailings Dump Area, a security perimeter fence, the SSDS installed off-Site at 47 Commerce Street, the GWE&T system, and the overburden and bedrock monitoring well network.

Asphalt Cap

The asphalt cap installed over the Tailings Dump Area during the PDI prevents exposure to impacted soil/solid wastes in the Tailings Dump Area.

Security Perimeter Fence

A security perimeter fence was installed around the Tailings Dump Area and the monitoring well network at the Site to limit access.

Sub-Slab Depressurization System

An SSDS was installed by NYSDEC at a nearby off-Site residence (47 Commerce Street) to minimize exposure to elevated concentrations of VOCs in sub-slab/indoor air at the property and to mitigate future VOC exposure to the public. The SSDS consists of one centrally located system suction point (SSP) that induces air flow through a RadonAway™ model RP-145 fan. The RP-145 fan is mounted on the southwestern exterior of the property. Continued operation of the SSDS is a component of the overall remedial program for the Site.

Groundwater Extraction and Treatment System

As discussed above, the GWE&T system at the Site consists of two overburden recovery wells, one bedrock recovery well, and four-tray air stripper. Currently only bedrock recovery well RW-3D is actively recovering groundwater. Treated groundwater is discharged to Reach B Diversion via underground piping. Reach B Diversion ultimately discharges into Pascack Brook.

Overburden and Bedrock Monitoring Well Network

The Site includes eight groundwater monitoring and/or recovery wells. Five wells (GW-4S, MW-3, MW-18, RW-1S, and RW-8S) are completed within the overburden and three wells (DW-1, GP-4D, and RW-3D) are completed within the bedrock.

3. SITE MONITORING AND SAMPLING

3.1 Annual Site Inspection

The annual Site inspection was completed on March 11, 2021 for this reporting period. The Site inspection included an evaluation of the current condition of the asphalt cap and security fencing at Tailings Dump Area and other Site conditions, including the presence of vegetative growth and inspection of the perimeter fence for breaks in the linkage or loose poles. The inspection also included an evaluation of the current monitoring and recovery well network. In addition, presence of debris, trespassing, and indications of vandalism were also observed during the annual Site inspection. A summary of the Site inspection is provided in **Appendix B**.

As shown in **Appendix B**, the asphalt cap over the Tailings Dump Area was observed to be in good condition with no evidence of wear or cracks in the asphalt. The security perimeter fence surrounding the Tailings Dump Area was also in good condition. Vegetative growth was observed along the security perimeter fencing surrounding the Tailings Dump Area. Debris was also noted along the western edge. Several large holes in the linkage of the security perimeter fence near the current monitoring and recovery well network were observed. Debris and the presence of trespassers were observed near overburden recovery well RW-1S, bedrock recovery well RW-3D, overburden monitoring wells MW-18 and GW-4S, and bedrock monitoring well GP-4D. The monitoring wells and recovery well network were observed to be in good to fair condition. The recommended maintenance and corrective actions from the annual Site inspection are presented in Section 6.

3.2 Groundwater Monitoring Program

Groundwater level measurements and groundwater quality samples were collected from the Site monitoring and recovery wells (i.e., MW-3, MW-18, GW-4S, GP-4D, DW-1, RW-1S, RW-3D, and RW-8S) on a semi-annual basis during the reporting period. The first semi-annual sampling event was completed on July 28 and 29, 2020. The second semi-annual sampling event was completed between March 8 and 10, 2021. A summary of the overburden and bedrock monitoring well construction specifications is presented on **Table 3-1**.

3.2.1 Water Level Monitoring

Groundwater level measurements were collected from each of the eight monitoring and recovery wells prior to collection of groundwater quality samples during each semi-annual sampling event. The groundwater level measurements and corresponding groundwater level elevations are presented on **Table 3-2**.

Hydraulic conditions at the Site are illustrated through groundwater contour maps for the overburden and bedrock hydrostratigraphic units. The groundwater contour maps were prepared based on the groundwater level measurements collected during the semi-annual sampling events. The July 2020 and March 2021 overburden groundwater contour maps are shown on **Figure 3-1** and **Figure 3-3**, respectively. The July 2020 and March 2021 bedrock groundwater contour maps are shown on **Figure 3-2** and **Figure 3-4**, respectively.

As shown on **Figure 3-1** and **Figure 3-3**, groundwater flow in the overburden is generally to the north or northeast towards Pascack Brook and does not appear to be under the influence of active bedrock recovery well RW-3D at this time. . As shown on **Figure 3-2** and **Figure 3-4**, groundwater flow in the bedrock is generally to the north, with localized flow towards active recovery well RW-3D.

3.2.2 Groundwater Quality Sampling

Semi-annual groundwater samples were collected from the five groundwater monitoring wells and three recovery wells at the Site. In July 2020, monitoring wells GW-4S, MW-3, MW-18, DW-1, and GP-4D and inactive recovery wells RW-1S and RW-8S were purged and sampled utilizing dedicated, disposable bailers. A grab groundwater sample was collected from active recovery well RW-3D at the influent sample tap located in the Site GWE&T shed. In March 2021, each monitoring well and recovery well was purged and sampled using low-flow purging and sampling techniques with a submersible pump. During purging, groundwater quality parameters

(temperature, pH, specific-conductance, oxidation-reduction potential [ORP], dissolved oxygen [DO] and turbidity) and water level measurements were collected at approximately five-minute intervals.

Field quality assurance/quality control (QA/QC) samples consisted of one blind field duplicate, one matrix spike (MS), one matrix spike duplicate (MSD), and trip blanks for each day of sample collection. In addition, an equipment blank sample was also collected during the March 2021 semi-annual sampling event from the submersible pump. Groundwater samples were analyzed for VOCs by USEPA Method 624.[2] by Eurofins TestAmerica of Amherst, New York and Savannah, Georgia. The groundwater sampling field forms are provided in **Appendix C**.

Detected constituents in groundwater from the July 2020 and March 2021 semi-annual sampling events are presented on **Table 3-3** and **Table 3-4**, respectively. Detected constituents in overburden and bedrock groundwater for the Site-related COCs are also illustrated on **Figure 3-5** and **Figure 3-6**, respectively.

As shown on **Table 3-3** and illustrated on **Figure 3-5**, Site-related COCs in overburden monitoring wells MW-18 and GW-4S and overburden recovery well RW-8S were detected above the New York State Class GA Standards. Total 1,2-DCE was detected at an estimated concentration of 7.1 ppb[3] in MW-18. VC was also detected at an estimated concentration of 3.3 ppb, above the Class GA Standard of 2 ppb. TCE was detected at overburden monitoring well GW-4S at a concentration of 5.1 ppb, slightly above the Class GA Standard of 5 ppb. Total 1,2-DCE and TCE were detected at concentrations of 10 ppb and 9.5 ppb, respectively, at overburden recovery well RW-8S, which are above the Class GA Standard of 5 ppb for both constituents. The remaining Site-related COCs detected in overburden monitoring and recovery wells were below their Class GA Standards. As shown on **Table 3-3** and illustrated on **Figure 3-6**, in RW-3D, PCE was detected at a concentration of 130 ppb, TCE was detected at a concentration of 120 ppb, and total 1,2-DCE was detected at a concentration of 63 ppb, each above the Class GA Standards for these constituents of 5 ppb.

As shown on **Table 3-4** and **Figure 3-5**, Site-related COCs in overburden monitoring wells MW-18 and GW-4S and overburden recovery wells RW-1S and RW-8S were detected above the Class GA Standards. Total 1,2-DCE was detected at an estimated concentration of 8.4 ppb in MW-18. VC was detected at a concentration of 8.6 ppb. Both concentrations are above the Class GA Standards of 5 ppb and 2 ppb, respectively. TCE was detected at a concentration of 5.8 ppb in GW-4S, slightly above the Class GA Standard of 5 ppb. TCE was also detected at concentrations of 12 ppb and 5.3 ppb in RW-1S and RW-8S, above the Class GA Standard of 5 ppb. Consistent with the July 2020 semi-annual sampling event, Site-related COCs were detected above their Class GA Standards in bedrock recovery well RW-3D. As shown on **Table 3-4** and **Figure 3-6**, PCE was detected at a concentration of 260 ppb, TCE was detected at a concentration of 240 ppb, and total 1,2-DCE was detected at a concentration of 180 ppb.

[2] Additional groundwater samples were also collected for geochemical parameters during the March 2021 semi-annual groundwater sampling event to aid in the RSO activities at the Site. Discussion of the additional geochemical parameters is provided in Appendix G.

[3] For the purposes of this report, the individual Class GA Standard of 5 ppb is used for cis-1,2-dichloroethene and trans-1,2-dichloroethene.

A summary of the laboratory analytical results is provided in **Appendix D**. Data validation was performed for the July 2020 and March 2021 semi-annual sampling events by Vali-Data of WNY, LLC, located in Fulton, New York. The data usability summary reports (DUSRs) are provided in **Appendix E**.

The detected concentrations of Site-related COCs during this reporting period are consistent with historical results. Historical concentration trend plots of Site-related COCs are provided in **Appendix F**.

3.3 Groundwater Extraction and Treatment System Operations

Operation, maintenance, and repair activities are routinely performed to maintain the efficiency of the GWE&T system. The system operated for approximately 309 days during the reporting period, with an average flow rate of approximately 8.25 gpm and a maximum flow rate of approximately 21.1 gpm. Approximately 3,680,665 gallons of groundwater were treated and discharged by the GWE&T system during the reporting period. Maintenance and repair activities performed during 2020 were documented in the quarterly system monitoring reports prepared by LaBella. A summary of the routine and non-routine activities performed by LaBella during the reporting period are presented below.

Routine Activities

- Replacement of bag filter.
- Inspection and cleaning of the air stripper.
- Replacement of system components (i.e., gauges, valves).

Non-Routine Activities

- On December 20, 2020, the GWE&T effluent pump failed. On March 23, 2021 a new effluent pump for the GWE&T system was installed.

3.3.1 Groundwater Extraction and Treatment System Performance

Compliance samples were collected each month the GWE&T system was in operation to monitor the effectiveness of the system. Compliance samples serve to document that treatment system discharge limits are maintained. Influent and effluent samples were collected and analyzed for VOCs by USEPA Method 624, TDS by SM 2540C, and pH by USEPA Method 9040C by Eurofins TestAmerica of Amherst, New York and Edison, New Jersey. In addition, in September 2020 samples were collected for analysis of total and dissolved metals by USEPA Method 200.7 and in November 2020 samples were collected for analysis of mercury and total metals by USEPA Method 245.1 and USEPA Method 200.7, respectively. Site-related COCs were detected below the standards and guidance values provided in 6NYCRR Part 703 Surface Water and Groundwater Quality Standards and NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998) during each monthly sampling event, with the exception of April 2020 and December 2020. On April 8, 2020, PCE was detected at an estimated concentration of 1.1 µg/L, and on December 10, 2020, PCE was again detected at a concentration of 1.1 µg/L. Each PCE detection was slightly above the guidance value of 1.0 µg/L. Groundwater treated by the GWE&T system discharges to Reach B Diversion, ultimately discharging into Pascack Brook. which is not a known source of drinking water. Monthly influent and effluent VOC, TDS, mercury, metals, and pH data are presented in **Appendix D**.

As presented in the 2019-2020 PRR (Aztech, 2020), groundwater samples were collected from each Site monitoring and recovery well (with the exception of monitoring well MW-3) and the GWE&T system effluent for per- and polyfluorinated alkyl substances (PFAS) and 1,4-dioxane analyses. Perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) were detected in the GWE&T system effluent at concentrations of 11 parts per trillion (ppt) and 18 ppt, respectively. There are currently no state groundwater or surface water standards for PFAS (including PFOS and PFOA). As detailed in the remedial system optimization (RSO) attached to this PRR, the recommendation of the RSO includes discontinuing the operation of the GWE&T system during a proposed pilot study.

4. SITE COST EVALUATION

The Site cost evaluation summarizes the costs for the period of January 1, 2020 through December 31, 2020. The costs are itemized by NYSDEC subcontractor (Ramboll and LaBella). The approximate costs are presented on **Table 4-1**. Overall, the total estimated cost for Ramboll and LaBella Site activities was $48,828. Ramboll Site activities included subcontractor coordination, one semi-annual groundwater sampling event, and reporting. LaBella Site activities included the O&M of the GWE&T system, monthly sampling, one semi-annual groundwater sampling event, and reporting.

5. CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

The Institutional and Engineering Controls Certification Form is presented in **Attachment 1**.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

During this reporting period, the Tailings Dump Area was observed to be in good condition with no evidence of wear or cracks in the asphalt. The security perimeter fence surrounding the Tailings Dump Area was also in good condition, however, several large holes in the linkage of the security perimeter fence near the current monitoring and recovery well network were observed. In addition, vegetative growth and debris were observed along the Tailings Dump Area fence and the near monitoring well network, respectively.

The current hydraulic conditions and semi-annual groundwater sampling results show that the GWE&T system is creating a localized bedrock groundwater capture zone near recovery well RW-3D. Overburden groundwater does not appear to be under the influence of the GWE&T system at this time. The detected concentrations of Site-related COCs during this reporting period are consistent with historical results.

The results of the GWE&T system influent and effluent sampling show that the system was effective in removing Site-related COCs from recovered groundwater during the reporting period.

6.2 Recommendations

Based on a review of the annual Site inspection, the monitoring and hydraulic data collected in 2020, and the requirements of the 1999 ROD amendment, the following recommendations are presented:

- Tailings Dump Area – It is recommended that continued monitoring of the vegetative growth along the security perimeter fence and debris in the western portion of the Tailings Dump Area be performed.
- Monitoring and Recovery Well Network – It is recommended that the monitoring and recovery wells be equipped with new, keyed-alike locks during the next semi-annual sampling event.
- Security Perimeter Fence – Based on the large holes in the linkage and historical presence of trespassers observed at the Site, it is recommended that a Site safety protocol be developed for personnel accessing the Site.
- Presence of Debris – It is recommended that the debris near RW-1S, RW-3D, MW-18, GW-4S and GP-4D be disposed of and the area be monitored during future Site activities.

In addition, in accordance with NYSDEC's request, an optimization evaluation of the Site remedial system was performed during this reporting period. The recommendations of the RSO evaluation are presented in Appendix G.

7. REFERENCES

Aztech Environmental Technologies, 2016. *Site Management Plan Volume I COSCO*, Spring Valley, Rockland County, New York. NYSDEC Site No.:3-44-035. Prepared for the New York State Department of Environmental Conservation. January 21, 2016.

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New York State Department of Health (NYSDOH), 2017. *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (October 2006), and Updates May 2017.

Ramboll, 2020. *Schedule 1 Scope of Work Assignment Package for the COSCO Site*, Spring Valley, New York. Work Assignment #D009810-03. NYSDEC Site No.:3-44-035. June 1, 2020.

FIGURES

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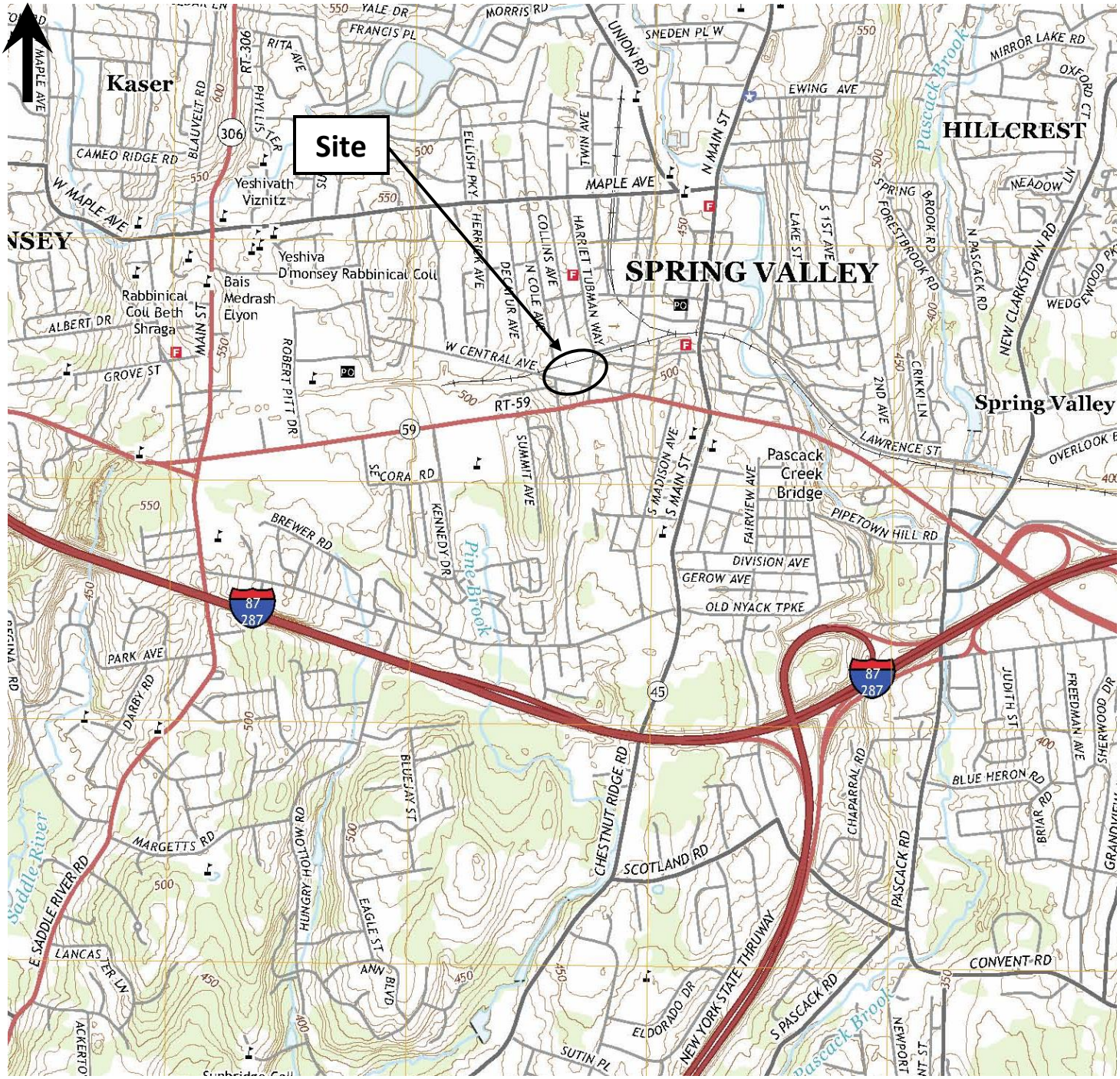

Scale 1:24,000

Adapted From: USGS Topographic Quadrangle Map, Park Ridge, New Jersey.

Modified From: Aztech Environmental Technologies, 2020.

NYSDEC COSCO SITE
15 West Street
Spring Valley, New York

NYSDEC Site ID No. 3-44-035

FIGURE 1-1

Site Location Map

RAMBOLL

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North Cole Ave

Former CPC

Maint. Garage

Former Waterway

Reach B Diversion

Comm. Tower

Raised Area

DPW Maintenance Garage

Commerce Street

Remedial System Shed

MW-3

DW-1

RW-8S

Storage Area

GP-4D

RW-1S

RW-3D

MW-18

GW-4S

Stream

Former COSCO

West Street

Tailings Dump Area

South Cole Ave

West Central Ave

LEGEND:

- Overburden Monitoring Well
- Overburden Groundwater Recovery Well
- Bedrock Monitoring Well
- Bedrock Recovery Well
- Railroad Track
- Fence line
- Source Area

0 15 30 60

Approximate Scale 1" ~ 60'

RAMBOLL

NYSDEC COSCO
SPRING VALLEY, NEW YORK

MONITORING AND EXTRACTION WELL LOCATION MAP

FILE NO. 75217

DATE APRIL 2021

1-2

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North Cole Ave

Former CPC

Maint. Gar.

Reach B Diversion

Former Waterway

Comm. Tower

Raised Area

DPW Maintenance Garage

Commerce Street

Remedial System Shed

Storage Area

(86.15)
RW-8S

86.25

86.50

(86.82)
MW-3

DW-1

GP-4D

(86.10)
RW-1S

86.25

86.50

GW-4S
(86.59)

RW-3D

MW-18
(86.64)

Stream

Former COSCO

West Street

Tailings Dump Area

South Cole Ave

West Central Ave

LEGEND:

- Overburden Monitoring Well
- Overburden Groundwater Recovery Well
- Bedrock Monitoring Well
- Bedrock Recovery Well
- Groundwater Contour
- (86.82) Groundwater Elevation - July 2020
- Railroad Track
- Fence line

0 15 30 60

Approximate Scale 1" ~ 60'

RAMBOLL

NYSDEC COSCO

SPRING VALLEY, NEW YORK

OVERBURDEN GROUNDWATER ELEVATION CONTOUR MAP – JULY 2020

FILE NO. 75217

DATE APRIL 2021

3-1

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North Cole Ave

Former CPC

Maint. Gar.

Reach B Diversion

Former Waterway

Comm. Tower

RW-8S

Raised Area

DPW Maintenance Garage

Commerce Street

Remedial System Shed

MW-3

DW-1
(74.67)

70

80

Storage Area

80

70

60

50

GP-4D
(86.40)

GW-4S

RW-3D
(40.96)

MW-18

RW-1S

Former COSCO

Stream

Tailings Dump Area

West Street

South Cole Ave

West Central Ave

LEGEND:

- Overburden Monitoring Well
- Overburden Groundwater Recovery Well
- Bedrock Monitoring Well
- Bedrock Recovery Well
- Groundwater Contour
- (74.67) Groundwater Elevation - July 2020
- Railroad Track
- Fence line

0 15 30 60

Approximate Scale 1" ~ 60'

RAMBOLL

NYSDEC COSCO

SPRING VALLEY, NEW YORK

BEDROCK GROUNDWATER ELEVATION CONTOUR MAP – JULY 2020

FILE NO. 75217

DATE APRIL 2021

3-2

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North Cole Ave

Former CPC

Maint. Garage

Reach B Diversion

Former Waterway

Raised Area

DPW Maintenance Garage

Commerce Street

Comm. Tower

Storage Area

87.75

(87.76)

RW-8S

88.00

Remedial System Shed

(87.65)

MW-3

DW-1

GP-4D

(87.78)

RW-1S

RW-3D

MW-18

(87.83)

GW-4S

(88.22)

87.75

88.00

Stream

Former COSCO

West Street

Tailings Dump Area

South Cole Ave

West Central Ave

LEGEND:

- Overburden Monitoring Well
- Overburden Groundwater Recovery Well
- Bedrock Monitoring Well
- Bedrock Recovery Well
- Groundwater Contour
- (87.76) Groundwater Elevation - March 2021
- Railroad Track
- Fence line

0 15 30 60

Approximate Scale 1" ~ 60'

RAMBOLL

NYSDEC COSCO

SPRING VALLEY, NEW YORK

OVERBURDEN GROUNDWATER ELEVATION CONTOUR MAP – MARCH 2021

FILE NO. 75217

DATE APRIL 2021

3-3

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North Cole Ave

Former CPC

Maint. Garage

Reach B Diversion

Former Waterway

Comm. Tower

RW-8S

Raised Area

DPW Maintenance Garage

Commerce Street

Remedial System Shed

MW-3

DW-1
(74.32)

Storage Area

80

70

70

80

GP-4D
(89.49)

GW-4S

RW-3D
(51.59)

MW-18

RW-1S

60

Stream

Former COSCO

Tailings Dump Area

West Street

South Cole Ave

West Central Ave

LEGEND:

- Overburden Monitoring Well
- Overburden Groundwater Recovery Well
- Bedrock Monitoring Well
- Bedrock Recovery Well
- Groundwater Contour
- (74.32) Groundwater Elevation - March 2021
- Railroad Track
- Fence line

0 15 30 60

Approximate Scale 1" ~ 60'

RAMBOLL

NYSDEC COSCO

SPRING VALLEY, NEW YORK

BEDROCK GROUNDWATER ELEVATION CONTOUR MAP – MARCH 2021

FILE NO. 75217

DATE APRIL 2021

3-4

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Former CPC

Former COSCO

DPW Maintenance Garage

Comm. Tower

Storage Area

Tailings Dump Area

Stream

Reach B Diversion

Waterway

Remedial System Shed

Cole Ave

West Central Ave

West St

Street

GW-4S

GP-4D

RW-3D

MW-18

RW-8S

RW-1S

MW-3

DW-1

GW-4S		
	7/29/2020	3/8/2021
1,2-Dichloroethene, Total	2.0 U	10 U
Tetrachloroethene	1.0 U	5.0 U
Trichloroethene	**5.1**	**5.8**
Vinyl chloride	1.0 U	5.0 U

MW-18		
	7/28/2020	3/9/2021
1,2-Dichloroethene, Total	**7.1 J**	**8.4 J**
Tetrachloroethene	0.64 J	0.58 J
Trichloroethene	1.5 J	1.3 J
Vinyl chloride	**3.3 J**	**8.6**

RW-8S		
	7/29/2020	3/10/2021
1,2-Dichloroethene, Total	**10**	10 U
Tetrachloroethene	0.84 J	0.45 J
Trichloroethene	**9.5**	**5.3**
Vinyl chloride	1.8	5.0 U

RW-1S		
	7/28/2020	3/9/2021
1,2-Dichloroethene, Total	10 U	10 U
Tetrachloroethene	5.0 U	3.4 J
Trichloroethene	2.3 J	**12**
Vinyl chloride	5.0 U	5.0 U

MW-3		
	7/29/2020	3/10/2021
1,2-Dichloroethene, Total	10 U	20 U
Tetrachloroethene	5.0 U	10 U
Trichloroethene	5.0 U	10 U
Vinyl chloride	5.0 U	10 U

Notes:

1) Results are reported in micrograms per liter (µg/L).
2) NYSDEC designates New York State Department of Environmental Conservation.
3) TOGS designates Technical and Operational Guidance Series.
4) New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class GA Standards and Guidance Values, Revised June 1998.
5) To be conservative, the individual Class GA Standard is used for cis-1,2-dichloroethene and trans-1,2-dichloroethene.
6) U indicates that the compound was not detected at or above the practical quantitation limit shown.
7) J indicates that the compound was detected at an estimated concentration.
8) Values that are bold indicate exceedance of criteria.

	NYSDEC TOGs (1.1.1), Class GA Standards and Guidance Values
1,2-Dichloroethene, Total	5
Tetrachloroethene	5
Trichloroethene	5
Vinyl chloride	2

LEGEND:

- Overburden Monitoring Well
- Overburden Groundwater Recovery Well
- Bedrock Monitoring Well
- Bedrock Recovery Well
- Railroad Track
- Fence line

0 15 30 60

Approximate Scale 1" ~ 60'

RAMBOLL

NYSDEC COSCO
SPRING VALLEY, NEW YORK

SUMMARY OF OVERBURDEN GROUNDWATER ANALYTICAL RESULTS IN 2020/2021

FILE NO. 75217

DATE APRIL 2021

3-5

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Cole Ave

Former CPC

Maint Gar

Former Waterway

DPW Maintenance Garage

Raised Area

Commerce Street

Comm. Tower

Reach B Diversion

Storage Area

RW-8S

Remedial System Shed

MW-3

DW-1

RW-1S

GP-4D

RW-3D

MW-18

GW-4S

Stream

Former COSCO

Tailings Dump Area

West Central Ave

West Street

Ave

GP-4D		
	7/29/2020	3/8/2021
1,2-Dichloroethene, Total	2.0 U	10 U
Tetrachloroethene	1.0 U	5.0 U
Trichloroethene	1.0 U	5.0 U
Vinyl chloride	1.0 U	5.0 U

RW-3D		
	7/28/2020	3/9/2021
1,2-Dichloroethene, Total	**63**	**180**
Tetrachloroethene	**130**	**260**
Trichloroethene	**120**	**240**
Vinyl chloride	10 U	25 U

DW-1		
	7/28/2020	3/8/2021
1,2-Dichloroethene, Total	10 U	10 U
Tetrachloroethene	3.0 J	0.58 J
Trichloroethene	2.3 J	5.0 U
Vinyl chloride	5.0 U	5.0 U

LEGEND:

- Overburden Monitoring Well
- Overburden Groundwater Recovery Well
- Bedrock Monitoring Well
- Bedrock Recovery Well
- Railroad Track
- Fence line

0 15 30 60

Approximate Scale 1" ~ 60'

Notes:

1) Results are reported in micrograms per liter (µg/L).
2) NYSDEC designates New York State Department of Environmental Conservation.
3) TOGS designates Technical and Operational Guidance Series.
4) New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class GA Standards and Guidance Values, Revised June 1998.
5) To be conservative, the individual Class GA Standard is used for cis-1,2-dichloroethene and trans-1,2-dichloroethene.
6) U indicates that the compound was not detected at or above the practical quantitation limit shown.
7) J indicates that the compound was detected at an estimated concentration.
8) Values that are bold indicate exceedance of criteria.

	NYSDEC TOGs (1.1.1), Class GA Standards and Guidance Values
1,2-Dichloroethene, Total	5
Tetrachloroethene	5
Trichloroethene	5
Vinyl chloride	2

RAMBOLL

NYSDEC COSCO
SPRING VALLEY, NEW YORK

SUMMARY OF BEDROCK GROUNDWATER ANALYTICAL RESULTS IN 2020/2021

FILE NO. 75217

DATE APRIL 2021

3-6

TABLES

Table 3-1
Overburden and Bedrock Monitoring Well Summary
NYSDEC COSCO Site
Spring Valley, New York

Well	Geologic Unit	Measuring Point Elevation (ft amsl)	Well Diameter (inches)	Total Depth of Well (ft bmp)	Screen Interval (ft bg)
MW-3	Overburden	98.64	2.0	16.75	?-16.8
MW-18	Overburden	99.32	2.0	23.00	11.0-23.0
GW-4S	Overburden	101.49	2.0	25.00	10.0-25.0
RW-1S	Overburden	101.00	4.0	28.00	10.0-25.0
RW-8S	Overburden	97.74	4.0	25.00	10.0-25.0
DW-1	Bedrock	100.12	4.0	66.00	51.0-61.0[a]
GP-4D	Bedrock	101.01	2.0	99.00	41.0-99.0
RW-3D	Bedrock	100.54	4.0	102.50	41.0-102.5

Notes:

1. "NYSDEC" designates New York State Department of Environmental Conservation.
2. "ft amsl" designates elevations are in feet above mean sea level.
3. "ft bmp" designates feet below measuring point.
4. "ft bg" designates feet below grade.
5. Table modified from April 4, 2019 through April 4, 2020 Periodic Review Report prepared by Aztech Environmental Technologies (Aztech, 2020).
6. "[a]" designates five-foot sump present from 61.0-66.0 feet below grade.
7. RW-1S and RW-8S are inactive overburden recovery wells.
   RW-3D is an active bedrock recovery well.

Table 3-2
Summary of Water Level Measurements and Groundwater Elevations
NYSDEC COSCO Site
Spring Valley, New York

Well	Geologic Unit	Measuring Point Elevation (ft amsl)	July 2020		March 2021	
			Depth to Water (ft bmp)	Water Level Elevation (ft amsl)	Depth to Water (ft bmp)	Water Level Elevation (ft amsl)
MW-3	Overburden	98.64	11.82	86.82	10.99	87.65
MW-18	Overburden	99.32	12.68	86.64	11.49	87.83
GW-4S	Overburden	101.49	14.90	86.59	13.27	88.22
RW-1S	Overburden	101.00	14.90	86.10	13.22	87.78
RW-8S	Overburden	97.74	11.59	86.15	9.98	87.76
DW-1	Bedrock	100.12	25.45	74.67	25.80	74.32
GP-4D	Bedrock	101.01	14.61	86.40	11.52	89.49
RW-3D	Bedrock	100.54	59.58	40.96	48.95	51.59

Notes:

1. "NYSDEC" designates New York State Department of Environmental Conservation.
2. "ft amsl" designates elevations are in feet above mean sea level.
3. "ft bmp" designates feet below measuring point.

Table 3-3
Summary of Detected Constituents in Groundwater - July 2020
NYSDEC COSCO Site
Spring Valley, New York

Compounds	NYSDEC TOGs (1.1.1), Class GA Standards and Guidance Values[1]	Location ID Sample ID Sample Date	RW-1S RW-1S-072820 7/28/2020	RW-3D RW-3D-072820 7/28/2020	DW-1 DW-1-072820 7/28/2020	MW-18 MW-18-072820 7/28/2020	GW-4S GW-4S-072920 7/29/2020	RW-8S RW-8S-072920 7/29/2020
1,2-Dichloroethene, Total	5[2]		10 U	**63**	10 U	**7.1 J**	2.0 U	**10**
Tetrachloroethene	5		5.0 U	**130**	3.0 J	0.64 J	1.0 U	0.84 J
Trichloroethene	5		2.3 J	**120**	2.3 J	1.5 J	**5.1**	**9.5**
Vinyl chloride	2		5.0 U	10 U	5.0 U	**3.3 J**	1.0 U	1.8

Notes:

1. Samples analyzed for volatile organic compounds using United States Environmental Protection Agency Method 624 by Eurofins TestAmerica in Amherst, New York and Savannah, Georgia.
2. Results are reported in micrograms per liter (µg/L).
3. "NYSDEC" designates New York State Department of Environmental Conservation.
4. "TOGS" designates Technical and Operational Guidance Series.
5. [1]New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class GA Standards and Guidance Values, June 1998, with all current addendums.
6. [2]To be conservative, the individual Class GA Standard is used for cis-1,2-dichloroethene and trans-1,2-dichloroethene.
7. "U" indicates that the compound was not detected at or above the practical quantitation limit shown.
8. "J" indicates that the compound was detected at an estimated concentration.
9. Values that are bold indicate exceedance of criteria.

Table 3-4
Summary of Detected Constituents in Groundwater - March 2021
NYSDEC COSCO Site
Spring Valley, New York

Compounds	NYSDEC TOGs (1.1.1), Class GA Standards and Guidance Values[1]	Location ID	RW-1S	RW-3D	DW-1	MW-18	GW-4S	RW-8S
		Sample ID	RW-1S-030921	RW-3D-030921	DW-1-030821	MW-18-030921	GW-4S-030821	RW-8S-031021
		Sample Date	3/9/2021	3/9/2021	3/8/2021	3/9/2021	3/8/2021	3/10/2021
1,2-Dichloroethene, Total	5[2]		10 U	**180**	10 U	**8.4 J**	10 U	10 U
Tetrachloroethene	5		3.4 J	**260**	0.58 J	0.58 J	5.0 U	0.45 J
Trichloroethene	5		**12**	**240**	5.0 U	1.3 J	**5.8**	**5.3**
Vinyl chloride	2		5.0 U	25 U	5.0 U	**8.6**	5.0 U	5.0 U

Notes:

1. Samples analyzed for volatile organic compounds using United States Environmental Protection Agency Method 624 by Eurofins TestAmerica in Amherst, New York.
2. Results are reported in micrograms per liter (µg/L).
3. "NYSDEC" designates New York State Department of Environmental Conservation.
4. "TOGS" designates Technical and Operational Guidance Series.
5. [1]New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class GA Standards and Guidance Values, June 1998, with all current addendums.
6. [2]To be conservative, the individual Class GA Standard is used for cis-1,2-dichloroethene and trans-1,2-dichloroethene.
7. "U" indicates that the compound was not detected at or above the practical quantitation limit shown.
8. "J" indicates that the compound was detected at an estimated concentration.
9. Values that are bold indicate exceedance of criteria.

Table 4-1
Site Operational Costs GWE&T System and Site Monitoring, Sampling, and Reporting
NYSDEC COSCO Site
Spring Valley, New York

Summary of Approximate Costs		
Cost Items	**Amount Expended (January 1, 2020 through December 31, 2020)**	**Percent of Total Cost**
Groundwater Extraction and Treatment System Operation and Maintenance, Monitoring, Annual Site Inspection, and Reporting[a]	$33,364	68%
Semi-Annual Sampling, Monitoring, and Reporting[b]	$15,464	32%

Notes:

1. "GWE&T" designates groundwater extraction and treatment.
2. "NYSDEC" designates New York State Department of Environmental Conservation.
3. "[a]" costs include operation, maintenance, monitoring, monthly sampling, annual Site inspection, and reporting activities incurred by LaBella Associates. Reporting costs include the 2019/2020 Periodic Review Report and quarterly system monitoring reports.
4. "[b]" costs include first semi-annual sampling event, and the semi-annual post groundwater monitoring report incurred by Ramboll. Additional costs associated with subcontractor coordination are also included.

APPENDICES

APPENDIX A
SUMMARY OF SITE HISTORY

RAMBOLL

Appendix A Summary of Site History

New York State Department of Environmental Conservation (NYSDEC) Consolidated Stamp Company (COSCO) Site (ID No. 3-44-035)

Date	Description
1978	The Rockland County Department of Health (RCDOH) identified tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE), and 1,1,1-trichloroethane (TCA) in the well field operated by the Spring Valley Water Company. The COSCO Site and Continental Plastic Company (CPC) facility were identified as potential sources to the former Spring Valley Well Field Site (ID No. 3-44-018).
1979	The results of a survey performed by Spring Valley Water Company found that CPC facility was pumping 20 to 30 gallons per minute (gpm) of TCE and PCE contaminated non-contact cooling water into Reach B Diversion. In addition, COSCO facility was using TCE as part of a vapor degreasing process and discharging the rinse water into Reach B Diversion.
1980	Reach B Diversion was diverted away from the former Spring Valley Well Field Site into the West Branch of Pascack Brook.
1987-1990	GHR Engineering Associates, Inc. performed a Remedial Investigation (RI)/Feasibility Study (FS). The RI/FS was performed to evaluate potential source areas for Site-related constituents of concern (COCs) (i.e., PCE, TCE, DCE and vinyl chloride [VC]).
1990	Record of Decision (ROD) issued for the Site in March 1990. The ROD detailed selected remedies to address contamination at the COSCO Site and CPC facility. The selected remedies included: • Source area groundwater extraction and treatment by ultraviolet (UV) chemical oxidation and polishing; • Source area soil and sediment soil vapor extraction (SVE); and, • Capping of the Tailings Dump Area to prevent erosion and disturbance.
1990	The former Spring Valley Well Field Site (ID No. 3-44-018) was delisted in December 1990, and the COSCO Site and CPC facility were listed under the New York State Inactive Hazardous Waste Disposal Site Remedial Program.
1990-1992	Two post-ROD groundwater studies were conducted to evaluate groundwater flow in the bedrock aquifer. The first study was performed in the summer of 1990 by COSCO and Sara Lee Corporation[1]. The second study, a supplemental RI, was performed in 1992 by COSCO, Sara Lee, and the Spring Valley Water Company.
1997-1998	Pre-design investigation (PDI) performed by Camp Dresser and McKee on behalf of NYSDEC to fill identified gaps and evaluate the appropriateness of the remedial actions recommended in the 1990 ROD. During implementation of the PDI, the Tailings Dump Area asphalt cap was installed that satisfied the capping requirement in the 1990 ROD.
1999	1990 ROD amended in August 1999 based on the results of the PDI. The amended remedies in the 1999 ROD amendment included: • No further action for source area soils and sediments;

[1] Sara Lee Corporation previously owned certain assets of the COSCO Site (NYSDEC, 1999).

- Extraction of contaminated overburden and bedrock groundwater in the source area and treatment by chemical oxidation and polishing technologies;
- Completion/repair of the existing asphalt cap over the Tailings Dump Area; and,
- Long-term groundwater monitoring to evaluate the effectiveness of both the groundwater extraction and the Tailings Dump Area.

2003	The groundwater extraction and treatment (GWE&T) system placed into operation. The system consists of two overburden recovery wells (RW-1S and RW-8S, now inactive) and one active bedrock recovery well (RW-3D). The GWE&T system included treatment of extracted groundwater via UV light and peroxide oxidation.
2006	On-Site soil vapor intrusion (SVI) evaluation conducted by Environmental Resources Management, Inc. in January 2006.
2008-2009	Off-Site SVI evaluation performed to evaluate the residential and commercial area east of the Site. The off-Site SVI evaluation was performed by AECOM from December 2008 through March 2009.
2010	Additional off-Site SVI evaluation performed in February 2010 to compare the initial results of the samples collected. Based on detected concentrations of PCE and TCE in sub-slab soil vapor at 47 Commerce Street, a sub-slab depressurization system (SSDS) was installed to mitigate the sub-slab vapor intrusion to the property.
2011	GWE&T system design re-evaluated to maximize efficiency, minimize cost, and meet goals of 1999 ROD amendment. Redesign completed in December 2011, replacing UV light and peroxide oxidation treatment with an air stripper.
2012	A final round of off-Site SVI sampling conducted in March 2012. The final round of off-Site SVI sampling indicated no further action or mitigation was warranted.
2020	Ramboll initiates a Remedial System Optimization (RSO) to evaluate the effectiveness of the continued operation of the current GWE&T system contrasted with potential cost-effective remedial alternatives for the Site.

APPENDIX B
ANNUAL SITE INSPECTION AND PHOTOGRAPHIC LOG

NYSDEC COSCO SITE INSPECTION PHOTO LOG

Client name: NYSDEC	**Site location: Spring Valley, NY**	**Project no.: 1940075217.005.016**

Photo no. 1 Date: 3/11/2021

Description:

Monitoring well DW-1 with transducer.

Client name: NYSDEC	**Site location: Spring Valley, NY**	**Project no.: 1940075217.005.016**

Photo no. 2 Date: 3/11/2021

Description:

Monitoring well GP-4D with transducer.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 3 Date: 3/11/2021

Description:

Monitoring well GW-4S.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 4 Date: 3/11/2021

Description:

Monitoring well MW-18 (front) and recovery well RW-3D (back).

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 5 Date: 3/11/2021

Description:

Recovery well RW-1S.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 6 Date: 3/11/2021

Description:

Monitoring well MW-3.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 7 Date: 3/11/2021

Description:

Recovery well RW-8S.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 8 Date: 3/11/2021

Description:

Tailings Dump Area cap facing south.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 9 Date: 3/11/2021

Description:

Tailings Dump Area cap facing east.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 10 Date: 3/11/2021

Description:

North side of Tailings Dump Area.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 11 Date: 3/11/2021

Description:

Western edge of Tailings Dump Area with minor debris.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 12 Date: 3/11/2021

Description:

Site perimeter security fence along north side of COSCO building.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 13 Date: 3/11/2021

Description:

Site perimeter security fence along northeast edge of the Site.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 14 Date: 3/11/2021

Description:

Site perimeter security fence along north side of COSCO building.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 15 Date: 3/11/2021

Description:

Site perimeter security fence along northwest edge of the Site.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 16 Date: 3/11/2021

Description:

Damaged section of perimeter security fence along north side of the Site.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 17 Date: 3/11/2021

Description:

Damaged section of perimeter security fence adjacent to COSCO building.

Client name: NYSDEC	Site location: Spring Valley, NY	Project no.: 1940075217.005.016

Photo no. 18 Date: 3/11/2021

Description:

Damaged section of perimeter security fence adjacent to the Tailings Dump Area.

APPENDIX C
GROUNDWATER SAMPLING FIELD FORMS

RAMBOLL

Groundwater Monitoring Purging and Sampling Form

COSCO Site
Spring Valley, New York

General

Well No.: **RW-3D**
Field Personnel: Charles Bruce, Christopher Weiman
Weather Conditions: SUNNY - 90+° OUT
Physical Condition of Well: GOOD
Equipment used: TREATMENT SYSTEM SAMPLE PORT

Purging Information

Date: 07/28/2020
Purging Time: Start: —
Stop: —
Volume to be Purged (3 vol.): — gal.
Volume Purged: — gal.
Purging Method: ~~Dedicated Bailer~~ CB
Purge Water Disposal Method: Containerize, transport to, and treat at the remedial shed on-site.

Measuring Point Elevation: — ft. amsl
Well Diameter: — in.
Total Depth of Well Installed: — ft. bmp
Total Depth of Well Measured: — ft. bmp
Depth to Water: — ft. bmp
1 Well Volume: — X — = — gal.

Purge Water Characteristics

Color: Clear
Odor: None
Turbidity: none

Presence of NAPL: none
Other: —

Sampling Information

Date of Sample Collection: 07/28/2020
Time of Sample Collection: 1212
Sample Identification: RW-3D-072820
Method of Sample Collection: CB ~~Dedicated Bailer~~ Grab
Sample Description: Clear, no odor.
Containers: 3 x 40ml glass voa vials unpreserved
Type of Preservative if any: none, cool 4°C
Analytical Method Requested: VOCs by USEPA Method 624

4" well volume multiplier (gallons per foot) = 0.653 2" well volume multiplier (gallons per foot) = 0.163

Notes

Sample was taken from SAMPLE PORT RW-3D in the water TREATMENT SHED.

RAMBOLL

Groundwater Monitoring Purging and Sampling Form

COSCO Site
Spring Valley, New York

General

Well No.: **DW-1**
Field Personnel: Charles Bruce, Christopher Weiman
Weather Conditions: 90° - Sunny and Clear
Physical Condition of Well: GOOD
Equipment used: Dedicated Bailer, Solinst WL METER

Purging Information

Date: 07/28/2020
Purging Time: Start: 1105
Stop: 1220
Volume to be Purged (3 vol.): 72 gal.
Volume Purged: 73 gal.
Purging Method: Dedicated Bailer
Purge Water Disposal Method: Containerize, transport to, and treat at the remedial shed on-site.

Measuring Point Elevation: 100.12 ft. amsl
Well Diameter: 4 in.
Total Depth of Well Installed: 66.00 ft. ~~bmp~~ bg
Total Depth of Well Measured: 68.61 ft. bmp CB
Depth to Water: 29.45 ft. bmp
1 Well Volume: 39.16 X 6 = 24 gal.

Purge Water Characteristics

Color: Clear/~~Pale White~~ COLOR (WATER WAS BUBBLEY)
Odor: NONE
Turbidity: LOW

Presence of NAPL: NONE
Other:

Sampling Information

Date of Sample Collection: 07/28/2020
Time of Sample Collection: 1230 / ~~1233~~ CB
Sample Identification: DW-1-072820
Method of Sample Collection: Dedicated Bailer
Sample Description: Clear, no odor.
Containers: 3 x 40ml glass voa vials unpreserved
Type of Preservative if any: none, cool 4°C
Analytical Method Requested: VOCs by USEPA Method 624

4" well volume multiplier (gallons per foot) = 0.653 2" well volume multiplier (gallons per foot) = 0.163

Notes MS/MSD collected here @ DW-1-072820-MS / DW-1-072820-MSD

NS

RAMBOLL

Groundwater Monitoring Purging and Sampling Form

COSCO Site
Spring Valley, New York

General

Well No.: **MW-18**
Field Personnel: Charles Bruce, Christopher Weiman
Weather Conditions: Sunny, 90°+
Physical Condition of Well: GOOD
Equipment used: Dedicated Bailer, WL Meter

Purging Information

Date: 07/28/20
Purging Time: Start: 1400
Stop: 1415
Volume to be Purged (3 vol.): 6 gal.
Volume Purged: ~~6.5~~ gal.
Purging Method: Dedicated Bailer
Purge Water Disposal Method: Containerize, transport to, and treat at the remedial shed on-site.

Measuring Point Elevation: 99.32 ft. amsl
Well Diameter: 2 in.
Total Depth of Well Installed: 23.00 ft. ~~bmp~~ BD (ED)
Total Depth of Well Measured: 25.14 ft. bmp
Depth to Water: 17.68 ft. bmp
1 Well Volume: 12.46 X .163 = 2.03 gal.

Purge Water Characteristics

Color: Rust Yellow → BROWN
Odor: Metallic
Turbidity: LOW @ START, HIGH @ END

Presence of NAPL: none
Other:

Sampling Information

Date of Sample Collection: 07/28/2020
Time of Sample Collection: 14:20
Sample Identification: MW-18-072820
Method of Sample Collection: Dedicated Bailer
Sample Description: opaque brown
Containers: 3 x 40ml glass voa vials unpreserved
Type of Preservative if any: none, cool 4°C
Analytical Method Requested: VOCs by USEPA Method 624

4" well volume multiplier (gallons per foot) = 0.653 2" well volume multiplier (gallons per foot) = 0.163

Notes

RAMBOLL

Groundwater Monitoring Purging and Sampling Form

COSCO Site
Spring Valley, New York

General

Well No.: **RW-1S**
Field Personnel: Charles Bruce, Christopher Weiman
Weather Conditions: 92°, sunny.
Physical Condition of Well: Good
Equipment used: Bailer, WL Meter

Purging Information

Date: 7/28/20
Purging Time: Start: 14:00
Stop: 1455 CB
Volume to be Purged (3 vol.): 25.2 gal.
Volume Purged: 25.2 gal.
Purging Method: Dedicated Bailer
Purge Water Disposal Method: Containerize, transport to, and treat at the remedial shed on-site.

Measuring Point Elevation: 101.00 ft. amsl
Well Diameter: 4.0 in.
Total Depth of Well Installed: 28.00 ft. ~~bmp~~ bg (CB)
Total Depth of Well Measured: 28.90 ft. bmp
Depth to Water: 14.9 ft. bmp
1 Well Volume: 14.0 X 0.6 = 8.4 gal.

Purge Water Characteristics

Color: Opaque Brown
Odor: Slight organic
Turbidity: Med - high

Presence of NAPL: —
Other: —

Sampling Information

Date of Sample Collection: 07/28/2020
Time of Sample Collection: 1500
Sample Identification: RW-1S-072820
Method of Sample Collection: Dedicated Bailer
Sample Description: clear, organic odor
Containers: 3 x 40ml glass voa vials unpreserved
Type of Preservative if any: none, cool 4°C
Analytical Method Requested: VOCs by USEPA Method 624

4" well volume multiplier (gallons per foot) = 0.653 2" well volume multiplier (gallons per foot) = 0.163

Notes

RAMBOLL

Groundwater Monitoring Purging and Sampling Form

COSCO Site
Spring Valley, New York

General

Well No.: **RW-8S**
Field Personnel: Charles Bruce, Christopher Weiman
Weather Conditions: 90°, Sunny and Clear
Physical Condition of Well: GOOD
Equipment used: Water level and Dedicated Bailer

Purging Information

CB

Date: ~~7/28/20~~ 7/29/20
Purging Time: Start: 1145
Stop: 1208
Volume to be Purged (3 vol.): 21 gal.
Volume Purged: 22 gal.
Purging Method: Dedicated Bailer
Purge Water Disposal Method: Containerize, transport to, and treat at the remedial shed on-site.

Measuring Point Elevation: 97.74 ft. amsl
Well Diameter: 4 in.
Total Depth of Well Installed: 25.00 ~~28~~ ft. ~~bmp~~ Bg
Total Depth of Well Measured: 23.64 ft. bmp
Depth to Water: 11.59 ft. bmp
1 Well Volume: 12.05 X .06 = ~~.72~~ .23 gal.

Purge Water Characteristics

Color: Brown
Odor: Organic
Turbidity: High

Presence of NAPL: none
Other:

Sampling Information

Date of Sample Collection: 07/29/20
Time of Sample Collection: 1210
Sample Identification: RW-8S-072920
Method of Sample Collection: Dedicated Bailer
Sample Description: Brown, organic odor.
Containers: 3 x 40ml glass voa vials unpreserved
Type of Preservative if any: none, cool 4°C
Analytical Method Requested: VOCs by USEPA Method 624

4" well volume multiplier (gallons per foot) = 0.653 2" well volume multiplier (gallons per foot) = 0.163

Notes

RAMBOLL

Groundwater Monitoring Purging and Sampling Form

COSCO Site
Spring Valley, New York

General

Well No.: CB GW GS-4S
Field Personnel: Charles Bruce, Christopher Weiman
Weather Conditions: 85°+, SUNNY
Physical Condition of Well: GOOD
Equipment used: Dedicated Bailer, WL meter

Purging Information

Date: 7/28/2020 CB
Purging Time: 9 Start: 1035 1410
Stop: 1456
Volume to be Purged (3 vol.): 23.2 gal.
Volume Purged: ~23.2 gal.
Purging Method: Dedicated Bailer
Purge Water Disposal Method: Containerize, transport to, and treat at the remedial shed on-site.

Measuring Point Elevation: 101.49 ft. amsl
Well Diameter: ~~2~~ 4.0" in.
Total Depth of Well Installed: 25.00 ft. ~~bmp~~ BG
Total Depth of Well Measured: 27.8 ft. bmp
Depth to Water: 14.9 ft. bmp
1 Well Volume: 7.74 X 0.6 = 23.2 gal.

Purge Water Characteristics

Color: BROWN
Odor: SEWAGE
Turbidity: HIGH

Presence of NAPL: NONE
Other:

Sampling Information

Date of Sample Collection: 07/27/20
Time of Sample Collection: CB 1500
Sample Identification: GS-4S-072920 GW-4S-072920
Method of Sample Collection: Dedicated Bailer
Sample Description: Murky brown, strong organic smell
Containers: 3 x 40ml glass voa vials unpreserved
Type of Preservative if any: none, cool 4°C
Analytical Method Requested: VOCs by USEPA Method 624

4" well volume multiplier (gallons per foot) = 0.653 2" well volume multiplier (gallons per foot) = 0.163

Notes

RAMBOLL

Groundwater Monitoring Purging and Sampling Form

COSCO Site
Spring Valley, New York

General

Well No.: **MW-3**
Field Personnel: Charles Bruce, Christopher Weiman
Weather Conditions: 90°, Sunny / Clear
Physical Condition of Well: Acceptable
Equipment used: Dedicated Bailer, water level meter

Purging Information

Date: 07/29/2020
Purging Time: Start: 1110
Stop: 1155
Volume to be Purged (3 vol.): 2.2 gal.
Volume Purged: ~2.25 gal.
Purging Method: Dedicated Bailer

Measuring Point Elevation: 98.64 ft. amsl
Well Diameter: 2 in.
Total Depth of Well Installed: 16.75 ft. ~~bmp~~ log (CB)
Total Depth of Well Measured: 16.35 ft. bmp
Depth to Water: 11.82 ft. bmp
1 Well Volume: 4.53 X .163 = .74 gal.

Purge Water Disposal Method: Containerize, transport to, and ~~treat at the remedial shed on-site.~~ CB
Stage in remedial shed in sealed 5-gallon pail. Treat at remedial shed pending analytical results and approval from NYSDEC.

Purge Water Characteristics

Color: Brown
Odor: CB ~~None~~ Petrol
Turbidity: High

Presence of NAPL: none at start some appeared as we bailed
Other:

Sampling Information

Date of Sample Collection: 07/29/20
Time of Sample Collection: 1545
Sample Identification: MW-3-072920
Method of Sample Collection: Dedicated Bailer
Sample Description: Slight sheen
Containers: 3 x 40ml glass voa vials unpreserved
Type of Preservative if any: none, cool 4°C
Analytical Method Requested: VOCs by USEPA Method 624

4" well volume multiplier (gallons per foot) = 0.653 2" well volume multiplier (gallons per foot) = 0.163

Notes

Purge water has droplets of dark brown-black in it

RAMBOLL

Groundwater Monitoring Purging and Sampling Form

COSCO Site
Spring Valley, New York

General

Well No.: **GP-4D**
Field Personnel: Charles Bruce, Christopher Weiman
Weather Conditions: 85° +, SUNNY
Physical Condition of Well: GOOD, Needs new J plug
Equipment used: Dedicated Bailer, WL meter

Purging Information

Date: 7/28/2020 CW
Purging Time: 9 Start: ~~1030~~ 1410
Stop: ~~1456~~ 1600
Volume to be Purged (3 vol.): ~~4~~ 7 gal.
Volume Purged: 4/2 gal.
Purging Method: Dedicated Bailer
Purge Water Disposal Method: Containerize, transport to, and treat at the remedial shed on-site.

Measuring Point Elevation: 101.01 ft. amsl
Well Diameter: 2 in.
Total Depth of Well Installed: 99.00 ft. ~~bmp~~ BG
Total Depth of Well Measured: 99.58 ft. bmp
Depth to Water: 14.61 ft. bmp
1 Well Volume: 84.97 X .163 = 13.85 gal.

Purge Water Characteristics

Color: Clear
Odor: none
Turbidity: low

Presence of NAPL: NONE
Other:

Sampling Information

Date of Sample Collection: CW 07/29/20
Time of Sample Collection: ~~1500~~ 1605
Sample Identification: ~~GP-4D-072920~~ ~~GP-4W-072920~~/DUP-072920-~~X1~~ GP-4D- CB
Method of Sample Collection: Dedicated Bailer CB
Sample Description: Clear
Containers: 3 x 40ml glass voa vials unpreserved
Type of Preservative if any: none, cool 4°C
Analytical Method Requested: VOCs by USEPA Method 624

4" well volume multiplier (gallons per foot) = 0.653 2" well volume multiplier (gallons per foot) = 0.163

Notes COLLECTED FIELD DUP AT THIS LOCATION.

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: DW-1

Site Name: DEC COSCO site | Sampling Method: Submersible Pump | Field Personnel: SET, CDW
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3-8-2021
Project #: 1940075217 | Equipment ID#s: PID 04657, FLO | Weather: ±30°F, Sunny
Sampling Program: 1st SA sampling event | Location: DEC Cosco Site Spring Valley, NY

Well information:

Depth of Well*: 66.00 ft. bmp.
Depth to Water*: 25.80 ft. bmp.
Length of Water Column: 40.20 ft.
Well Diameter: 4.00 in.
Well Volume: 26.25 gal.

Well Volume Multipliers:

- ☐ 1 in. = 0.041 gal/ft
- ☐ 1.5 in. = 0.092 gal/ft
- ☐ 2 in. = 0.163 gal/ft
- ☑ 4 in. = 0.653 gal/ft

Measurement Point:
- ☑ Well Casing
- ☐ Protective Casing
- ☐ Other:

Screen Interval: 51'-61' ft. bmp.
Pump Intake Depth*: 59' ft. bmp.

Start Purge Time: 1050
Initial Observations: *PID:* NA
Depth to Product: na ft. bmp.
Product Thickness: na ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	25.80	13.7	6.07	0.962	322.3	8.52	3.71	500	
5	25.96	13.3	6.76	0.986	313.2	7.76	3.12	200	
10	25.93	12.8	7.03	0.966	309.1	7.47	2.15	200	
15	25.95	13.1	7.23	0.954	303.7	7.71	1.34	200	
20	25.95	13.2	7.33	0.951	296.3	7.46	0.51	200	
25	25.95	13.3	7.47	0.950	292.8	7.58	1.00	200	
30	25.95	13.3	7.44	0.955	291.8	7.95	1.71	200	
35	25.93	13.3	7.47	0.952	289.4	7.82	1.69	200	
40	25.93	13.3	7.48	0.954	287.7	7.81	1.70	200	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1130
Total volume of groundwater purged: 5 gal.

Final Observations: *Color* clear *Odor* none *Sheen/Free Product* none

Sample ID: DW-1- 030821 **Sample Time:** 1140

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	~~HCl~~ none	VOCs
125 mL	Plastic	1	No	none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40 mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	HCl ~~H3PO4~~	Total Organic Carbon
250mL	Plastic	1	No	HNO_3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL/125mL	Plastic/Plastic	2/2	No / No	None / None	

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: GP-4D

Site Name: DEC COSCO site | Sampling Method: Submersible Pump | Field Personnel: SET
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3-8-21
Project #: 1940075217 | Equipment ID#s: FA01468 / FA01464 | Weather: ±35°F, Sunny
Sampling Program: 1st SA sampling event | Location: Cosco Site, Spring Valley, NY

Well information:
Depth of Well*: 99.00 ft. bmp.
Depth to Water*: 11.52 ft. bmp.
Length of Water Column: 87.48 ft.
Well Diameter: 2.00 in.
Well Volume: 14.3 gal.

Well Volume Multipliers:
☐ 1 in. = 0.041 gal/ft
☐ 1.5 in. = 0.092 gal/ft
☑ 2 in. = 0.163 gal/ft
☐ 4 in. = 0.653 gal/ft

* Measurement Point:
☑ Well Casing
☐ Protective Casing
☐ Other:
Screen Interval: 41'-99' ft. bmp.
Pump Intake Depth*: ~94' ft. bmp.

Start Purge Time: 1340
Initial Observations: *PID:* NA
Depth to Product: NA ft. bmp.
Product Thickness: NA ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	11.52	13.0	7.00	1.144	283.8	70.30	6.92	500	
5	11.60	13.2	6.94	1.142	280.6	9.49	4.18	500	
10	11.62	13.3	6.89	1.142	279.3	8.56	2.35	400	
15	11.51	12.6	6.80	1.141	275.3	7.86	1.09	400	
20	11.52	12.5	6.79	1.141	270.8	7.74	1.09	400	
25	11.52	12.7	6.78	1.143	265.7	7.65	1.16	400	
30	11.52	12.7	6.77	1.140	258.9	7.63	1.10	400	
35	11.52	12.8	6.77	1.141	256.8	7.59	1.11	400	
40	11.52	12.7	6.77	1.142	255.6	7.52	1.13	400	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1420
Total volume of groundwater purged: 5 gal.

Final Observations: *Color* Clear *Odor* _____ *Sheen/Free Product* None

Sample ID: GP-4D- 030821 **Sample Time:** 1430

Analytical Parameters: Eurofins SP 3/8/21

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	~~3~~ 6	No	~~HCl~~ none	~~8260~~ VOCs
125mL	Plastic	1 2	No	none	Total Alkalinity
250 mL	Plastic	~~1~~ 2	Yes	HNO3	Dissolved Iron/Manganese
40mL	Glass VOA	~~3~~ 6	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	~~1~~ 2	No	NaOH, ZnAC	Sulfide
40 mL	~~Glass~~ Amber VOA	~~2~~ 4	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	~~1~~ 2	No	HNO3	Major Cations (magnesium, sodium, calcium, and potassium)
60mL / 125mL	plastic / plastic	~~24~~ / 24	No / No	none / none	and Anions (chloride, sulfate, nitrate, nitrite)

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: GW-4S

Site Name: DEC COSCO site | Sampling Method: low flow | Field Personnel: CDL
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 5/8/20
Project #: 1940075217 | Equipment ID#s: 2111 / 1058 | Weather: 45° sunny
Sampling Program: 1st SA sampling event | Location: COSCO Site Spring Valley, NY

Well information:
Depth of Well*: 25.00 ft. bmp.
Depth to Water*: 13.27 ft. bmp.
Length of Water Column: 11.73 ft.
Well Diameter: 2.00 in.
Well Volume: 7.66 gal.

Well Volume Multipliers:
☐ 1 in. = 0.041 gal/ft
☐ 1.5 in. = 0.092 gal/ft
☐ 2 in. = 0.163 gal/ft
☒ 4 in. = 0.653 gal/ft

*** Measurement Point:**
☒ Well Casing
☐ Protective Casing
☐ Other:
Screen Interval: 10'-25' ft. bmp.
Pump Intake Depth*: ft. bmp.

Start Purge Time: 1350
Initial Observations: *PID:*
Depth to Product: ft. bmp.
Product Thickness: ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	13.27	12.4	7.25	0.96	149.9	8.17	41.8	500	
5	14.12	11.7	7.11	0.95	129.1	.35	53.6	400	
10	14.08	11.9	7.12	0.96	108.3	.05	62.1	400	
15	14.05	12.0	7.14	0.97	91.6	.13	61.1	460	
20	14.06	12.1	7.14	0.97	86.6	.18	58.3	450	
25	14.05	12.1	7.15	0.96	80.0	.01	44.7	450	
30	14.04	12.1	7.15	0.96	75.1	.02	43.0	450	
35	14.04	12.0	7.15	0.97	71.9	.01	42.5	450	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1425
Total volume of groundwater purged: 8 gal.
Final Observations: *Color* Clear/slight tint *Odor* ~~None~~ not biological *Sheen/Free Product* none

Sample ID: GW-4S- 030821 **Sample Time:** 1430

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	~~HCl~~ None	PP VOCs
125mL	Plastic	1	No	None	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	No	HNO3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	None / None	

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: RW-3D

Site Name: DEC COSCO site | Sampling Method: Low Flow | Field Personnel: CDW SET
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 03/09/2021
Project #: 1940075217 | Equipment ID#s: FA00468/FA01058 | Weather: 55° sunny
Sampling Program: 1st SA sampling event | Location: DEC COSCO site SPRING VALLEY NY

Well information:

Depth of Well*: 102.50 ft. bmp.
Depth to Water*: 48.95 ft. bmp.
Length of Water Column: 53.55 ft.
Well Diameter: 4.00 in.
Well Volume: 34.96 gal.

Well Volume Multipliers:

☐ 1 in. = 0.041 gal/ft
☐ 1.5 in. = 0.092 gal/ft
☐ 2 in. = 0.163 gal/ft
☑ 4 in. = 0.653 gal/ft

* Measurement Point:
~~Well Casing~~ (S1) 3/9/21
☒ Protective Casing
☐ Other:

Screen Interval: 41'-102.5' ft. bmp.
Pump Intake Depth*: 92' ft. bmp.

Start Purge Time: 1050
Initial Observations: *PID:* —
Depth to Product: — ft. bmp.
Product Thickness: — ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	48.95	13.1	7.14	1309	272.9	31.94	78.8	400	
5	49.04	13.2	7.38	1311	265.3	4.41	63.8	400	
10	49.04	13.3	7.43	1310	253.6	3.62	47.2	350	
15	49.05	13.3	7.46	1316	238.7	3.44	38.5	350	
20	49.03	13.3	7.48	1309	216.9	3.37	25.4	350	
25	49.03	13.4	7.50	1313	203.7	3.31	20.2	350	
30	49.02	13.3	7.50	1315	198.5	3.35	16.1	350	
35	49.04	13.3	7.51	1314	194.6	3.33	16.3	350	
40	49.02	13.2	7.51	1316	191.1	3.33	15.9	350	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1130
Total volume of groundwater purged: 5 gal.

Final Observations: *Color* Clear *Odor* none *Sheen/Free Product* none

Sample ID: RW-3D-030921 **Sample Time:** 1135

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	~~(S1) 3g/L HCl~~ none	PP VOCs
125mL	Plastic	1	NO	none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40mL	GlassVOA	3	NO	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	NO	HNO_3	Major Cations (magnesium, sodium, calcium, and potassium)
60mL / 125mL	plastic / plastic	2 / 2	NO / NO	None / None	and Anions (chloride, sulfate, nitrate, nitrite)

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-18

Site Name: DEC COSCO site | Sampling Method: low flow | Field Personnel: CDW
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 03/09/21
Project #: 1940075217 | Equipment ID#s: 2111 / 1414 | Weather: 55 n sunny
Sampling Program: 1st SA sampling event | Location: DEC COSCO Site Spring Valley, NY

Well information:

Depth of Well*:	23.00	ft. bmp.
Depth to Water*:	11.49	ft. bmp.
Length of Water Column:	11.51	ft.
Well Diameter:	2.00	in.
Well Volume:	1.87	gal.

Well Volume Multipliers:
- ☐ 1 in. = 0.041 gal/ft
- ☐ 1.5 in. = 0.092 gal/ft
- ☑ 2 in. = 0.163 gal/ft
- ☐ 4 in. = 0.653 gal/ft

* Measurement Point:
- ☑ Well Casing
- ☐ Protective Casing
- ☐ Other:

Screen Interval: 11'-23' ft. bmp.
Pump Intake Depth*: 18 ft. bmp.

Start Purge Time: 1340
Initial Observations: *PID:* —
Depth to Product: — ft. bmp.
Product Thickness: — ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	11.49	12.7	6.56	0.82	-45.6	.06	over range	500	
5	12.59	12.8	6.73	0.88	-65.8	0.00	over range	400	
10	12.57	13.0	6.76	0.90	-77.4	0.00	3205	300	
15	12.61	12.9	6.74	0.90	-80.8	0.00	887	300	
20	12.65	12.9	6.73	0.91	-81.5	0.00	128	300	
25	12.66	12.9	6.73	0.91	-82.7	0.00	97.3	300	
30	12.67	12.9	6.74	0.92	-83.5	0.00	92.4	300	
35	12.72	12.9	6.73	.91	-83.5	0.00	55.5	350	
40	12.73	12.9	6.73	.91	-83.7	0.00	30.8	300	
45	12.73	12.9	6.74	0.92	-83.3	0.00	17.2	300	
50	12.69	12.9	6.74	.91	-84.3	0.00	16.1	300	
55	12.70	12.9	6.74	0.91	-84.4	0.00	15.6	300	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1435
Total volume of groundwater purged: 7.5 gal.

Final Observations: *Color* clear *Odor* ~~Acid~~ Petrol/chem *Sheen/Free Product* none

Sample ID: MW-18- 030921 **Sample Time:** 1440

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	~~HCl~~ none	PP VOCs
125 mL	Plastic	1	No	none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H2PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	No	HNO_3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	None / None	

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: RW-1S

Site Name: DEC COSCO site | Sampling Method: Submersible pump | Field Personnel: SET
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3-9-21
Project #: 1940075217 | Equipment ID#s: PAD6468/PAD1058 | Weather: ±55°F, Sunny
Sampling Program: 1st SA sampling event | Location: DEC Cosco Site Spring Valley, NY

Well information:

Depth of Well*: 28.00 ft. bmp.
Depth to Water*: 13.22 ft. bmp.
Length of Water Column: 14.78 ft.
Well Diameter: 4.00 in.
Well Volume: 9.65 gal.

Well Volume Multipliers:

- ☐ 1 in. = 0.041 gal/ft
- ☐ 1.5 in. = 0.092 gal/ft
- ☐ 2 in. = 0.163 gal/ft
- ☑ 4 in. = 0.653 gal/ft

*** Measurement Point:**

- ☐ Well Casing
- ☑ Protective Casing
- ☐ Other:

Screen Interval: 10'-25' ft. bmp.
Pump Intake Depth*: 20' ft. bmp.

Start Purge Time: 1340
Initial Observations: *PID:* NA

Depth to Product: NA ft. bmp.
Product Thickness: NA ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	13.22	12.8	7.38	1.287	100.7	5.06	50.9	800	
5	13.36	12.7	7.04	1.270	58.9	0.69	45.1	800	
10	13.42	12.6	6.97	1.227	72.8	0.56	23.7	800	
15	13.42	12.6	6.93	1.215	62.4	0.58	15.5	800	
20	13.42	12.7	6.90	1.196	61.3	0.64	14.8	800	
25	13.42	12.7	6.85	1.157	64.6	0.65	14.6	800	
30	13.42	12.7	6.83	1.141	70.1	0.67	14.1	800	
35	13.42	12.7	6.81	1.133	73.4	0.69	13.8	800	
40	13.42	12.7	6.80	1.110	75.2	0.71	13.5	800	
45	13.42	12.6	6.77	1.100	81.1	0.72	13.1	800	
50	13.42	12.6	6.75	1.082	85.1	0.73	12.9	800	
55	13.42	12.7	6.76	1.071	89.1	0.72	12.7	800	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1435
Total volume of groundwater purged: 10 gal.

Final Observations: *Color* clear *Odor* none *Sheen/Free Product* none

Sample ID: RW-1S- 030921 / RW-1S-MS-030921 / RW-1S-MSD-030921 **Sample Time:** 1445

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	(3) 3 9	No	~~HCl~~ None	PP VOCs
125mL	Plastic	3/9/21 1	No	None	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40 mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	No	HNO3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	None / None	

Notes: Pump was pumping 800mL/min at bottling
MS/MSD collected here for PP VOCs

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-3

Site Name: DEC COSCO site | Sampling Method: Submersible pump | Field Personnel: SET & CDW
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3/10/21
Project #: 1940075217 | Equipment ID#s: FA004168 / FA01058 | Weather: ±45°F, Sunny
Sampling Program: 1st SA sampling event | Location: DEC Cosco Site, Spring Valley, NY

Well information:

Depth of Well*: 16.75 ft. bmp.
Depth to Water*: 10.99 ft. bmp.
Length of Water Column: 5.76 ft.
Well Diameter: 2.00 in.
Well Volume: 0.94 gal.

Well Volume Multipliers:

☐ 1 in. = 0.041 gal/ft
☐ 1.5 in. = 0.092 gal/ft
☑ 2 in. = 0.163 gal/ft
☐ 4 in. = 0.653 gal/ft

* Measurement Point:

☑ Well Casing
☐ Protective Casing
☐ Other:

Screen Interval: ?-16.75' ft. bmp.
Pump Intake Depth*: 15' ft. bmp.

Start Purge Time: 1035
Initial Observations: *PID:* NA

Depth to Product: NA ft. bmp.
Product Thickness: NA ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	10.99	11.3	6.42	1.994	89.7	4.93	784	400 (S) 3/10/21	
5	11.85	11.3	6.22	2.217	41.0	2.19	42.1	~~400~~ 250	
10	12.00	11.2	6.16	2.439	50.5	2.25	18.0	~~400~~ 250	
15	11.95	11.2	6.10	2.483	55.0	2.19	17.5	250	
20	12.05	11.3	6.09	2.570	59.2	2.00	8.06	250	
25	12.09	11.3	6.07	2.606	62.6	2.09	5.04	250	
30	12.06	11.4	6.06	2.627	67.1	2.09	5.07	250	
35	12.01	11.3	6.06	2.653	70.2	2.08	5.05	250	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1110
Total volume of groundwater purged: 2.5 gal.

Final Observations: *Color* clear *Odor* none *Sheen/Free Product* (S) 3/10/21 ~~None~~ yes, iridescent sheen

Sample ID: MW-3- 031021 **Sample Time:** 1115

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	(S) ~~HCl~~ none	VOCs
125 mL	Plastic	1	No	3/10/21 none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO_3	Dissolved Iron/Manganese
40 mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H_3PO_4~~ HCl	Total Organic Carbon
250 mL	Plastic	1	No	HNO_3	Major Cations (magnesium, sodium, calcium, and potassium)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	None / None	and Anions (chloride, sulfate, nitrate, nitrite)

Notes: Well went dry during sampling, but all bottles were filled

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: RW-8S

Site Name: DEC COSCO site | Sampling Method: low flow | Field Personnel: CDV
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3/10/21
Project #: 1940075217 | Equipment ID#s: PID 2111 / 12164 | Weather: 50°, Sunny
Sampling Program: 1st SA sampling event | Location: DEC Cosco Site Spring Valley, NY

Well information:

Depth of Well*:	25.00	ft. bmp.
Depth to Water*:	9.98	ft. bmp.
Length of Water Column:	15.02	ft.
Well Diameter:	4.00	in.
Well Volume:	9.81	gal.

Well Volume Multipliers:

- ☐ 1 in. = 0.041 gal/ft
- ☐ 1.5 in. = 0.092 gal/ft
- ☐ 2 in. = 0.163 gal/ft
- ☒ 4 in. = 0.653 gal/ft

* Measurement Point:

- ☒ Well Casing
- ☐ Protective Casing
- ☐ Other:

Screen Interval: 10'-25' ft. bmp.
Pump Intake Depth*: 20 ft. bmp.

Start Purge Time: 1115
Initial Observations: *PID:* —
Depth to Product: none ft. bmp.
Product Thickness: none ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	9.98	13.8	6.73	6.88	127.0	7.18	51.3	800	
5	10.28	7.0	6.83	5.11	112.8	6.83	43.3	700	
10	10.41	6.9	6.77	4.73	101.0	6.81	36.1	325	
15	10.67	7.0	6.75	4.01	92.7	6.77	35.9	500	
20	10.81	6.9	6.77	10.14	82.7	6.52	33.6	500	
25	10.88	6.9	6.82	10.11	79.9	6.51	32.0	500	
30	10.89	6.9	6.82	10.11	77.2	6.57	31.6	500	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1145
Total volume of groundwater purged: 7 gal.

Final Observations: *Color* clear *Odor* metallic *Sheen/Free Product* no

Sample ID: RW-8S- 031021 **Sample Time:** 1150

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	~~HCl~~ none	VOCs
125mL	Plastic	1	No	4/9/21 none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	No	HNO_3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	none / none	

Notes:

APPENDIX D
SUMMARY OF LABORATORY ANALYTICAL RESULTS

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173063-1

Client Sample ID: RW-3D-072820
Date Collected: 07/28/20 12:12
Date Received: 07/29/20 10:30

Lab Sample ID: 480-173063-1
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	0.77	ug/L			07/29/20 20:54	2
1,1,2,2-Tetrachloroethane	ND		10	0.52	ug/L			07/29/20 20:54	2
1,1,2-Trichloroethane	ND		10	0.96	ug/L			07/29/20 20:54	2
1,1-Dichloroethane	ND		10	1.2	ug/L			07/29/20 20:54	2
1,1-Dichloroethene	ND		10	1.7	ug/L			07/29/20 20:54	2
1,2-Dichlorobenzene	ND		10	0.89	ug/L			07/29/20 20:54	2
1,2-Dichloroethane	ND		10	1.2	ug/L			07/29/20 20:54	2
1,2-Dichloroethene, Total	**63**		20	6.4	ug/L			07/29/20 20:54	2
1,2-Dichloropropane	ND		10	1.2	ug/L			07/29/20 20:54	2
1,3-Dichlorobenzene	ND		10	1.1	ug/L			07/29/20 20:54	2
1,4-Dichlorobenzene	ND		10	1.0	ug/L			07/29/20 20:54	2
2-Chloroethyl vinyl ether	ND		50	3.7	ug/L			07/29/20 20:54	2
Acrolein	ND		200	35	ug/L			07/29/20 20:54	2
Acrylonitrile	ND		100	3.8	ug/L			07/29/20 20:54	2
Benzene	ND		10	1.2	ug/L			07/29/20 20:54	2
Bromodichloromethane	ND		10	1.1	ug/L			07/29/20 20:54	2
Bromoform	ND		10	0.94	ug/L			07/29/20 20:54	2
Bromomethane	ND		10	2.4	ug/L			07/29/20 20:54	2
Carbon tetrachloride	ND		10	1.0	ug/L			07/29/20 20:54	2
Chlorobenzene	ND		10	0.95	ug/L			07/29/20 20:54	2
Chlorodibromomethane	ND		10	0.83	ug/L			07/29/20 20:54	2
Chloroethane	ND		10	1.7	ug/L			07/29/20 20:54	2
Chloroform	ND		10	1.1	ug/L			07/29/20 20:54	2
Chloromethane	ND		10	1.3	ug/L			07/29/20 20:54	2
cis-1,3-Dichloropropene	ND		10	0.66	ug/L			07/29/20 20:54	2
Ethylbenzene	ND		10	0.93	ug/L			07/29/20 20:54	2
Methylene Chloride	ND		10	1.6	ug/L			07/29/20 20:54	2
Tetrachloroethene	**130**		10	0.68	ug/L			07/29/20 20:54	2
Toluene	ND		10	0.91	ug/L			07/29/20 20:54	2
trans-1,2-Dichloroethene	ND		10	1.2	ug/L			07/29/20 20:54	2
trans-1,3-Dichloropropene	ND		10	0.88	ug/L			07/29/20 20:54	2
Trichloroethene	**120**		10	1.2	ug/L			07/29/20 20:54	2
Vinyl chloride	ND		10	1.5	ug/L			07/29/20 20:54	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*68 - 130*		*07/29/20 20:54*	*2*
4-Bromofluorobenzene (Surr)	*98*		*76 - 123*		*07/29/20 20:54*	*2*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*07/29/20 20:54*	*2*
Toluene-d8 (Surr)	*101*		*77 - 120*		*07/29/20 20:54*	*2*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173063-1

Client Sample ID: DW-1-072820
Date Collected: 07/28/20 12:30
Date Received: 07/29/20 10:30

Lab Sample ID: 480-173063-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			07/29/20 21:19	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			07/29/20 21:19	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			07/29/20 21:19	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			07/29/20 21:19	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			07/29/20 21:19	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			07/29/20 21:19	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			07/29/20 21:19	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			07/29/20 21:19	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			07/29/20 21:19	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			07/29/20 21:19	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			07/29/20 21:19	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			07/29/20 21:19	1
Acrolein	ND		100	17	ug/L			07/29/20 21:19	1
Acrylonitrile	ND		50	1.9	ug/L			07/29/20 21:19	1
Benzene	ND		5.0	0.60	ug/L			07/29/20 21:19	1
Bromodichloromethane	ND		5.0	0.54	ug/L			07/29/20 21:19	1
Bromoform	ND		5.0	0.47	ug/L			07/29/20 21:19	1
Bromomethane	ND		5.0	1.2	ug/L			07/29/20 21:19	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			07/29/20 21:19	1
Chlorobenzene	ND		5.0	0.48	ug/L			07/29/20 21:19	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			07/29/20 21:19	1
Chloroethane	ND		5.0	0.87	ug/L			07/29/20 21:19	1
Chloroform	ND		5.0	0.54	ug/L			07/29/20 21:19	1
Chloromethane	ND		5.0	0.64	ug/L			07/29/20 21:19	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			07/29/20 21:19	1
Ethylbenzene	ND		5.0	0.46	ug/L			07/29/20 21:19	1
Methylene Chloride	ND		5.0	0.81	ug/L			07/29/20 21:19	1
Tetrachloroethene	**3.0**	**J**	5.0	0.34	ug/L			07/29/20 21:19	1
Toluene	ND		5.0	0.45	ug/L			07/29/20 21:19	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			07/29/20 21:19	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			07/29/20 21:19	1
Trichloroethene	**2.3**	**J**	5.0	0.60	ug/L			07/29/20 21:19	1
Vinyl chloride	ND		5.0	0.75	ug/L			07/29/20 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*68 - 130*		*07/29/20 21:19*	*1*
4-Bromofluorobenzene (Surr)	*97*		*76 - 123*		*07/29/20 21:19*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*07/29/20 21:19*	*1*
Toluene-d8 (Surr)	*103*		*77 - 120*		*07/29/20 21:19*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173063-1

Client Sample ID: MW-18-072820
Date Collected: 07/28/20 14:20
Date Received: 07/29/20 10:30

Lab Sample ID: 480-173063-3
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			07/29/20 21:42	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			07/29/20 21:42	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			07/29/20 21:42	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			07/29/20 21:42	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			07/29/20 21:42	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			07/29/20 21:42	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			07/29/20 21:42	1
1,2-Dichloroethene, Total	**7.1**	**J**	10	3.2	ug/L			07/29/20 21:42	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			07/29/20 21:42	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			07/29/20 21:42	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			07/29/20 21:42	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			07/29/20 21:42	1
Acrolein	ND		100	17	ug/L			07/29/20 21:42	1
Acrylonitrile	ND		50	1.9	ug/L			07/29/20 21:42	1
Benzene	ND		5.0	0.60	ug/L			07/29/20 21:42	1
Bromodichloromethane	ND		5.0	0.54	ug/L			07/29/20 21:42	1
Bromoform	ND		5.0	0.47	ug/L			07/29/20 21:42	1
Bromomethane	ND		5.0	1.2	ug/L			07/29/20 21:42	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			07/29/20 21:42	1
Chlorobenzene	ND		5.0	0.48	ug/L			07/29/20 21:42	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			07/29/20 21:42	1
Chloroethane	ND		5.0	0.87	ug/L			07/29/20 21:42	1
Chloroform	ND		5.0	0.54	ug/L			07/29/20 21:42	1
Chloromethane	ND		5.0	0.64	ug/L			07/29/20 21:42	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			07/29/20 21:42	1
Ethylbenzene	ND		5.0	0.46	ug/L			07/29/20 21:42	1
Methylene Chloride	ND		5.0	0.81	ug/L			07/29/20 21:42	1
Tetrachloroethene	**0.64**	**J**	5.0	0.34	ug/L			07/29/20 21:42	1
Toluene	ND		5.0	0.45	ug/L			07/29/20 21:42	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			07/29/20 21:42	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			07/29/20 21:42	1
Trichloroethene	**1.5**	**J**	5.0	0.60	ug/L			07/29/20 21:42	1
Vinyl chloride	**3.3**	**J**	5.0	0.75	ug/L			07/29/20 21:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*68 - 130*		*07/29/20 21:42*	*1*
4-Bromofluorobenzene (Surr)	*96*		*76 - 123*		*07/29/20 21:42*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*07/29/20 21:42*	*1*
Toluene-d8 (Surr)	*102*		*77 - 120*		*07/29/20 21:42*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173063-1

Client Sample ID: RW-1S-072820
Date Collected: 07/28/20 15:00
Date Received: 07/29/20 10:30

Lab Sample ID: 480-173063-5
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			07/29/20 22:31	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			07/29/20 22:31	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			07/29/20 22:31	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			07/29/20 22:31	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			07/29/20 22:31	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			07/29/20 22:31	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			07/29/20 22:31	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			07/29/20 22:31	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			07/29/20 22:31	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			07/29/20 22:31	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			07/29/20 22:31	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			07/29/20 22:31	1
Acrolein	ND		100	17	ug/L			07/29/20 22:31	1
Acrylonitrile	ND		50	1.9	ug/L			07/29/20 22:31	1
Benzene	ND		5.0	0.60	ug/L			07/29/20 22:31	1
Bromodichloromethane	ND		5.0	0.54	ug/L			07/29/20 22:31	1
Bromoform	ND		5.0	0.47	ug/L			07/29/20 22:31	1
Bromomethane	ND		5.0	1.2	ug/L			07/29/20 22:31	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			07/29/20 22:31	1
Chlorobenzene	ND		5.0	0.48	ug/L			07/29/20 22:31	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			07/29/20 22:31	1
Chloroethane	ND		5.0	0.87	ug/L			07/29/20 22:31	1
Chloroform	ND		5.0	0.54	ug/L			07/29/20 22:31	1
Chloromethane	ND		5.0	0.64	ug/L			07/29/20 22:31	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			07/29/20 22:31	1
Ethylbenzene	ND		5.0	0.46	ug/L			07/29/20 22:31	1
Methylene Chloride	ND		5.0	0.81	ug/L			07/29/20 22:31	1
Tetrachloroethene	ND		5.0	0.34	ug/L			07/29/20 22:31	1
Toluene	ND		5.0	0.45	ug/L			07/29/20 22:31	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			07/29/20 22:31	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			07/29/20 22:31	1
Trichloroethene	**2.3**	**J**	5.0	0.60	ug/L			07/29/20 22:31	1
Vinyl chloride	ND		5.0	0.75	ug/L			07/29/20 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*68 - 130*		*07/29/20 22:31*	*1*
4-Bromofluorobenzene (Surr)	*97*		*76 - 123*		*07/29/20 22:31*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*07/29/20 22:31*	*1*
Toluene-d8 (Surr)	*102*		*77 - 120*		*07/29/20 22:31*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173177-1

Client Sample ID: RW-8S-072920
Date Collected: 07/29/20 12:10
Date Received: 07/30/20 10:30

Lab Sample ID: 480-173177-1
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.37	ug/L			08/05/20 14:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.62	ug/L			08/05/20 14:02	1
1,1,2-Trichloroethane	ND	UJ	1.0	0.33	ug/L			08/05/20 14:02	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/05/20 14:02	1
1,1-Dichloroethene	ND		1.0	0.36	ug/L			08/05/20 14:02	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			08/05/20 14:02	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			08/05/20 14:02	1
1,2-Dichloroethene, Total	**10**		2.0	0.74	ug/L			08/05/20 14:02	1
1,2-Dichloropropane	ND		1.0	0.67	ug/L			08/05/20 14:02	1
1,3-Dichlorobenzene	ND		1.0	0.43	ug/L			08/05/20 14:02	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			08/05/20 14:02	1
2-Chloroethyl vinyl ether	ND	H	10	5.0	ug/L			08/05/20 14:02	1
Acrolein	ND	H	20	8.7	ug/L			08/05/20 14:02	1
Acrylonitrile	ND	H	20	4.6	ug/L			08/05/20 14:02	1
Benzene	ND		1.0	0.43	ug/L			08/05/20 14:02	1
Bromoform	ND		1.0	0.43	ug/L			08/05/20 14:02	1
Bromomethane	ND	* UJ	5.0	2.5	ug/L			08/05/20 14:02	1
Carbon tetrachloride	ND		1.0	0.33	ug/L			08/05/20 14:02	1
Chlorobenzene	ND		1.0	0.26	ug/L			08/05/20 14:02	1
Chlorodibromomethane	ND	UJ	1.0	0.32	ug/L			08/05/20 14:02	1
Chloroethane	ND	UJ	5.0	2.5	ug/L			08/05/20 14:02	1
Chloroform	ND		1.0	0.50	ug/L			08/05/20 14:02	1
Chloromethane	ND		1.0	0.40	ug/L			08/05/20 14:02	1
cis-1,3-Dichloropropene	ND		1.0	0.40	ug/L			08/05/20 14:02	1
Bromodichloromethane	ND		1.0	0.44	ug/L			08/05/20 14:02	1
Ethylbenzene	ND		1.0	0.33	ug/L			08/05/20 14:02	1
Methylene Chloride	ND		5.0	2.5	ug/L			08/05/20 14:02	1
Tetrachloroethene	**0.84**	**J**	1.0	0.74	ug/L			08/05/20 14:02	1
Toluene	ND		1.0	0.48	ug/L			08/05/20 14:02	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			08/05/20 14:02	1
trans-1,3-Dichloropropene	ND		1.0	0.42	ug/L			08/05/20 14:02	1
Trichloroethene	**9.5**		1.0	0.48	ug/L			08/05/20 14:02	1
Vinyl chloride	**1.8**		1.0	0.50	ug/L			08/05/20 14:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 140*		*08/05/20 14:02*	*1*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*		*08/05/20 14:02*	*1*
Toluene-d8 (Surr)	*112*		*60 - 140*		*08/05/20 14:02*	*1*
Dibromofluoromethane (Surr)	*114*		*60 - 140*		*08/05/20 14:02*	*1*

ARF 05/04/2021

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173177-1

Client Sample ID: GW-4S-072920
Date Collected: 07/29/20 15:00
Date Received: 07/30/20 10:30

Lab Sample ID: 480-173177-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.37	ug/L			08/05/20 14:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.62	ug/L			08/05/20 14:25	1
1,1,2-Trichloroethane	ND	UJ	1.0	0.33	ug/L			08/05/20 14:25	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/05/20 14:25	1
1,1-Dichloroethene	ND		1.0	0.36	ug/L			08/05/20 14:25	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			08/05/20 14:25	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			08/05/20 14:25	1
1,2-Dichloroethene, Total	ND		2.0	0.74	ug/L			08/05/20 14:25	1
1,2-Dichloropropane	ND		1.0	0.67	ug/L			08/05/20 14:25	1
1,3-Dichlorobenzene	ND		1.0	0.43	ug/L			08/05/20 14:25	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			08/05/20 14:25	1
2-Chloroethyl vinyl ether	ND	H	10	5.0	ug/L			08/05/20 14:25	1
Acrolein	ND	H	20	8.7	ug/L			08/05/20 14:25	1
Acrylonitrile	ND	H	20	4.6	ug/L			08/05/20 14:25	1
Benzene	ND		1.0	0.43	ug/L			08/05/20 14:25	1
Bromoform	ND		1.0	0.43	ug/L			08/05/20 14:25	1
Bromomethane	ND	UJ	5.0	2.5	ug/L			08/05/20 14:25	1
Carbon tetrachloride	ND		1.0	0.33	ug/L			08/05/20 14:25	1
Chlorobenzene	ND		1.0	0.26	ug/L			08/05/20 14:25	1
Chlorodibromomethane	ND	UJ	1.0	0.32	ug/L			08/05/20 14:25	1
Chloroethane	ND	UJ	5.0	2.5	ug/L			08/05/20 14:25	1
Chloroform	ND		1.0	0.50	ug/L			08/05/20 14:25	1
Chloromethane	ND		1.0	0.40	ug/L			08/05/20 14:25	1
cis-1,3-Dichloropropene	ND		1.0	0.40	ug/L			08/05/20 14:25	1
Bromodichloromethane	ND		1.0	0.44	ug/L			08/05/20 14:25	1
Ethylbenzene	ND		1.0	0.33	ug/L			08/05/20 14:25	1
Methylene Chloride	ND		5.0	2.5	ug/L			08/05/20 14:25	1
Tetrachloroethene	ND		1.0	0.74	ug/L			08/05/20 14:25	1
Toluene	ND		1.0	0.48	ug/L			08/05/20 14:25	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			08/05/20 14:25	1
trans-1,3-Dichloropropene	ND		1.0	0.42	ug/L			08/05/20 14:25	1
Trichloroethene	**5.1**		1.0	0.48	ug/L			08/05/20 14:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			08/05/20 14:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*114*		*60 - 140*		*08/05/20 14:25*	*1*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*08/05/20 14:25*	*1*
Toluene-d8 (Surr)	*112*		*60 - 140*		*08/05/20 14:25*	*1*
Dibromofluoromethane (Surr)	*112*		*60 - 140*		*08/05/20 14:25*	*1*

ARF 05/04/2021

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173177-1

Client Sample ID: MW-3-072920
Date Collected: 07/29/20 15:45
Date Received: 07/30/20 10:30

Lab Sample ID: 480-173177-3
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	1.9	ug/L			08/05/20 16:45	5
1,1,2,2-Tetrachloroethane	ND		5.0	3.1	ug/L			08/05/20 16:45	5
1,1,2-Trichloroethane	ND	UJ	5.0	1.7	ug/L			08/05/20 16:45	5
1,1-Dichloroethane	ND		5.0	1.9	ug/L			08/05/20 16:45	5
1,1-Dichloroethene	ND		5.0	1.8	ug/L			08/05/20 16:45	5
1,2-Dichlorobenzene	ND		5.0	1.9	ug/L			08/05/20 16:45	5
1,2-Dichloroethane	ND	*	5.0	2.5	ug/L			08/05/20 16:45	5
1,2-Dichloroethene, Total	ND		10	3.7	ug/L			08/05/20 16:45	5
1,2-Dichloropropane	ND		5.0	3.4	ug/L			08/05/20 16:45	5
1,3-Dichlorobenzene	ND		5.0	2.2	ug/L			08/05/20 16:45	5
1,4-Dichlorobenzene	ND		5.0	2.3	ug/L			08/05/20 16:45	5
2-Chloroethyl vinyl ether	ND	H	50	25	ug/L			08/05/20 16:45	5
Acrolein	ND	H	100	44	ug/L			08/05/20 16:45	5
Acrylonitrile	ND	H	100	23	ug/L			08/05/20 16:45	5
Benzene	ND		5.0	2.2	ug/L			08/05/20 16:45	5
Bromoform	ND		5.0	2.2	ug/L			08/05/20 16:45	5
Bromomethane	ND	UJ	25	13	ug/L			08/05/20 16:45	5
Carbon tetrachloride	ND		5.0	1.7	ug/L			08/05/20 16:45	5
Chlorobenzene	ND		5.0	1.3	ug/L			08/05/20 16:45	5
Chlorodibromomethane	ND	UJ	5.0	1.6	ug/L			08/05/20 16:45	5
Chloroethane	ND	UJ	25	13	ug/L			08/05/20 16:45	5
Chloroform	ND		5.0	2.5	ug/L			08/05/20 16:45	5
Chloromethane	ND		5.0	2.0	ug/L			08/05/20 16:45	5
cis-1,3-Dichloropropene	ND		5.0	2.0	ug/L			08/05/20 16:45	5
Bromodichloromethane	ND		5.0	2.2	ug/L			08/05/20 16:45	5
Ethylbenzene	ND		5.0	1.7	ug/L			08/05/20 16:45	5
Methylene Chloride	ND		25	13	ug/L			08/05/20 16:45	5
Tetrachloroethene	ND		5.0	3.7	ug/L			08/05/20 16:45	5
Toluene	ND		5.0	2.4	ug/L			08/05/20 16:45	5
trans-1,2-Dichloroethene	ND		5.0	1.9	ug/L			08/05/20 16:45	5
trans-1,3-Dichloropropene	ND		5.0	2.1	ug/L			08/05/20 16:45	5
Trichloroethene	ND		5.0	2.4	ug/L			08/05/20 16:45	5
Vinyl chloride	ND		5.0	2.5	ug/L			08/05/20 16:45	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*60 - 140*		*08/05/20 16:45*	*5*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*		*08/05/20 16:45*	*5*
Toluene-d8 (Surr)	*111*		*60 - 140*		*08/05/20 16:45*	*5*
Dibromofluoromethane (Surr)	*113*		*60 - 140*		*08/05/20 16:45*	*5*

ARF 05/04/2021

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173177-1

Client Sample ID: GP-4D-072920
Date Collected: 07/29/20 16:06
Date Received: 07/30/20 10:30

Lab Sample ID: 480-173177-4
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.37	ug/L			08/05/20 14:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.62	ug/L			08/05/20 14:48	1
1,1,2-Trichloroethane	ND	UJ	1.0	0.33	ug/L			08/05/20 14:48	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/05/20 14:48	1
1,1-Dichloroethene	ND		1.0	0.36	ug/L			08/05/20 14:48	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			08/05/20 14:48	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			08/05/20 14:48	1
1,2-Dichloroethene, Total	ND		2.0	0.74	ug/L			08/05/20 14:48	1
1,2-Dichloropropane	ND		1.0	0.67	ug/L			08/05/20 14:48	1
1,3-Dichlorobenzene	ND		1.0	0.43	ug/L			08/05/20 14:48	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			08/05/20 14:48	1
2-Chloroethyl vinyl ether	ND	H	10	5.0	ug/L			08/05/20 14:48	1
Acrolein	ND	H	20	8.7	ug/L			08/05/20 14:48	1
Acrylonitrile	ND	H	20	4.6	ug/L			08/05/20 14:48	1
Benzene	ND		1.0	0.43	ug/L			08/05/20 14:48	1
Bromoform	ND		1.0	0.43	ug/L			08/05/20 14:48	1
Bromomethane	ND	← UJ	5.0	2.5	ug/L			08/05/20 14:48	1
Carbon tetrachloride	ND		1.0	0.33	ug/L			08/05/20 14:48	1
Chlorobenzene	ND		1.0	0.26	ug/L			08/05/20 14:48	1
Chlorodibromomethane	ND	UJ	1.0	0.32	ug/L			08/05/20 14:48	1
Chloroethane	ND	UJ	5.0	2.5	ug/L			08/05/20 14:48	1
Chloroform	ND		1.0	0.50	ug/L			08/05/20 14:48	1
Chloromethane	ND		1.0	0.40	ug/L			08/05/20 14:48	1
cis-1,3-Dichloropropene	ND		1.0	0.40	ug/L			08/05/20 14:48	1
Bromodichloromethane	ND		1.0	0.44	ug/L			08/05/20 14:48	1
Ethylbenzene	ND		1.0	0.33	ug/L			08/05/20 14:48	1
Methylene Chloride	ND		5.0	2.5	ug/L			08/05/20 14:48	1
Tetrachloroethene	ND		1.0	0.74	ug/L			08/05/20 14:48	1
Toluene	ND		1.0	0.48	ug/L			08/05/20 14:48	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			08/05/20 14:48	1
trans-1,3-Dichloropropene	ND		1.0	0.42	ug/L			08/05/20 14:48	1
Trichloroethene	ND		1.0	0.48	ug/L			08/05/20 14:48	1
Vinyl chloride	ND		1.0	0.50	ug/L			08/05/20 14:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 140*		*08/05/20 14:48*	*1*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*		*08/05/20 14:48*	*1*
Toluene-d8 (Surr)	*113*		*60 - 140*		*08/05/20 14:48*	*1*
Dibromofluoromethane (Surr)	*113*		*60 - 140*		*08/05/20 14:48*	*1*

ARF 05/04/2021

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173063-1

Client Sample ID: Trip-Blank-01-072820
Date Collected: 07/28/20 00:00
Date Received: 07/29/20 10:30

Lab Sample ID: 480-173063-4
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			07/29/20 22:06	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			07/29/20 22:06	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			07/29/20 22:06	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			07/29/20 22:06	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			07/29/20 22:06	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			07/29/20 22:06	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			07/29/20 22:06	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			07/29/20 22:06	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			07/29/20 22:06	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			07/29/20 22:06	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			07/29/20 22:06	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			07/29/20 22:06	1
Acrolein	ND		100	17	ug/L			07/29/20 22:06	1
Acrylonitrile	ND		50	1.9	ug/L			07/29/20 22:06	1
Benzene	ND		5.0	0.60	ug/L			07/29/20 22:06	1
Bromodichloromethane	ND		5.0	0.54	ug/L			07/29/20 22:06	1
Bromoform	ND		5.0	0.47	ug/L			07/29/20 22:06	1
Bromomethane	ND		5.0	1.2	ug/L			07/29/20 22:06	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			07/29/20 22:06	1
Chlorobenzene	ND		5.0	0.48	ug/L			07/29/20 22:06	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			07/29/20 22:06	1
Chloroethane	ND		5.0	0.87	ug/L			07/29/20 22:06	1
Chloroform	ND		5.0	0.54	ug/L			07/29/20 22:06	1
Chloromethane	ND		5.0	0.64	ug/L			07/29/20 22:06	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			07/29/20 22:06	1
Ethylbenzene	ND		5.0	0.46	ug/L			07/29/20 22:06	1
Methylene Chloride	ND		5.0	0.81	ug/L			07/29/20 22:06	1
Tetrachloroethene	ND		5.0	0.34	ug/L			07/29/20 22:06	1
Toluene	ND		5.0	0.45	ug/L			07/29/20 22:06	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			07/29/20 22:06	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			07/29/20 22:06	1
Trichloroethene	ND		5.0	0.60	ug/L			07/29/20 22:06	1
Vinyl chloride	ND		5.0	0.75	ug/L			07/29/20 22:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*68 - 130*		*07/29/20 22:06*	*1*
4-Bromofluorobenzene (Surr)	*95*		*76 - 123*		*07/29/20 22:06*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*07/29/20 22:06*	*1*
Toluene-d8 (Surr)	*100*		*77 - 120*		*07/29/20 22:06*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173177-1

Client Sample ID: Trip-Blank-02-072920
Date Collected: 07/29/20 00:00
Date Received: 07/30/20 10:30

Lab Sample ID: 480-173177-5
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.37	ug/L			08/05/20 13:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.62	ug/L			08/05/20 13:15	1
1,1,2-Trichloroethane	ND	UJ	1.0	0.33	ug/L			08/05/20 13:15	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/05/20 13:15	1
1,1-Dichloroethene	ND		1.0	0.36	ug/L			08/05/20 13:15	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			08/05/20 13:15	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			08/05/20 13:15	1
1,2-Dichloroethene, Total	ND		2.0	0.74	ug/L			08/05/20 13:15	1
1,2-Dichloropropane	ND		1.0	0.67	ug/L			08/05/20 13:15	1
1,3-Dichlorobenzene	ND		1.0	0.43	ug/L			08/05/20 13:15	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			08/05/20 13:15	1
2-Chloroethyl vinyl ether	ND	H	10	5.0	ug/L			08/05/20 13:15	1
Acrolein	ND	H	20	8.7	ug/L			08/05/20 13:15	1
Acrylonitrile	ND	H	20	4.6	ug/L			08/05/20 13:15	1
Benzene	ND		1.0	0.43	ug/L			08/05/20 13:15	1
Bromoform	ND		1.0	0.43	ug/L			08/05/20 13:15	1
Bromomethane	ND	← UJ	5.0	2.5	ug/L			08/05/20 13:15	1
Carbon tetrachloride	ND		1.0	0.33	ug/L			08/05/20 13:15	1
Chlorobenzene	ND		1.0	0.26	ug/L			08/05/20 13:15	1
Chlorodibromomethane	ND	UJ	1.0	0.32	ug/L			08/05/20 13:15	1
Chloroethane	ND	UJ	5.0	2.5	ug/L			08/05/20 13:15	1
Chloroform	ND		1.0	0.50	ug/L			08/05/20 13:15	1
Chloromethane	ND		1.0	0.40	ug/L			08/05/20 13:15	1
cis-1,3-Dichloropropene	ND		1.0	0.40	ug/L			08/05/20 13:15	1
Bromodichloromethane	ND		1.0	0.44	ug/L			08/05/20 13:15	1
Ethylbenzene	ND		1.0	0.33	ug/L			08/05/20 13:15	1
Methylene Chloride	ND		5.0	2.5	ug/L			08/05/20 13:15	1
Tetrachloroethene	ND		1.0	0.74	ug/L			08/05/20 13:15	1
Toluene	ND		1.0	0.48	ug/L			08/05/20 13:15	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			08/05/20 13:15	1
trans-1,3-Dichloropropene	ND		1.0	0.42	ug/L			08/05/20 13:15	1
Trichloroethene	ND		1.0	0.48	ug/L			08/05/20 13:15	1
Vinyl chloride	ND		1.0	0.50	ug/L			08/05/20 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*116*		*60 - 140*		*08/05/20 13:15*	*1*
4-Bromofluorobenzene (Surr)	*98*		*60 - 140*		*08/05/20 13:15*	*1*
Toluene-d8 (Surr)	*112*		*60 - 140*		*08/05/20 13:15*	*1*
Dibromofluoromethane (Surr)	*115*		*60 - 140*		*08/05/20 13:15*	*1*

ARF 05/04/2021

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173177-1

Client Sample ID: DUP-072920
Date Collected: 07/29/20 00:00
Date Received: 07/30/20 10:30

Lab Sample ID: 480-173177-6
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.37	ug/L			08/05/20 15:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.62	ug/L			08/05/20 15:12	1
1,1,2-Trichloroethane	ND	UJ	1.0	0.33	ug/L			08/05/20 15:12	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/05/20 15:12	1
1,1-Dichloroethene	ND		1.0	0.36	ug/L			08/05/20 15:12	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			08/05/20 15:12	1
1,2-Dichloroethane	ND	*	1.0	0.50	ug/L			08/05/20 15:12	1
1,2-Dichloroethene, Total	ND		2.0	0.74	ug/L			08/05/20 15:12	1
1,2-Dichloropropane	ND		1.0	0.67	ug/L			08/05/20 15:12	1
1,3-Dichlorobenzene	ND		1.0	0.43	ug/L			08/05/20 15:12	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			08/05/20 15:12	1
2-Chloroethyl vinyl ether	ND	H	10	5.0	ug/L			08/05/20 15:12	1
Acrolein	ND	H	20	8.7	ug/L			08/05/20 15:12	1
Acrylonitrile	ND	H	20	4.6	ug/L			08/05/20 15:12	1
Benzene	ND		1.0	0.43	ug/L			08/05/20 15:12	1
Bromoform	ND		1.0	0.43	ug/L			08/05/20 15:12	1
Bromomethane	ND	← UJ	5.0	2.5	ug/L			08/05/20 15:12	1
Carbon tetrachloride	ND		1.0	0.33	ug/L			08/05/20 15:12	1
Chlorobenzene	ND		1.0	0.26	ug/L			08/05/20 15:12	1
Chlorodibromomethane	ND	UJ	1.0	0.32	ug/L			08/05/20 15:12	1
Chloroethane	ND	UJ	5.0	2.5	ug/L			08/05/20 15:12	1
Chloroform	ND		1.0	0.50	ug/L			08/05/20 15:12	1
Chloromethane	ND		1.0	0.40	ug/L			08/05/20 15:12	1
cis-1,3-Dichloropropene	ND		1.0	0.40	ug/L			08/05/20 15:12	1
Bromodichloromethane	ND		1.0	0.44	ug/L			08/05/20 15:12	1
Ethylbenzene	ND		1.0	0.33	ug/L			08/05/20 15:12	1
Methylene Chloride	ND		5.0	2.5	ug/L			08/05/20 15:12	1
Tetrachloroethene	ND		1.0	0.74	ug/L			08/05/20 15:12	1
Toluene	ND		1.0	0.48	ug/L			08/05/20 15:12	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			08/05/20 15:12	1
trans-1,3-Dichloropropene	ND		1.0	0.42	ug/L			08/05/20 15:12	1
Trichloroethene	ND		1.0	0.48	ug/L			08/05/20 15:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			08/05/20 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*115*		*60 - 140*		*08/05/20 15:12*	*1*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*08/05/20 15:12*	*1*
Toluene-d8 (Surr)	*112*		*60 - 140*		*08/05/20 15:12*	*1*
Dibromofluoromethane (Surr)	*113*		*60 - 140*		*08/05/20 15:12*	*1*

ARF 05/04/2021

Client Sample ID: MW-3-031021

Date Collected: 03/10/21 11:15
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	0.77	ug/L			03/11/21 13:03	2
1,1,2,2-Tetrachloroethane	ND		10	0.52	ug/L			03/11/21 13:03	2
1,1,2-Trichloroethane	ND		10	0.96	ug/L			03/11/21 13:03	2
1,1-Dichloroethane	ND		10	1.2	ug/L			03/11/21 13:03	2
1,1-Dichloroethene	ND		10	1.7	ug/L			03/11/21 13:03	2
1,2-Dichlorobenzene	ND		10	0.89	ug/L			03/11/21 13:03	2
1,2-Dichloroethane	ND		10	1.2	ug/L			03/11/21 13:03	2
1,2-Dichloroethene, Total	ND		20	6.4	ug/L			03/11/21 13:03	2
1,2-Dichloropropane	ND		10	1.2	ug/L			03/11/21 13:03	2
1,3-Dichlorobenzene	ND		10	1.1	ug/L			03/11/21 13:03	2
1,4-Dichlorobenzene	ND		10	1.0	ug/L			03/11/21 13:03	2
2-Chloroethyl vinyl ether	ND		50	3.7	ug/L			03/11/21 13:03	2
Acrolein	ND		200	35	ug/L			03/11/21 13:03	2
Acrylonitrile	ND		100	3.8	ug/L			03/11/21 13:03	2
Benzene	ND		10	1.2	ug/L			03/11/21 13:03	2
Bromodichloromethane	ND		10	1.1	ug/L			03/11/21 13:03	2
Bromoform	ND		10	0.94	ug/L			03/11/21 13:03	2
Bromomethane	ND		10	2.4	ug/L			03/11/21 13:03	2
Carbon tetrachloride	ND		10	1.0	ug/L			03/11/21 13:03	2
Chlorobenzene	ND		10	0.95	ug/L			03/11/21 13:03	2
Chlorodibromomethane	ND		10	0.83	ug/L			03/11/21 13:03	2
Chloroethane	ND		10	1.7	ug/L			03/11/21 13:03	2
Chloroform	ND		10	1.1	ug/L			03/11/21 13:03	2
Chloromethane	ND		10	1.3	ug/L			03/11/21 13:03	2
cis-1,3-Dichloropropene	ND		10	0.66	ug/L			03/11/21 13:03	2
Ethylbenzene	ND		10	0.93	ug/L			03/11/21 13:03	2
Methylene Chloride	ND		10	1.6	ug/L			03/11/21 13:03	2
Tetrachloroethene	ND		10	0.68	ug/L			03/11/21 13:03	2
Toluene	ND		10	0.91	ug/L			03/11/21 13:03	2
trans-1,2-Dichloroethene	ND		10	1.2	ug/L			03/11/21 13:03	2
trans-1,3-Dichloropropene	ND		10	0.88	ug/L			03/11/21 13:03	2
Trichloroethene	ND		10	1.2	ug/L			03/11/21 13:03	2
Vinyl chloride	ND		10	1.5	ug/L			03/11/21 13:03	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*68 - 130*		*03/11/21 13:03*	*2*
4-Bromofluorobenzene (Surr)	*107*		*76 - 123*		*03/11/21 13:03*	*2*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*03/11/21 13:03*	*2*
Toluene-d8 (Surr)	*103*		*77 - 120*		*03/11/21 13:03*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**25**		4.0	1.0	ug/L			03/16/21 15:22	1
Ethane	ND		7.5	1.5	ug/L			03/16/21 15:22	1
Ethene	ND		7.0	1.5	ug/L			03/16/21 15:22	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**49.1**		0.50	0.10	mg/L		03/12/21 09:56	03/16/21 17:13	1
Potassium	**1.7**	J	0.50	0.10	mg/L		03/12/21 09:56	03/16/21 17:13	1

Client Sample Results

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: MW-3-031021

Date Collected: 03/10/21 11:15
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-1

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	11.6		0.20	0.043	mg/L		03/12/21 09:56	03/16/21 17:13	1
Sodium	379		1.0	0.32	mg/L		03/12/21 09:56	03/16/21 17:13	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	8.3	~~^2~~ JH	0.050	0.019	mg/L		03/15/21 10:40	03/18/21 22:48	1
Manganese	2.1	~~B~~ JH	0.0030	0.00040	mg/L		03/15/21 10:40	03/18/21 22:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	641		10.0	5.6	mg/L			03/15/21 20:24	20
Sulfate	ND		40.0	7.0	mg/L			03/15/21 20:24	20
Nitrite as N	~~0.039~~ J	0.050 U	0.050	0.020	mg/L			03/11/21 20:22	1
Nitrate as N	0.29		0.050	0.020	mg/L			03/11/21 20:22	1
Alkalinity, Total	53.4		5.0	0.79	mg/L			03/15/21 14:15	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	7.9		1.0	0.43	mg/L			03/14/21 03:40	1

ARF 05/04/2021

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: RW-8S-031021

Date Collected: 03/10/21 11:50
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-2

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/11/21 13:27	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/11/21 13:27	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/11/21 13:27	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/11/21 13:27	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/11/21 13:27	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/11/21 13:27	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/11/21 13:27	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/11/21 13:27	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/11/21 13:27	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/11/21 13:27	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/11/21 13:27	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/11/21 13:27	1
Acrolein	ND		100	17	ug/L			03/11/21 13:27	1
Acrylonitrile	ND		50	1.9	ug/L			03/11/21 13:27	1
Benzene	ND		5.0	0.60	ug/L			03/11/21 13:27	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/11/21 13:27	1
Bromoform	ND		5.0	0.47	ug/L			03/11/21 13:27	1
Bromomethane	ND		5.0	1.2	ug/L			03/11/21 13:27	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/11/21 13:27	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/11/21 13:27	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/11/21 13:27	1
Chloroethane	ND		5.0	0.87	ug/L			03/11/21 13:27	1
Chloroform	ND		5.0	0.54	ug/L			03/11/21 13:27	1
Chloromethane	ND		5.0	0.64	ug/L			03/11/21 13:27	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/11/21 13:27	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/11/21 13:27	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/11/21 13:27	1
Tetrachloroethene	**0.45**	**J**	5.0	0.34	ug/L			03/11/21 13:27	1
Toluene	ND		5.0	0.45	ug/L			03/11/21 13:27	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/11/21 13:27	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/11/21 13:27	1
Trichloroethene	**5.3**		5.0	0.60	ug/L			03/11/21 13:27	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/11/21 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*68 - 130*		*03/11/21 13:27*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 123*		*03/11/21 13:27*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*03/11/21 13:27*	*1*
Toluene-d8 (Surr)	*98*		*77 - 120*		*03/11/21 13:27*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**1.6**	**J**	4.0	1.0	ug/L			03/16/21 15:41	1
Ethane	ND		7.5	1.5	ug/L			03/16/21 15:41	1
Ethene	ND		7.0	1.5	ug/L			03/16/21 15:41	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**325**		0.50	0.10	mg/L		03/12/21 09:56	03/16/21 17:43	1
Potassium	**17.6**	J	0.50	0.10	mg/L		03/12/21 09:56	03/16/21 17:43	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: RW-8S-031021
Date Collected: 03/10/21 11:50
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-2
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	37.1		0.20	0.043	mg/L		03/12/21 09:56	03/16/21 17:43	1
Sodium	1700		5.0	1.6	mg/L		03/12/21 09:56	03/16/21 17:47	5

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.30	J	0.050	0.019	mg/L		03/15/21 10:40	03/19/21 13:30	1
Manganese	0.12	~~B~~ JH	0.0030	0.00040	mg/L		03/15/21 10:40	03/18/21 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3110		25.0	14.1	mg/L			03/15/21 20:38	50
Sulfate	31.9	J	100	17.5	mg/L			03/15/21 20:38	50
Nitrite as N	~~0.020~~ J	0.050 U	0.050	0.020	mg/L			03/11/21 20:23	1
Nitrate as N	1.4		0.050	0.020	mg/L			03/11/21 20:23	1
Alkalinity, Total	151		5.0	0.79	mg/L			03/15/21 14:21	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	6.4		1.0	0.43	mg/L			03/14/21 03:57	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: RW-3D-030921

Date Collected: 03/09/21 11:35
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		25	1.9	ug/L			03/10/21 11:36	5
1,1,2,2-Tetrachloroethane	ND		25	1.3	ug/L			03/10/21 11:36	5
1,1,2-Trichloroethane	ND		25	2.4	ug/L			03/10/21 11:36	5
1,1-Dichloroethane	ND		25	2.9	ug/L			03/10/21 11:36	5
1,1-Dichloroethene	ND		25	4.3	ug/L			03/10/21 11:36	5
1,2-Dichlorobenzene	ND		25	2.2	ug/L			03/10/21 11:36	5
1,2-Dichloroethane	ND		25	3.0	ug/L			03/10/21 11:36	5
1,2-Dichloroethene, Total	**180**		50	16	ug/L			03/10/21 11:36	5
1,2-Dichloropropane	ND		25	3.1	ug/L			03/10/21 11:36	5
1,3-Dichlorobenzene	ND		25	2.7	ug/L			03/10/21 11:36	5
1,4-Dichlorobenzene	ND		25	2.5	ug/L			03/10/21 11:36	5
2-Chloroethyl vinyl ether	ND		130	9.3	ug/L			03/10/21 11:36	5
Acrolein	ND		500	87	ug/L			03/10/21 11:36	5
Acrylonitrile	ND		250	9.5	ug/L			03/10/21 11:36	5
Benzene	ND		25	3.0	ug/L			03/10/21 11:36	5
Bromodichloromethane	ND		25	2.7	ug/L			03/10/21 11:36	5
Bromoform	ND		25	2.3	ug/L			03/10/21 11:36	5
Bromomethane	ND		25	6.0	ug/L			03/10/21 11:36	5
Carbon tetrachloride	ND		25	2.6	ug/L			03/10/21 11:36	5
Chlorobenzene	ND		25	2.4	ug/L			03/10/21 11:36	5
Chlorodibromomethane	ND		25	2.1	ug/L			03/10/21 11:36	5
Chloroethane	ND		25	4.4	ug/L			03/10/21 11:36	5
Chloroform	ND		25	2.7	ug/L			03/10/21 11:36	5
Chloromethane	ND		25	3.2	ug/L			03/10/21 11:36	5
cis-1,3-Dichloropropene	ND		25	1.7	ug/L			03/10/21 11:36	5
Ethylbenzene	ND		25	2.3	ug/L			03/10/21 11:36	5
Methylene Chloride	ND		25	4.1	ug/L			03/10/21 11:36	5
Tetrachloroethene	**260**		25	1.7	ug/L			03/10/21 11:36	5
Toluene	ND		25	2.3	ug/L			03/10/21 11:36	5
trans-1,2-Dichloroethene	ND		25	2.9	ug/L			03/10/21 11:36	5
trans-1,3-Dichloropropene	ND		25	2.2	ug/L			03/10/21 11:36	5
Trichloroethene	**240**		25	3.0	ug/L			03/10/21 11:36	5
Vinyl chloride	ND		25	3.7	ug/L			03/10/21 11:36	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*68 - 130*		*03/10/21 11:36*	*5*
4-Bromofluorobenzene (Surr)	*102*		*76 - 123*		*03/10/21 11:36*	*5*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/10/21 11:36*	*5*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/10/21 11:36*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/11/21 19:07	1
Ethane	ND		7.5	1.5	ug/L			03/11/21 19:07	1
Ethene	ND		7.0	1.5	ug/L			03/11/21 19:07	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**68.9**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:36	1
Potassium	**2.0**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:36	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: RW-3D-030921
Date Collected: 03/09/21 11:35
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-1
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**21.2**		0.20	0.043	mg/L		03/11/21 09:08	03/12/21 16:36	1
Sodium	**163**		1.0	0.32	mg/L		03/11/21 09:08	03/12/21 16:36	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		03/11/21 09:11	03/17/21 05:02	1
Manganese	ND		0.0030	0.00040	mg/L		03/11/21 09:11	03/17/21 05:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**272**		2.5	1.4	mg/L			03/12/21 06:07	5
Sulfate	**19.9**		10.0	1.7	mg/L			03/12/21 06:07	5
Nitrite as N	ND		0.050	0.020	mg/L			03/10/21 20:33	1
Nitrate as N	**2.3**		0.050	0.020	mg/L			03/10/21 20:33	1
Alkalinity, Total	**206**		5.0	0.79	mg/L			03/15/21 13:52	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	**0.72**	**J**	1.0	0.43	mg/L			03/13/21 09:42	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: MW-18-030921
Date Collected: 03/09/21 14:40
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-3
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/10/21 12:24	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/10/21 12:24	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/10/21 12:24	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/10/21 12:24	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/10/21 12:24	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/10/21 12:24	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/10/21 12:24	1
1,2-Dichloroethene, Total	**8.4**	**J**	10	3.2	ug/L			03/10/21 12:24	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/10/21 12:24	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/10/21 12:24	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/10/21 12:24	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/10/21 12:24	1
Acrolein	ND		100	17	ug/L			03/10/21 12:24	1
Acrylonitrile	ND		50	1.9	ug/L			03/10/21 12:24	1
Benzene	ND		5.0	0.60	ug/L			03/10/21 12:24	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/10/21 12:24	1
Bromoform	ND		5.0	0.47	ug/L			03/10/21 12:24	1
Bromomethane	ND		5.0	1.2	ug/L			03/10/21 12:24	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/10/21 12:24	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/10/21 12:24	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/10/21 12:24	1
Chloroethane	ND		5.0	0.87	ug/L			03/10/21 12:24	1
Chloroform	ND		5.0	0.54	ug/L			03/10/21 12:24	1
Chloromethane	ND		5.0	0.64	ug/L			03/10/21 12:24	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/10/21 12:24	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/10/21 12:24	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/10/21 12:24	1
Tetrachloroethene	**0.58**	**J**	5.0	0.34	ug/L			03/10/21 12:24	1
Toluene	ND		5.0	0.45	ug/L			03/10/21 12:24	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/10/21 12:24	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/10/21 12:24	1
Trichloroethene	**1.3**	**J**	5.0	0.60	ug/L			03/10/21 12:24	1
Vinyl chloride	**8.6**		5.0	0.75	ug/L			03/10/21 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*68 - 130*		*03/10/21 12:24*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 123*		*03/10/21 12:24*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*03/10/21 12:24*	*1*
Toluene-d8 (Surr)	*99*		*77 - 120*		*03/10/21 12:24*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**520**		44	11	ug/L			03/11/21 19:26	11
Ethane	ND		83	17	ug/L			03/11/21 19:26	11
Ethene	ND		77	17	ug/L			03/11/21 19:26	11

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**41.5**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:39	1
Potassium	**2.4**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:39	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: MW-18-030921
Date Collected: 03/09/21 14:40
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-3
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	7.4		0.20	0.043	mg/L		03/11/21 09:08	03/12/21 16:39	1
Sodium	135		1.0	0.32	mg/L		03/11/21 09:08	03/12/21 16:39	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7.6		0.050	0.019	mg/L		03/11/21 09:11	03/17/21 05:20	1
Manganese	2.4		0.0030	0.00040	mg/L		03/11/21 09:11	03/17/21 05:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	146		2.5	1.4	mg/L			03/12/21 02:07	5
Sulfate	11.2		10.0	1.7	mg/L			03/12/21 02:07	5
Nitrite as N	ND		0.050	0.020	mg/L			03/10/21 20:34	1
Nitrate as N	0.16		0.050	0.020	mg/L			03/10/21 20:34	1
Alkalinity, Total	198		5.0	0.79	mg/L			03/15/21 13:59	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	5.0		1.0	0.43	mg/L			03/13/21 09:58	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: RW-1S-030921
Date Collected: 03/09/21 14:45
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-4
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/10/21 12:48	1
1,1,2,2-Tetrachloroethane	ND	F2 UJ	5.0	0.26	ug/L			03/10/21 12:48	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/10/21 12:48	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/10/21 12:48	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/10/21 12:48	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/10/21 12:48	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/10/21 12:48	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/10/21 12:48	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/10/21 12:48	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/10/21 12:48	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/10/21 12:48	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/10/21 12:48	1
Acrolein	ND		100	17	ug/L			03/10/21 12:48	1
Acrylonitrile	ND		50	1.9	ug/L			03/10/21 12:48	1
Benzene	ND		5.0	0.60	ug/L			03/10/21 12:48	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/10/21 12:48	1
Bromoform	ND		5.0	0.47	ug/L			03/10/21 12:48	1
Bromomethane	ND		5.0	1.2	ug/L			03/10/21 12:48	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/10/21 12:48	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/10/21 12:48	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/10/21 12:48	1
Chloroethane	ND		5.0	0.87	ug/L			03/10/21 12:48	1
Chloroform	ND		5.0	0.54	ug/L			03/10/21 12:48	1
Chloromethane	ND		5.0	0.64	ug/L			03/10/21 12:48	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/10/21 12:48	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/10/21 12:48	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/10/21 12:48	1
Tetrachloroethene	**3.4**	**J**	5.0	0.34	ug/L			03/10/21 12:48	1
Toluene	ND		5.0	0.45	ug/L			03/10/21 12:48	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/10/21 12:48	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/10/21 12:48	1
Trichloroethene	**12**		5.0	0.60	ug/L			03/10/21 12:48	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/10/21 12:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*68 - 130*		*03/10/21 12:48*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 123*		*03/10/21 12:48*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*03/10/21 12:48*	*1*
Toluene-d8 (Surr)	*97*		*77 - 120*		*03/10/21 12:48*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/11/21 19:45	1
Ethane	ND		7.5	1.5	ug/L			03/11/21 19:45	1
Ethene	ND		7.0	1.5	ug/L			03/11/21 19:45	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**47.9**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:43	1
Potassium	**2.0**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:43	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: RW-1S-030921
Date Collected: 03/09/21 14:45
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-4
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	7.7		0.20	0.043	mg/L		03/11/21 09:08	03/12/21 16:43	1
Sodium	158		1.0	0.32	mg/L		03/11/21 09:08	03/12/21 16:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.067		0.050	0.019	mg/L		03/11/21 09:11	03/17/21 05:24	1
Manganese	0.13		0.0030	0.00040	mg/L		03/11/21 09:11	03/17/21 05:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	199		2.5	1.4	mg/L			03/12/21 02:35	5
Sulfate	19.6		10.0	1.7	mg/L			03/12/21 02:35	5
Nitrite as N	0.021	J	0.050	0.020	mg/L			03/10/21 20:35	1
Nitrate as N	2.2		0.050	0.020	mg/L			03/10/21 20:35	1
Alkalinity, Total	168		5.0	0.79	mg/L			03/15/21 14:08	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	2.0		1.0	0.43	mg/L			03/13/21 10:14	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: DW-1-030821
Date Collected: 03/08/21 11:40
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-1
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 13:51	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 13:51	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 13:51	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 13:51	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 13:51	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 13:51	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 13:51	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 13:51	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 13:51	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 13:51	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 13:51	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 13:51	1
Acrolein	ND		100	17	ug/L			03/09/21 13:51	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 13:51	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 13:51	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 13:51	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 13:51	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 13:51	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 13:51	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 13:51	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 13:51	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 13:51	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 13:51	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 13:51	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 13:51	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 13:51	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 13:51	1
Tetrachloroethene	**0.58**	**J**	5.0	0.34	ug/L			03/09/21 13:51	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 13:51	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 13:51	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 13:51	1
Trichloroethene	ND		5.0	0.60	ug/L			03/09/21 13:51	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*68 - 130*		*03/09/21 13:51*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 123*		*03/09/21 13:51*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*03/09/21 13:51*	*1*
Toluene-d8 (Surr)	*105*		*77 - 120*		*03/09/21 13:51*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/10/21 18:46	1
Ethane	ND		7.5	1.5	ug/L			03/10/21 18:46	1
Ethene	ND		7.0	1.5	ug/L			03/10/21 18:46	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**36.4**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:19	1
Potassium	**1.3**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:19	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: DW-1-030821
Date Collected: 03/08/21 11:40
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-1
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	7.4		0.20	0.043	mg/L		03/10/21 09:47	03/11/21 01:19	1
Sodium	140		1.0	0.32	mg/L		03/10/21 09:47	03/11/21 01:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.065	JH	0.050	0.019	mg/L		03/10/21 09:47	03/10/21 23:28	1
Manganese	0.0031	~~B~~ JH	0.0030	0.00040	mg/L		03/10/21 09:47	03/10/21 23:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	211		2.5	1.4	mg/L			03/11/21 17:43	5
Sulfate	10.4		10.0	1.7	mg/L			03/11/21 17:43	5
Nitrite as N	ND		0.050	0.020	mg/L			03/09/21 18:50	1
Nitrate as N	1.1		0.050	0.020	mg/L			03/09/21 18:50	1
Alkalinity, Total	122		5.0	0.79	mg/L			03/09/21 19:54	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	0.49	J	1.0	0.43	mg/L			03/10/21 08:14	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: GW-4S-030821
Date Collected: 03/08/21 14:30
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 14:15	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 14:15	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 14:15	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 14:15	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 14:15	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 14:15	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 14:15	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 14:15	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 14:15	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 14:15	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 14:15	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 14:15	1
Acrolein	ND		100	17	ug/L			03/09/21 14:15	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 14:15	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 14:15	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 14:15	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 14:15	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 14:15	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 14:15	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 14:15	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 14:15	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 14:15	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 14:15	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 14:15	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 14:15	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 14:15	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 14:15	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/09/21 14:15	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 14:15	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 14:15	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 14:15	1
Trichloroethene	**5.8**		5.0	0.60	ug/L			03/09/21 14:15	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*68 - 130*		*03/09/21 14:15*	*1*
4-Bromofluorobenzene (Surr)	*112*		*76 - 123*		*03/09/21 14:15*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*03/09/21 14:15*	*1*
Toluene-d8 (Surr)	*103*		*77 - 120*		*03/09/21 14:15*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/10/21 19:05	1
Ethane	ND		7.5	1.5	ug/L			03/10/21 19:05	1
Ethene	ND		7.0	1.5	ug/L			03/10/21 19:05	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**49.0**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:37	1
Potassium	**1.7**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:37	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: GW-4S-030821

Lab Sample ID: 480-181811-2

Date Collected: 03/08/21 14:30

Matrix: Water

Date Received: 03/09/21 10:00

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**10.1**		0.20	0.043	mg/L		03/10/21 09:47	03/11/21 01:37	1
Sodium	**121**		1.0	0.32	mg/L		03/10/21 09:47	03/11/21 01:37	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.15**	JH	0.050	0.019	mg/L		03/10/21 09:47	03/10/21 23:32	1
Manganese	**0.54**	~~B~~ JH	0.0030	0.00040	mg/L		03/10/21 09:47	03/10/21 23:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**184**		2.5	1.4	mg/L			03/11/21 17:58	5
Sulfate	**17.3**		10.0	1.7	mg/L			03/11/21 17:58	5
Nitrite as N	ND		0.050	0.020	mg/L			03/09/21 18:51	1
Nitrate as N	**0.45**		0.050	0.020	mg/L			03/09/21 18:51	1
Alkalinity, Total	**170**		5.0	0.79	mg/L			03/09/21 20:09	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	**1.6**		1.0	0.43	mg/L			03/10/21 08:31	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: GP-4D-030821

Date Collected: 03/08/21 14:30
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-3

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 14:39	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 14:39	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 14:39	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 14:39	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 14:39	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 14:39	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 14:39	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 14:39	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 14:39	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 14:39	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 14:39	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 14:39	1
Acrolein	ND		100	17	ug/L			03/09/21 14:39	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 14:39	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 14:39	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 14:39	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 14:39	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 14:39	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 14:39	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 14:39	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 14:39	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 14:39	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 14:39	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 14:39	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 14:39	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 14:39	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 14:39	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/09/21 14:39	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 14:39	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 14:39	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 14:39	1
Trichloroethene	ND		5.0	0.60	ug/L			03/09/21 14:39	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*68 - 130*		*03/09/21 14:39*	*1*
4-Bromofluorobenzene (Surr)	*94*		*76 - 123*		*03/09/21 14:39*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/09/21 14:39*	*1*
Toluene-d8 (Surr)	*95*		*77 - 120*		*03/09/21 14:39*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/10/21 19:43	1
Ethane	ND		7.5	1.5	ug/L			03/10/21 19:43	1
Ethene	ND		7.0	1.5	ug/L			03/10/21 19:43	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**47.8**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:41	1
Potassium	**1.2**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:41	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: GP-4D-030821
Date Collected: 03/08/21 14:30
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-3
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	8.4		0.20	0.043	mg/L		03/10/21 09:47	03/11/21 01:41	1
Sodium	173		1.0	0.32	mg/L		03/10/21 09:47	03/11/21 01:41	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.046	~~J~~ JH	0.050	0.019	mg/L		03/10/21 09:47	03/11/21 00:01	1
Manganese	~~0.0023~~	~~J B~~ 0.0030 U	0.0030	0.00040	mg/L		03/10/21 09:47	03/11/21 00:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	243		2.5	1.4	mg/L			03/11/21 19:25	5
Sulfate	19.7		10.0	1.7	mg/L			03/11/21 19:25	5
Nitrite as N	ND		0.050	0.020	mg/L			03/09/21 18:53	1
Nitrate as N	3.4		0.050	0.020	mg/L			03/09/21 18:53	1
Alkalinity, Total	147		5.0	0.79	mg/L			03/09/21 20:22	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	0.71	J	1.0	0.43	mg/L			03/10/21 08:47	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: DUP-001-030821

Date Collected: 03/08/21 00:00
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-4

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 15:02	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 15:02	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 15:02	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 15:02	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 15:02	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 15:02	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 15:02	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 15:02	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 15:02	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 15:02	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 15:02	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 15:02	1
Acrolein	ND		100	17	ug/L			03/09/21 15:02	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 15:02	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 15:02	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 15:02	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 15:02	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 15:02	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 15:02	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 15:02	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 15:02	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 15:02	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 15:02	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 15:02	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 15:02	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 15:02	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 15:02	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/09/21 15:02	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 15:02	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 15:02	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 15:02	1
Trichloroethene	ND		5.0	0.60	ug/L			03/09/21 15:02	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*68 - 130*		*03/09/21 15:02*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 123*		*03/09/21 15:02*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*03/09/21 15:02*	*1*
Toluene-d8 (Surr)	*97*		*77 - 120*		*03/09/21 15:02*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/10/21 20:01	1
Ethane	ND		7.5	1.5	ug/L			03/10/21 20:01	1
Ethene	ND		7.0	1.5	ug/L			03/10/21 20:01	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**47.6**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:45	1
Potassium	**1.3**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:45	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: DUP-001-030821

Date Collected: 03/08/21 00:00
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-4

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	8.3		0.20	0.043	mg/L		03/10/21 09:47	03/11/21 01:45	1
Sodium	171		1.0	0.32	mg/L		03/10/21 09:47	03/11/21 01:45	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.26	JH	0.050	0.019	mg/L		03/10/21 09:47	03/11/21 00:05	1
Manganese	0.012	~~B~~ JH	0.0030	0.00040	mg/L		03/10/21 09:47	03/11/21 00:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	243		2.5	1.4	mg/L			03/11/21 19:40	5
Sulfate	19.6		10.0	1.7	mg/L			03/11/21 19:40	5
Nitrite as N	ND		0.050	0.020	mg/L			03/09/21 18:54	1
Nitrate as N	3.4		0.050	0.020	mg/L			03/09/21 18:54	1
Alkalinity, Total	146		5.0	0.79	mg/L			03/09/21 20:28	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	0.75	J	1.0	0.43	mg/L			03/10/21 09:02	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: TRIPBLANK-030821
Date Collected: 03/08/21 00:00
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-5
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 15:26	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 15:26	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 15:26	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 15:26	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 15:26	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 15:26	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 15:26	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 15:26	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 15:26	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 15:26	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 15:26	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 15:26	1
Acrolein	ND		100	17	ug/L			03/09/21 15:26	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 15:26	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 15:26	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 15:26	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 15:26	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 15:26	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 15:26	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 15:26	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 15:26	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 15:26	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 15:26	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 15:26	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 15:26	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 15:26	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 15:26	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/09/21 15:26	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 15:26	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 15:26	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 15:26	1
Trichloroethene	ND		5.0	0.60	ug/L			03/09/21 15:26	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*68 - 130*		*03/09/21 15:26*	*1*
4-Bromofluorobenzene (Surr)	*100*		*76 - 123*		*03/09/21 15:26*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*03/09/21 15:26*	*1*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/09/21 15:26*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: TripBlank-030921

Date Collected: 03/09/21 00:00
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-5

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/10/21 13:12	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/10/21 13:12	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/10/21 13:12	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/10/21 13:12	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/10/21 13:12	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/10/21 13:12	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/10/21 13:12	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/10/21 13:12	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/10/21 13:12	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/10/21 13:12	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/10/21 13:12	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/10/21 13:12	1
Acrolein	ND		100	17	ug/L			03/10/21 13:12	1
Acrylonitrile	ND		50	1.9	ug/L			03/10/21 13:12	1
Benzene	ND		5.0	0.60	ug/L			03/10/21 13:12	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/10/21 13:12	1
Bromoform	ND		5.0	0.47	ug/L			03/10/21 13:12	1
Bromomethane	ND		5.0	1.2	ug/L			03/10/21 13:12	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/10/21 13:12	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/10/21 13:12	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/10/21 13:12	1
Chloroethane	ND		5.0	0.87	ug/L			03/10/21 13:12	1
Chloroform	ND		5.0	0.54	ug/L			03/10/21 13:12	1
Chloromethane	ND		5.0	0.64	ug/L			03/10/21 13:12	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/10/21 13:12	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/10/21 13:12	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/10/21 13:12	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/10/21 13:12	1
Toluene	ND		5.0	0.45	ug/L			03/10/21 13:12	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/10/21 13:12	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/10/21 13:12	1
Trichloroethene	ND		5.0	0.60	ug/L			03/10/21 13:12	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/10/21 13:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*68 - 130*		*03/10/21 13:12*	*1*
4-Bromofluorobenzene (Surr)	*100*		*76 - 123*		*03/10/21 13:12*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/10/21 13:12*	*1*
Toluene-d8 (Surr)	*97*		*77 - 120*		*03/10/21 13:12*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: EquipmentBlank-030921
Date Collected: 03/09/21 13:10
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/10/21 12:00	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/10/21 12:00	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/10/21 12:00	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/10/21 12:00	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/10/21 12:00	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/10/21 12:00	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/10/21 12:00	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/10/21 12:00	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/10/21 12:00	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/10/21 12:00	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/10/21 12:00	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/10/21 12:00	1
Acrolein	ND		100	17	ug/L			03/10/21 12:00	1
Acrylonitrile	ND		50	1.9	ug/L			03/10/21 12:00	1
Benzene	ND		5.0	0.60	ug/L			03/10/21 12:00	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/10/21 12:00	1
Bromoform	ND		5.0	0.47	ug/L			03/10/21 12:00	1
Bromomethane	ND		5.0	1.2	ug/L			03/10/21 12:00	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/10/21 12:00	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/10/21 12:00	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/10/21 12:00	1
Chloroethane	ND		5.0	0.87	ug/L			03/10/21 12:00	1
Chloroform	ND		5.0	0.54	ug/L			03/10/21 12:00	1
Chloromethane	ND		5.0	0.64	ug/L			03/10/21 12:00	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/10/21 12:00	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/10/21 12:00	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/10/21 12:00	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/10/21 12:00	1
Toluene	ND		5.0	0.45	ug/L			03/10/21 12:00	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/10/21 12:00	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/10/21 12:00	1
Trichloroethene	ND		5.0	0.60	ug/L			03/10/21 12:00	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/10/21 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*68 - 130*		*03/10/21 12:00*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 123*		*03/10/21 12:00*	*1*
Dibromofluoromethane (Surr)	*90*		*75 - 123*		*03/10/21 12:00*	*1*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/10/21 12:00*	*1*

Client Sample Results

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: TripBlank-031021

Date Collected: 03/10/21 00:00
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-3

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/11/21 13:51	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/11/21 13:51	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/11/21 13:51	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/11/21 13:51	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/11/21 13:51	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/11/21 13:51	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/11/21 13:51	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/11/21 13:51	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/11/21 13:51	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/11/21 13:51	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/11/21 13:51	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/11/21 13:51	1
Acrolein	ND		100	17	ug/L			03/11/21 13:51	1
Acrylonitrile	ND		50	1.9	ug/L			03/11/21 13:51	1
Benzene	ND		5.0	0.60	ug/L			03/11/21 13:51	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/11/21 13:51	1
Bromoform	ND		5.0	0.47	ug/L			03/11/21 13:51	1
Bromomethane	ND		5.0	1.2	ug/L			03/11/21 13:51	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/11/21 13:51	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/11/21 13:51	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/11/21 13:51	1
Chloroethane	ND		5.0	0.87	ug/L			03/11/21 13:51	1
Chloroform	ND		5.0	0.54	ug/L			03/11/21 13:51	1
Chloromethane	ND		5.0	0.64	ug/L			03/11/21 13:51	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/11/21 13:51	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/11/21 13:51	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/11/21 13:51	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/11/21 13:51	1
Toluene	ND		5.0	0.45	ug/L			03/11/21 13:51	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/11/21 13:51	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/11/21 13:51	1
Trichloroethene	ND		5.0	0.60	ug/L			03/11/21 13:51	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/11/21 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*68 - 130*		*03/11/21 13:51*	*1*
4-Bromofluorobenzene (Surr)	*103*		*76 - 123*		*03/11/21 13:51*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*03/11/21 13:51*	*1*
Toluene-d8 (Surr)	*99*		*77 - 120*		*03/11/21 13:51*	*1*

APPENDIX D-1
SUMMARY OF LABORATORY ANALYTICAL RESULTS IN MONTHLY SAMPLES COLLECTED AT RW-3D

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-168454-1

Client Sample ID: RW-3D
Date Collected: 04/08/20 10:30
Date Received: 04/10/20 08:00

Lab Sample ID: 480-168454-1
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	0.77	ug/L			04/10/20 12:49	2
1,1,2,2-Tetrachloroethane	ND		10	0.52	ug/L			04/10/20 12:49	2
1,1,2-Trichloroethane	ND		10	0.96	ug/L			04/10/20 12:49	2
1,1-Dichloroethane	ND		10	1.2	ug/L			04/10/20 12:49	2
1,1-Dichloroethene	ND		10	1.7	ug/L			04/10/20 12:49	2
1,2-Dichlorobenzene	ND		10	0.89	ug/L			04/10/20 12:49	2
1,2-Dichloroethane	ND		10	1.2	ug/L			04/10/20 12:49	2
1,2-Dichloroethene, Total	**31**		20	6.4	ug/L			04/10/20 12:49	2
1,2-Dichloropropane	ND		10	1.2	ug/L			04/10/20 12:49	2
1,3-Dichlorobenzene	ND		10	1.1	ug/L			04/10/20 12:49	2
1,4-Dichlorobenzene	ND		10	1.0	ug/L			04/10/20 12:49	2
2-Chloroethyl vinyl ether	ND		50	3.7	ug/L			04/10/20 12:49	2
Acrolein	ND		200	35	ug/L			04/10/20 12:49	2
Acrylonitrile	ND		100	3.8	ug/L			04/10/20 12:49	2
Benzene	ND		10	1.2	ug/L			04/10/20 12:49	2
Bromodichloromethane	ND		10	1.1	ug/L			04/10/20 12:49	2
Bromoform	ND		10	0.94	ug/L			04/10/20 12:49	2
Bromomethane	ND		10	2.4	ug/L			04/10/20 12:49	2
Carbon tetrachloride	ND		10	1.0	ug/L			04/10/20 12:49	2
Chlorobenzene	ND		10	0.95	ug/L			04/10/20 12:49	2
Chlorodibromomethane	ND		10	0.83	ug/L			04/10/20 12:49	2
Chloroethane	ND		10	1.7	ug/L			04/10/20 12:49	2
Chloroform	**1.3**	**J**	10	1.1	ug/L			04/10/20 12:49	2
Chloromethane	ND		10	1.3	ug/L			04/10/20 12:49	2
cis-1,3-Dichloropropene	ND		10	0.66	ug/L			04/10/20 12:49	2
Ethylbenzene	ND		10	0.93	ug/L			04/10/20 12:49	2
Methylene Chloride	ND		10	1.6	ug/L			04/10/20 12:49	2
Tetrachloroethene	**64**		10	0.68	ug/L			04/10/20 12:49	2
Toluene	ND		10	0.91	ug/L			04/10/20 12:49	2
trans-1,2-Dichloroethene	ND		10	1.2	ug/L			04/10/20 12:49	2
trans-1,3-Dichloropropene	ND		10	0.88	ug/L			04/10/20 12:49	2
Trichloroethene	**67**		10	1.2	ug/L			04/10/20 12:49	2
Vinyl chloride	ND		10	1.5	ug/L			04/10/20 12:49	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*68 - 130*		*04/10/20 12:49*	*2*
4-Bromofluorobenzene (Surr)	*107*		*76 - 123*		*04/10/20 12:49*	*2*
Dibromofluoromethane (Surr)	*84*		*75 - 123*		*04/10/20 12:49*	*2*
Toluene-d8 (Surr)	*87*		*77 - 120*		*04/10/20 12:49*	*2*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**689**		10.0	4.0	mg/L			04/13/20 19:42	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.52**	**HF**	0.100	0.100	SU			04/13/20 11:40	1
Temperature	**17.8**	**HF**	0.00100	0.00100	Degrees C			04/13/20 11:40	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-168454-1

Client Sample ID: EFFLUENT
Date Collected: 04/08/20 10:35
Date Received: 04/10/20 08:00

Lab Sample ID: 480-168454-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			04/10/20 13:14	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			04/10/20 13:14	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			04/10/20 13:14	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			04/10/20 13:14	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			04/10/20 13:14	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			04/10/20 13:14	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			04/10/20 13:14	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			04/10/20 13:14	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			04/10/20 13:14	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			04/10/20 13:14	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			04/10/20 13:14	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			04/10/20 13:14	1
Acrolein	ND		100	17	ug/L			04/10/20 13:14	1
Acrylonitrile	ND		50	1.9	ug/L			04/10/20 13:14	1
Benzene	ND		5.0	0.60	ug/L			04/10/20 13:14	1
Bromodichloromethane	ND		5.0	0.54	ug/L			04/10/20 13:14	1
Bromoform	ND		5.0	0.47	ug/L			04/10/20 13:14	1
Bromomethane	ND		5.0	1.2	ug/L			04/10/20 13:14	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			04/10/20 13:14	1
Chlorobenzene	ND		5.0	0.48	ug/L			04/10/20 13:14	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			04/10/20 13:14	1
Chloroethane	ND		5.0	0.87	ug/L			04/10/20 13:14	1
Chloroform	ND		5.0	0.54	ug/L			04/10/20 13:14	1
Chloromethane	ND		5.0	0.64	ug/L			04/10/20 13:14	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			04/10/20 13:14	1
Ethylbenzene	ND		5.0	0.46	ug/L			04/10/20 13:14	1
Methylene Chloride	ND		5.0	0.81	ug/L			04/10/20 13:14	1
Tetrachloroethene	**1.1**	**J**	5.0	0.34	ug/L			04/10/20 13:14	1
Toluene	ND		5.0	0.45	ug/L			04/10/20 13:14	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			04/10/20 13:14	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			04/10/20 13:14	1
Trichloroethene	**1.3**	**J**	5.0	0.60	ug/L			04/10/20 13:14	1
Vinyl chloride	ND		5.0	0.75	ug/L			04/10/20 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*68 - 130*		*04/10/20 13:14*	*1*
4-Bromofluorobenzene (Surr)	*107*		*76 - 123*		*04/10/20 13:14*	*1*
Dibromofluoromethane (Surr)	*87*		*75 - 123*		*04/10/20 13:14*	*1*
Toluene-d8 (Surr)	*86*		*77 - 120*		*04/10/20 13:14*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**748**		10.0	4.0	mg/L			04/13/20 19:42	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.14**	**HF**	0.100	0.100	SU			04/13/20 11:43	1
Temperature	**17.5**	**HF**	0.00100	0.00100	Degrees C			04/13/20 11:43	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-171100-1

Client Sample ID: RW-3D

Date Collected: 06/10/20 11:05
Date Received: 06/12/20 08:00

Lab Sample ID: 480-171100-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	0.77	ug/L			06/12/20 11:52	2
1,1,2,2-Tetrachloroethane	ND		10	0.52	ug/L			06/12/20 11:52	2
1,1,2-Trichloroethane	ND		10	0.96	ug/L			06/12/20 11:52	2
1,1-Dichloroethane	ND		10	1.2	ug/L			06/12/20 11:52	2
1,1-Dichloroethene	ND		10	1.7	ug/L			06/12/20 11:52	2
1,2-Dichlorobenzene	ND		10	0.89	ug/L			06/12/20 11:52	2
1,2-Dichloroethane	ND		10	1.2	ug/L			06/12/20 11:52	2
1,2-Dichloroethene, Total	**56**		20	6.4	ug/L			06/12/20 11:52	2
1,2-Dichloropropane	ND		10	1.2	ug/L			06/12/20 11:52	2
1,3-Dichlorobenzene	ND		10	1.1	ug/L			06/12/20 11:52	2
1,4-Dichlorobenzene	ND		10	1.0	ug/L			06/12/20 11:52	2
2-Chloroethyl vinyl ether	ND		50	3.7	ug/L			06/12/20 11:52	2
Acrolein	ND		200	35	ug/L			06/12/20 11:52	2
Acrylonitrile	ND		100	3.8	ug/L			06/12/20 11:52	2
Benzene	ND		10	1.2	ug/L			06/12/20 11:52	2
Bromodichloromethane	ND		10	1.1	ug/L			06/12/20 11:52	2
Bromoform	ND		10	0.94	ug/L			06/12/20 11:52	2
Bromomethane	ND		10	2.4	ug/L			06/12/20 11:52	2
Carbon tetrachloride	ND		10	1.0	ug/L			06/12/20 11:52	2
Chlorobenzene	ND		10	0.95	ug/L			06/12/20 11:52	2
Chlorodibromomethane	ND		10	0.83	ug/L			06/12/20 11:52	2
Chloroethane	ND		10	1.7	ug/L			06/12/20 11:52	2
Chloroform	ND		10	1.1	ug/L			06/12/20 11:52	2
Chloromethane	ND		10	1.3	ug/L			06/12/20 11:52	2
cis-1,3-Dichloropropene	ND		10	0.66	ug/L			06/12/20 11:52	2
Ethylbenzene	ND		10	0.93	ug/L			06/12/20 11:52	2
Methylene Chloride	ND		10	1.6	ug/L			06/12/20 11:52	2
Tetrachloroethene	**110**		10	0.68	ug/L			06/12/20 11:52	2
Toluene	ND		10	0.91	ug/L			06/12/20 11:52	2
trans-1,2-Dichloroethene	ND		10	1.2	ug/L			06/12/20 11:52	2
trans-1,3-Dichloropropene	ND		10	0.88	ug/L			06/12/20 11:52	2
Trichloroethene	**110**		10	1.2	ug/L			06/12/20 11:52	2
Vinyl chloride	ND		10	1.5	ug/L			06/12/20 11:52	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*68 - 130*		*06/12/20 11:52*	*2*
4-Bromofluorobenzene (Surr)	*103*		*76 - 123*		*06/12/20 11:52*	*2*
Dibromofluoromethane (Surr)	*110*		*75 - 123*		*06/12/20 11:52*	*2*
Toluene-d8 (Surr)	*98*		*77 - 120*		*06/12/20 11:52*	*2*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**729**		10.0	4.0	mg/L			06/12/20 17:46	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**9.60**	**HF**	0.100	0.100	SU			06/15/20 12:55	1
Temperature	**17.9**	**HF**	0.00100	0.00100	Degrees C			06/15/20 12:55	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-171100-1

Client Sample ID: EFFLUENT

Date Collected: 06/10/20 11:00
Date Received: 06/12/20 08:00

Lab Sample ID: 480-171100-2

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			06/12/20 12:16	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			06/12/20 12:16	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			06/12/20 12:16	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			06/12/20 12:16	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			06/12/20 12:16	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			06/12/20 12:16	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			06/12/20 12:16	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			06/12/20 12:16	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			06/12/20 12:16	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			06/12/20 12:16	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			06/12/20 12:16	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			06/12/20 12:16	1
Acrolein	ND		100	17	ug/L			06/12/20 12:16	1
Acrylonitrile	ND		50	1.9	ug/L			06/12/20 12:16	1
Benzene	ND		5.0	0.60	ug/L			06/12/20 12:16	1
Bromodichloromethane	ND		5.0	0.54	ug/L			06/12/20 12:16	1
Bromoform	ND		5.0	0.47	ug/L			06/12/20 12:16	1
Bromomethane	ND		5.0	1.2	ug/L			06/12/20 12:16	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			06/12/20 12:16	1
Chlorobenzene	ND		5.0	0.48	ug/L			06/12/20 12:16	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			06/12/20 12:16	1
Chloroethane	ND		5.0	0.87	ug/L			06/12/20 12:16	1
Chloroform	ND		5.0	0.54	ug/L			06/12/20 12:16	1
Chloromethane	ND		5.0	0.64	ug/L			06/12/20 12:16	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			06/12/20 12:16	1
Ethylbenzene	ND		5.0	0.46	ug/L			06/12/20 12:16	1
Methylene Chloride	ND		5.0	0.81	ug/L			06/12/20 12:16	1
Tetrachloroethene	**0.46**	**J**	5.0	0.34	ug/L			06/12/20 12:16	1
Toluene	ND		5.0	0.45	ug/L			06/12/20 12:16	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			06/12/20 12:16	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			06/12/20 12:16	1
Trichloroethene	ND		5.0	0.60	ug/L			06/12/20 12:16	1
Vinyl chloride	ND		5.0	0.75	ug/L			06/12/20 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*68 - 130*		*06/12/20 12:16*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 123*		*06/12/20 12:16*	*1*
Dibromofluoromethane (Surr)	*111*		*75 - 123*		*06/12/20 12:16*	*1*
Toluene-d8 (Surr)	*99*		*77 - 120*		*06/12/20 12:16*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**764**		10.0	4.0	mg/L			06/12/20 17:46	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.69**	**HF**	0.100	0.100	SU			06/15/20 12:58	1
Temperature	**18.5**	**HF**	0.00100	0.00100	Degrees C			06/15/20 12:58	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-171977-1

Client Sample ID: RW-3D

Date Collected: 07/01/20 11:30
Date Received: 07/03/20 08:00

Lab Sample ID: 480-171977-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	0.77	ug/L			07/06/20 13:07	2
1,1,2,2-Tetrachloroethane	ND		10	0.52	ug/L			07/06/20 13:07	2
1,1,2-Trichloroethane	ND		10	0.96	ug/L			07/06/20 13:07	2
1,1-Dichloroethane	ND		10	1.2	ug/L			07/06/20 13:07	2
1,1-Dichloroethene	ND		10	1.7	ug/L			07/06/20 13:07	2
1,2-Dichlorobenzene	ND		10	0.89	ug/L			07/06/20 13:07	2
1,2-Dichloroethane	ND		10	1.2	ug/L			07/06/20 13:07	2
1,2-Dichloroethene, Total	**93**		20	6.4	ug/L			07/06/20 13:07	2
1,2-Dichloropropane	ND		10	1.2	ug/L			07/06/20 13:07	2
1,3-Dichlorobenzene	ND		10	1.1	ug/L			07/06/20 13:07	2
1,4-Dichlorobenzene	ND		10	1.0	ug/L			07/06/20 13:07	2
2-Chloroethyl vinyl ether	ND		50	3.7	ug/L			07/06/20 13:07	2
Acrolein	ND	H	200	35	ug/L			07/06/20 13:07	2
Acrylonitrile	ND		100	3.8	ug/L			07/06/20 13:07	2
Benzene	ND		10	1.2	ug/L			07/06/20 13:07	2
Bromodichloromethane	ND		10	1.1	ug/L			07/06/20 13:07	2
Bromoform	ND		10	0.94	ug/L			07/06/20 13:07	2
Bromomethane	ND		10	2.4	ug/L			07/06/20 13:07	2
Carbon tetrachloride	ND		10	1.0	ug/L			07/06/20 13:07	2
Chlorobenzene	ND		10	0.95	ug/L			07/06/20 13:07	2
Chlorodibromomethane	ND		10	0.83	ug/L			07/06/20 13:07	2
Chloroethane	ND		10	1.7	ug/L			07/06/20 13:07	2
Chloroform	ND		10	1.1	ug/L			07/06/20 13:07	2
Chloromethane	ND		10	1.3	ug/L			07/06/20 13:07	2
cis-1,3-Dichloropropene	ND		10	0.66	ug/L			07/06/20 13:07	2
Ethylbenzene	ND		10	0.93	ug/L			07/06/20 13:07	2
Methylene Chloride	ND		10	1.6	ug/L			07/06/20 13:07	2
Tetrachloroethene	**170**		10	0.68	ug/L			07/06/20 13:07	2
Toluene	ND		10	0.91	ug/L			07/06/20 13:07	2
trans-1,2-Dichloroethene	ND		10	1.2	ug/L			07/06/20 13:07	2
trans-1,3-Dichloropropene	ND		10	0.88	ug/L			07/06/20 13:07	2
Trichloroethene	**180**		10	1.2	ug/L			07/06/20 13:07	2
Vinyl chloride	ND		10	1.5	ug/L			07/06/20 13:07	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*68 - 130*		*07/06/20 13:07*	*2*
4-Bromofluorobenzene (Surr)	*101*		*76 - 123*		*07/06/20 13:07*	*2*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*07/06/20 13:07*	*2*
Toluene-d8 (Surr)	*97*		*77 - 120*		*07/06/20 13:07*	*2*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**757**		10.0	4.0	mg/L			07/06/20 16:49	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.44**	**HF**	0.100	0.100	SU			07/06/20 16:01	1
Temperature	**11.8**	**HF**	0.00100	0.00100	Degrees C			07/06/20 16:01	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-171977-1

Client Sample ID: EFFLUENT
Date Collected: 07/01/20 11:30
Date Received: 07/03/20 08:00

Lab Sample ID: 480-171977-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			07/06/20 13:32	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			07/06/20 13:32	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			07/06/20 13:32	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			07/06/20 13:32	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			07/06/20 13:32	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			07/06/20 13:32	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			07/06/20 13:32	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			07/06/20 13:32	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			07/06/20 13:32	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			07/06/20 13:32	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			07/06/20 13:32	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			07/06/20 13:32	1
Acrolein	ND	H	100	17	ug/L			07/06/20 13:32	1
Acrylonitrile	ND		50	1.9	ug/L			07/06/20 13:32	1
Benzene	ND		5.0	0.60	ug/L			07/06/20 13:32	1
Bromodichloromethane	ND		5.0	0.54	ug/L			07/06/20 13:32	1
Bromoform	ND		5.0	0.47	ug/L			07/06/20 13:32	1
Bromomethane	ND		5.0	1.2	ug/L			07/06/20 13:32	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			07/06/20 13:32	1
Chlorobenzene	ND		5.0	0.48	ug/L			07/06/20 13:32	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			07/06/20 13:32	1
Chloroethane	ND		5.0	0.87	ug/L			07/06/20 13:32	1
Chloroform	ND		5.0	0.54	ug/L			07/06/20 13:32	1
Chloromethane	ND		5.0	0.64	ug/L			07/06/20 13:32	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			07/06/20 13:32	1
Ethylbenzene	ND		5.0	0.46	ug/L			07/06/20 13:32	1
Methylene Chloride	ND		5.0	0.81	ug/L			07/06/20 13:32	1
Tetrachloroethene	**0.83**	**J**	5.0	0.34	ug/L			07/06/20 13:32	1
Toluene	ND		5.0	0.45	ug/L			07/06/20 13:32	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			07/06/20 13:32	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			07/06/20 13:32	1
Trichloroethene	**0.73**	**J**	5.0	0.60	ug/L			07/06/20 13:32	1
Vinyl chloride	ND		5.0	0.75	ug/L			07/06/20 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*68 - 130*		*07/06/20 13:32*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 123*		*07/06/20 13:32*	*1*
Dibromofluoromethane (Surr)	*109*		*75 - 123*		*07/06/20 13:32*	*1*
Toluene-d8 (Surr)	*97*		*77 - 120*		*07/06/20 13:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**792**		10.0	4.0	mg/L			07/06/20 16:49	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.22**	**HF**	0.100	0.100	SU			07/06/20 16:04	1
Temperature	**12.1**	**HF**	0.00100	0.00100	Degrees C			07/06/20 16:04	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-171977-1

Client Sample ID: TRIP BLANK
Date Collected: 07/01/20 00:00
Date Received: 07/03/20 08:00

Lab Sample ID: 480-171977-3
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			07/06/20 13:56	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			07/06/20 13:56	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			07/06/20 13:56	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			07/06/20 13:56	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			07/06/20 13:56	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			07/06/20 13:56	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			07/06/20 13:56	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			07/06/20 13:56	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			07/06/20 13:56	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			07/06/20 13:56	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			07/06/20 13:56	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			07/06/20 13:56	1
Acrolein	ND	H	100	17	ug/L			07/06/20 13:56	1
Acrylonitrile	ND		50	1.9	ug/L			07/06/20 13:56	1
Benzene	ND		5.0	0.60	ug/L			07/06/20 13:56	1
Bromodichloromethane	ND		5.0	0.54	ug/L			07/06/20 13:56	1
Bromoform	ND		5.0	0.47	ug/L			07/06/20 13:56	1
Bromomethane	ND		5.0	1.2	ug/L			07/06/20 13:56	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			07/06/20 13:56	1
Chlorobenzene	ND		5.0	0.48	ug/L			07/06/20 13:56	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			07/06/20 13:56	1
Chloroethane	ND		5.0	0.87	ug/L			07/06/20 13:56	1
Chloroform	ND		5.0	0.54	ug/L			07/06/20 13:56	1
Chloromethane	ND		5.0	0.64	ug/L			07/06/20 13:56	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			07/06/20 13:56	1
Ethylbenzene	ND		5.0	0.46	ug/L			07/06/20 13:56	1
Methylene Chloride	ND		5.0	0.81	ug/L			07/06/20 13:56	1
Tetrachloroethene	ND		5.0	0.34	ug/L			07/06/20 13:56	1
Toluene	ND		5.0	0.45	ug/L			07/06/20 13:56	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			07/06/20 13:56	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			07/06/20 13:56	1
Trichloroethene	ND		5.0	0.60	ug/L			07/06/20 13:56	1
Vinyl chloride	ND		5.0	0.75	ug/L			07/06/20 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*68 - 130*		*07/06/20 13:56*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 123*		*07/06/20 13:56*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*07/06/20 13:56*	*1*
Toluene-d8 (Surr)	*96*		*77 - 120*		*07/06/20 13:56*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173273-1

Client Sample ID: RW-3D
Date Collected: 08/03/20 11:25
Date Received: 08/04/20 08:00

Lab Sample ID: 480-173273-1
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.37	ug/L			08/06/20 17:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.62	ug/L			08/06/20 17:11	1
1,1,2-Trichloroethane	ND		1.0	0.33	ug/L			08/06/20 17:11	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/06/20 17:11	1
1,1-Dichloroethene	ND		1.0	0.36	ug/L			08/06/20 17:11	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			08/06/20 17:11	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			08/06/20 17:11	1
1,2-Dichloroethene, Total	**45**		2.0	0.74	ug/L			08/06/20 17:11	1
1,2-Dichloropropane	ND		1.0	0.67	ug/L			08/06/20 17:11	1
1,3-Dichlorobenzene	ND		1.0	0.43	ug/L			08/06/20 17:11	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			08/06/20 17:11	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/L			08/06/20 17:11	1
Acrolein	ND		20	8.7	ug/L			08/06/20 17:11	1
Acrylonitrile	ND		20	4.6	ug/L			08/06/20 17:11	1
Benzene	ND		1.0	0.43	ug/L			08/06/20 17:11	1
Bromoform	ND		1.0	0.43	ug/L			08/06/20 17:11	1
Bromomethane	ND		5.0	2.5	ug/L			08/06/20 17:11	1
Carbon tetrachloride	ND		1.0	0.33	ug/L			08/06/20 17:11	1
Chlorobenzene	ND		1.0	0.26	ug/L			08/06/20 17:11	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			08/06/20 17:11	1
Chloroethane	ND		5.0	2.5	ug/L			08/06/20 17:11	1
Chloroform	**0.62**	**J**	1.0	0.50	ug/L			08/06/20 17:11	1
Chloromethane	ND		1.0	0.40	ug/L			08/06/20 17:11	1
cis-1,3-Dichloropropene	ND		1.0	0.40	ug/L			08/06/20 17:11	1
Bromodichloromethane	ND		1.0	0.44	ug/L			08/06/20 17:11	1
Ethylbenzene	ND		1.0	0.33	ug/L			08/06/20 17:11	1
Methylene Chloride	ND		5.0	2.5	ug/L			08/06/20 17:11	1
Tetrachloroethene	**94**		1.0	0.74	ug/L			08/06/20 17:11	1
Toluene	ND		1.0	0.48	ug/L			08/06/20 17:11	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			08/06/20 17:11	1
trans-1,3-Dichloropropene	ND		1.0	0.42	ug/L			08/06/20 17:11	1
Trichloroethene	**89**		1.0	0.48	ug/L			08/06/20 17:11	1
Vinyl chloride	ND		1.0	0.50	ug/L			08/06/20 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*60 - 140*		*08/06/20 17:11*	*1*
4-Bromofluorobenzene (Surr)	*101*		*60 - 140*		*08/06/20 17:11*	*1*
Toluene-d8 (Surr)	*102*		*60 - 140*		*08/06/20 17:11*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*08/06/20 17:11*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**761**		10.0	4.0	mg/L			08/04/20 17:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.36**	**HF**	0.100	0.100	SU			08/07/20 12:53	1
Temperature	**9.86**	**HF**	0.00100	0.00100	Degrees C			08/07/20 12:53	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-173273-1

Client Sample ID: EFFLUENT
Date Collected: 08/03/20 11:20
Date Received: 08/04/20 08:00

Lab Sample ID: 480-173273-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.37	ug/L			08/06/20 17:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.62	ug/L			08/06/20 17:37	1
1,1,2-Trichloroethane	ND		1.0	0.33	ug/L			08/06/20 17:37	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			08/06/20 17:37	1
1,1-Dichloroethene	ND		1.0	0.36	ug/L			08/06/20 17:37	1
1,2-Dichlorobenzene	ND		1.0	0.37	ug/L			08/06/20 17:37	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			08/06/20 17:37	1
1,2-Dichloroethene, Total	ND		2.0	0.74	ug/L			08/06/20 17:37	1
1,2-Dichloropropane	ND		1.0	0.67	ug/L			08/06/20 17:37	1
1,3-Dichlorobenzene	ND		1.0	0.43	ug/L			08/06/20 17:37	1
1,4-Dichlorobenzene	ND		1.0	0.46	ug/L			08/06/20 17:37	1
2-Chloroethyl vinyl ether	ND		10	5.0	ug/L			08/06/20 17:37	1
Acrolein	ND		20	8.7	ug/L			08/06/20 17:37	1
Acrylonitrile	ND		20	4.6	ug/L			08/06/20 17:37	1
Benzene	ND		1.0	0.43	ug/L			08/06/20 17:37	1
Bromoform	ND		1.0	0.43	ug/L			08/06/20 17:37	1
Bromomethane	ND		5.0	2.5	ug/L			08/06/20 17:37	1
Carbon tetrachloride	ND		1.0	0.33	ug/L			08/06/20 17:37	1
Chlorobenzene	ND		1.0	0.26	ug/L			08/06/20 17:37	1
Chlorodibromomethane	ND		1.0	0.32	ug/L			08/06/20 17:37	1
Chloroethane	ND		5.0	2.5	ug/L			08/06/20 17:37	1
Chloroform	ND		1.0	0.50	ug/L			08/06/20 17:37	1
Chloromethane	ND		1.0	0.40	ug/L			08/06/20 17:37	1
cis-1,3-Dichloropropene	ND		1.0	0.40	ug/L			08/06/20 17:37	1
Bromodichloromethane	ND		1.0	0.44	ug/L			08/06/20 17:37	1
Ethylbenzene	ND		1.0	0.33	ug/L			08/06/20 17:37	1
Methylene Chloride	ND		5.0	2.5	ug/L			08/06/20 17:37	1
Tetrachloroethene	ND		1.0	0.74	ug/L			08/06/20 17:37	1
Toluene	ND		1.0	0.48	ug/L			08/06/20 17:37	1
trans-1,2-Dichloroethene	ND		1.0	0.37	ug/L			08/06/20 17:37	1
trans-1,3-Dichloropropene	ND		1.0	0.42	ug/L			08/06/20 17:37	1
Trichloroethene	ND		1.0	0.48	ug/L			08/06/20 17:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			08/06/20 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*60 - 140*		*08/06/20 17:37*	*1*
4-Bromofluorobenzene (Surr)	*100*		*60 - 140*		*08/06/20 17:37*	*1*
Toluene-d8 (Surr)	*104*		*60 - 140*		*08/06/20 17:37*	*1*
Dibromofluoromethane (Surr)	*110*		*60 - 140*		*08/06/20 17:37*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**778**		10.0	4.0	mg/L			08/04/20 17:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.20**	**HF**	0.100	0.100	SU			08/07/20 12:56	1
Temperature	**10.1**	**HF**	0.00100	0.00100	Degrees C			08/07/20 12:56	1

Client Sample ID: Effluent

Lab Sample ID: 460-217537-1

Date Collected: 09/02/20 11:00

Matrix: Water

Date Received: 09/04/20 16:09

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		200	20.7	ug/L		09/05/20 12:40	09/09/20 17:32	1
Arsenic	ND		15.0	3.6	ug/L		09/05/20 12:40	09/09/20 17:32	1
Barium	**241**		200	7.9	ug/L		09/05/20 12:40	09/09/20 17:32	1
Copper	**5.6**	**J**	25.0	5.5	ug/L		09/05/20 12:40	09/09/20 17:32	1
Iron	ND		150	76.8	ug/L		09/05/20 12:40	09/09/20 17:32	1
Lead	ND		5.0	3.1	ug/L		09/05/20 12:40	09/09/20 17:32	1
Manganese	ND		15.0	0.66	ug/L		09/05/20 12:40	09/09/20 17:32	1
Vanadium	ND		50.0	3.9	ug/L		09/05/20 12:40	09/09/20 17:32	1
Zinc	**12.0**	**J**	30.0	2.6	ug/L		09/05/20 12:40	09/09/20 17:32	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	ND		0.015	0.0036	mg/L		09/11/20 10:56	09/13/20 00:56	1
Copper, Dissolved	ND		0.025	0.0055	mg/L		09/11/20 10:56	09/13/20 00:56	1
Lead, Dissolved	ND		0.0050	0.0031	mg/L		09/11/20 10:56	09/13/20 00:56	1
Zinc, Dissolved	**0.012**	**J**	0.030	0.0026	mg/L		09/11/20 10:56	09/13/20 00:56	1

Client Sample ID: RW-3D

Lab Sample ID: 460-217541-1

Date Collected: 09/02/20 11:00

Matrix: Water

Date Received: 09/03/20 10:00

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			09/04/20 23:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			09/04/20 23:58	1
1,1,2-Trichloroethane	ND		1.0	0.15	ug/L			09/04/20 23:58	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			09/04/20 23:58	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			09/04/20 23:58	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			09/04/20 23:58	1
1,2-Dichloroethane	ND		1.0	0.84	ug/L			09/04/20 23:58	1
1,2-Dichloroethene, Total	**53**		2.0	0.44	ug/L			09/04/20 23:58	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			09/04/20 23:58	1
1,3-Dichlorobenzene	ND		1.0	0.13	ug/L			09/04/20 23:58	1
1,4-Dichlorobenzene	ND		1.0	0.18	ug/L			09/04/20 23:58	1
2-Chloroethyl vinyl ether	ND		1.0	0.91	ug/L			09/04/20 23:58	1
Acrolein	ND		4.0	1.1	ug/L			09/04/20 23:58	1
Acrylonitrile	ND	*	2.0	0.77	ug/L			09/04/20 23:58	1
Benzene	ND		1.0	0.43	ug/L			09/04/20 23:58	1
Bromoform	ND		1.0	0.54	ug/L			09/04/20 23:58	1
Bromomethane	ND		1.0	0.45	ug/L			09/04/20 23:58	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			09/04/20 23:58	1
Chlorobenzene	ND		1.0	0.38	ug/L			09/04/20 23:58	1
Chlorodibromomethane	ND		1.0	0.13	ug/L			09/04/20 23:58	1
Chloroethane	ND		1.0	0.32	ug/L			09/04/20 23:58	1
Chloroform	**0.66**	**J**	1.0	0.33	ug/L			09/04/20 23:58	1
Chloromethane	ND		1.0	0.43	ug/L			09/04/20 23:58	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			09/04/20 23:58	1
Bromodichloromethane	ND		1.0	0.34	ug/L			09/04/20 23:58	1
Ethylbenzene	ND		1.0	0.30	ug/L			09/04/20 23:58	1
Methylene Chloride	ND		1.0	0.32	ug/L			09/04/20 23:58	1

Client Sample ID: RW-3D

Date Collected: 09/02/20 11:00
Date Received: 09/03/20 10:00

Lab Sample ID: 460-217541-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**99**		1.0	0.25	ug/L			09/04/20 23:58	1
Toluene	ND		1.0	0.38	ug/L			09/04/20 23:58	1
trans-1,2-Dichloroethene	**0.28**	**J**	1.0	0.24	ug/L			09/04/20 23:58	1
trans-1,3-Dichloropropene	ND		1.0	0.22	ug/L			09/04/20 23:58	1
Trichloroethene	**110**		1.0	0.31	ug/L			09/04/20 23:58	1
Vinyl chloride	ND		1.0	0.34	ug/L			09/04/20 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*60 - 140*		*09/04/20 23:58*	*1*
4-Bromofluorobenzene	*79*		*60 - 140*		*09/04/20 23:58*	*1*
Toluene-d8 (Surr)	*99*		*60 - 140*		*09/04/20 23:58*	*1*
Dibromofluoromethane (Surr)	*88*		*60 - 140*		*09/04/20 23:58*	*1*

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.10**	**HF**			SU			09/11/20 14:24	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**728**		20.0	20.0	mg/L			09/08/20 10:38	1

Client Sample ID: Effluent

Date Collected: 09/02/20 11:00
Date Received: 09/03/20 10:00

Lab Sample ID: 460-217541-2

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			09/05/20 11:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			09/05/20 11:36	1
1,1,2-Trichloroethane	ND		1.0	0.15	ug/L			09/05/20 11:36	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			09/05/20 11:36	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			09/05/20 11:36	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			09/05/20 11:36	1
1,2-Dichloroethane	ND		1.0	0.84	ug/L			09/05/20 11:36	1
1,2-Dichloroethene, Total	ND		2.0	0.44	ug/L			09/05/20 11:36	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			09/05/20 11:36	1
1,3-Dichlorobenzene	ND		1.0	0.13	ug/L			09/05/20 11:36	1
1,4-Dichlorobenzene	ND		1.0	0.18	ug/L			09/05/20 11:36	1
2-Chloroethyl vinyl ether	ND		1.0	0.91	ug/L			09/05/20 11:36	1
Acrolein	ND		4.0	1.1	ug/L			09/05/20 11:36	1
Acrylonitrile	ND	*	2.0	0.77	ug/L			09/05/20 11:36	1
Benzene	ND		1.0	0.43	ug/L			09/05/20 11:36	1
Bromoform	ND		1.0	0.54	ug/L			09/05/20 11:36	1
Bromomethane	ND		1.0	0.45	ug/L			09/05/20 11:36	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			09/05/20 11:36	1
Chlorobenzene	ND		1.0	0.38	ug/L			09/05/20 11:36	1
Chlorodibromomethane	ND		1.0	0.13	ug/L			09/05/20 11:36	1
Chloroethane	ND		1.0	0.32	ug/L			09/05/20 11:36	1
Chloroform	ND		1.0	0.33	ug/L			09/05/20 11:36	1
Chloromethane	ND		1.0	0.43	ug/L			09/05/20 11:36	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			09/05/20 11:36	1
Bromodichloromethane	ND		1.0	0.34	ug/L			09/05/20 11:36	1

Client Sample ID: Effluent

Date Collected: 09/02/20 11:00
Date Received: 09/03/20 10:00

Lab Sample ID: 460-217541-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.30	ug/L			09/05/20 11:36	1
Methylene Chloride	ND		1.0	0.32	ug/L			09/05/20 11:36	1
Tetrachloroethene	ND		1.0	0.25	ug/L			09/05/20 11:36	1
Toluene	ND		1.0	0.38	ug/L			09/05/20 11:36	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			09/05/20 11:36	1
trans-1,3-Dichloropropene	ND		1.0	0.22	ug/L			09/05/20 11:36	1
Trichloroethene	ND		1.0	0.31	ug/L			09/05/20 11:36	1
Vinyl chloride	ND		1.0	0.34	ug/L			09/05/20 11:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*60 - 140*		*09/05/20 11:36*	*1*
4-Bromofluorobenzene	*81*		*60 - 140*		*09/05/20 11:36*	*1*
Toluene-d8 (Surr)	*103*		*60 - 140*		*09/05/20 11:36*	*1*
Dibromofluoromethane (Surr)	*90*		*60 - 140*		*09/05/20 11:36*	*1*

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.37**	**HF**			SU			09/11/20 14:26	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**898**		20.0	20.0	mg/L			09/08/20 10:38	1

Client Sample ID: Trip Blank

Date Collected: 09/02/20 00:00
Date Received: 09/03/20 10:00

Lab Sample ID: 460-217541-3
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			09/04/20 22:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			09/04/20 22:28	1
1,1,2-Trichloroethane	ND		1.0	0.15	ug/L			09/04/20 22:28	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			09/04/20 22:28	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			09/04/20 22:28	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			09/04/20 22:28	1
1,2-Dichloroethane	ND		1.0	0.84	ug/L			09/04/20 22:28	1
1,2-Dichloroethene, Total	ND		2.0	0.44	ug/L			09/04/20 22:28	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			09/04/20 22:28	1
1,3-Dichlorobenzene	ND		1.0	0.13	ug/L			09/04/20 22:28	1
1,4-Dichlorobenzene	ND		1.0	0.18	ug/L			09/04/20 22:28	1
2-Chloroethyl vinyl ether	ND		1.0	0.91	ug/L			09/04/20 22:28	1
Acrolein	ND		4.0	1.1	ug/L			09/04/20 22:28	1
Acrylonitrile	ND	*	2.0	0.77	ug/L			09/04/20 22:28	1
Benzene	ND		1.0	0.43	ug/L			09/04/20 22:28	1
Bromoform	ND		1.0	0.54	ug/L			09/04/20 22:28	1
Bromomethane	ND		1.0	0.45	ug/L			09/04/20 22:28	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			09/04/20 22:28	1
Chlorobenzene	ND		1.0	0.38	ug/L			09/04/20 22:28	1
Chlorodibromomethane	ND		1.0	0.13	ug/L			09/04/20 22:28	1
Chloroethane	ND		1.0	0.32	ug/L			09/04/20 22:28	1
Chloroform	ND		1.0	0.33	ug/L			09/04/20 22:28	1
Chloromethane	ND		1.0	0.43	ug/L			09/04/20 22:28	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-176522-1

Client Sample ID: RW-3D
Date Collected: 10/13/20 10:35
Date Received: 10/15/20 08:00

Lab Sample ID: 480-176522-1
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			10/15/20 17:26	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			10/15/20 17:26	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			10/15/20 17:26	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			10/15/20 17:26	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			10/15/20 17:26	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			10/15/20 17:26	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			10/15/20 17:26	1
1,2-Dichloroethene, Total	**30**		10	3.2	ug/L			10/15/20 17:26	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			10/15/20 17:26	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			10/15/20 17:26	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			10/15/20 17:26	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			10/15/20 17:26	1
Acrolein	ND		100	17	ug/L			10/15/20 17:26	1
Acrylonitrile	ND		50	1.9	ug/L			10/15/20 17:26	1
Benzene	ND		5.0	0.60	ug/L			10/15/20 17:26	1
Bromodichloromethane	ND		5.0	0.54	ug/L			10/15/20 17:26	1
Bromoform	ND		5.0	0.47	ug/L			10/15/20 17:26	1
Bromomethane	ND		5.0	1.2	ug/L			10/15/20 17:26	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			10/15/20 17:26	1
Chlorobenzene	ND		5.0	0.48	ug/L			10/15/20 17:26	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			10/15/20 17:26	1
Chloroethane	ND		5.0	0.87	ug/L			10/15/20 17:26	1
Chloroform	**0.61**	**J**	5.0	0.54	ug/L			10/15/20 17:26	1
Chloromethane	ND		5.0	0.64	ug/L			10/15/20 17:26	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			10/15/20 17:26	1
Ethylbenzene	ND		5.0	0.46	ug/L			10/15/20 17:26	1
Methylene Chloride	ND		5.0	0.81	ug/L			10/15/20 17:26	1
Tetrachloroethene	**71**		5.0	0.34	ug/L			10/15/20 17:26	1
Toluene	ND		5.0	0.45	ug/L			10/15/20 17:26	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			10/15/20 17:26	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			10/15/20 17:26	1
Trichloroethene	**66**		5.0	0.60	ug/L			10/15/20 17:26	1
Vinyl chloride	ND		5.0	0.75	ug/L			10/15/20 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*68 - 130*		*10/15/20 17:26*	*1*
4-Bromofluorobenzene (Surr)	*98*		*76 - 123*		*10/15/20 17:26*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*10/15/20 17:26*	*1*
Toluene-d8 (Surr)	*98*		*77 - 120*		*10/15/20 17:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**662**		10.0	4.0	mg/L			10/15/20 17:04	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.22**	**HF**	0.100	0.100	SU			10/19/20 10:54	1
Temperature	**15.0**	**HF**	0.00100	0.00100	Degrees C			10/19/20 10:54	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-176522-1

Client Sample ID: Effluent

Date Collected: 10/13/20 10:30
Date Received: 10/15/20 08:00

Lab Sample ID: 480-176522-2

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			10/15/20 17:49	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			10/15/20 17:49	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			10/15/20 17:49	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			10/15/20 17:49	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			10/15/20 17:49	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			10/15/20 17:49	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			10/15/20 17:49	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			10/15/20 17:49	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			10/15/20 17:49	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			10/15/20 17:49	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			10/15/20 17:49	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			10/15/20 17:49	1
Acrolein	ND		100	17	ug/L			10/15/20 17:49	1
Acrylonitrile	ND		50	1.9	ug/L			10/15/20 17:49	1
Benzene	ND		5.0	0.60	ug/L			10/15/20 17:49	1
Bromodichloromethane	ND		5.0	0.54	ug/L			10/15/20 17:49	1
Bromoform	ND		5.0	0.47	ug/L			10/15/20 17:49	1
Bromomethane	ND		5.0	1.2	ug/L			10/15/20 17:49	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			10/15/20 17:49	1
Chlorobenzene	ND		5.0	0.48	ug/L			10/15/20 17:49	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			10/15/20 17:49	1
Chloroethane	ND		5.0	0.87	ug/L			10/15/20 17:49	1
Chloroform	ND		5.0	0.54	ug/L			10/15/20 17:49	1
Chloromethane	ND		5.0	0.64	ug/L			10/15/20 17:49	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			10/15/20 17:49	1
Ethylbenzene	ND		5.0	0.46	ug/L			10/15/20 17:49	1
Methylene Chloride	ND		5.0	0.81	ug/L			10/15/20 17:49	1
Tetrachloroethene	ND		5.0	0.34	ug/L			10/15/20 17:49	1
Toluene	ND		5.0	0.45	ug/L			10/15/20 17:49	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			10/15/20 17:49	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			10/15/20 17:49	1
Trichloroethene	ND		5.0	0.60	ug/L			10/15/20 17:49	1
Vinyl chloride	ND		5.0	0.75	ug/L			10/15/20 17:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*68 - 130*		*10/15/20 17:49*	*1*
4-Bromofluorobenzene (Surr)	*97*		*76 - 123*		*10/15/20 17:49*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*10/15/20 17:49*	*1*
Toluene-d8 (Surr)	*97*		*77 - 120*		*10/15/20 17:49*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**741**		10.0	4.0	mg/L			10/15/20 17:04	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.99**	**HF**	0.100	0.100	SU			10/19/20 10:56	1
Temperature	**15.2**	**HF**	0.00100	0.00100	Degrees C			10/19/20 10:56	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-178108-1

Client Sample ID: RW-3D
Date Collected: 11/11/20 10:00
Date Received: 11/13/20 08:00

Lab Sample ID: 480-178108-1
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			11/14/20 13:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			11/14/20 13:53	1
1,1,2-Trichloroethane	ND		1.0	0.15	ug/L			11/14/20 13:53	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			11/14/20 13:53	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			11/14/20 13:53	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			11/14/20 13:53	1
1,2-Dichloroethane	ND		1.0	0.84	ug/L			11/14/20 13:53	1
1,2-Dichloroethene, Total	**28**		2.0	0.44	ug/L			11/14/20 13:53	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			11/14/20 13:53	1
1,3-Dichlorobenzene	ND		1.0	0.13	ug/L			11/14/20 13:53	1
1,4-Dichlorobenzene	ND		1.0	0.18	ug/L			11/14/20 13:53	1
2-Chloroethyl vinyl ether	ND		1.0	0.91	ug/L			11/14/20 13:53	1
Acrolein	ND		4.0	1.1	ug/L			11/14/20 13:53	1
Acrylonitrile	ND		2.0	0.77	ug/L			11/14/20 13:53	1
Benzene	ND		1.0	0.43	ug/L			11/14/20 13:53	1
Bromoform	ND		1.0	0.54	ug/L			11/14/20 13:53	1
Bromomethane	ND		1.0	0.45	ug/L			11/14/20 13:53	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			11/14/20 13:53	1
Chlorobenzene	ND		1.0	0.38	ug/L			11/14/20 13:53	1
Chlorodibromomethane	ND		1.0	0.13	ug/L			11/14/20 13:53	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/20 13:53	1
Chloroform	**0.52**	**J**	1.0	0.33	ug/L			11/14/20 13:53	1
Chloromethane	ND		1.0	0.43	ug/L			11/14/20 13:53	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			11/14/20 13:53	1
Bromodichloromethane	ND		1.0	0.34	ug/L			11/14/20 13:53	1
Ethylbenzene	ND		1.0	0.30	ug/L			11/14/20 13:53	1
Methylene Chloride	ND		1.0	0.32	ug/L			11/14/20 13:53	1
Tetrachloroethene	**63**		1.0	0.25	ug/L			11/14/20 13:53	1
Toluene	ND		1.0	0.38	ug/L			11/14/20 13:53	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			11/14/20 13:53	1
trans-1,3-Dichloropropene	ND		1.0	0.22	ug/L			11/14/20 13:53	1
Trichloroethene	**59**		1.0	0.31	ug/L			11/14/20 13:53	1
Vinyl chloride	ND		1.0	0.34	ug/L			11/14/20 13:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 140*		*11/14/20 13:53*	*1*
4-Bromofluorobenzene	*108*		*60 - 140*		*11/14/20 13:53*	*1*
Toluene-d8 (Surr)	*110*		*60 - 140*		*11/14/20 13:53*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 140*		*11/14/20 13:53*	*1*

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		11/23/20 11:05	11/23/20 21:00	1
Arsenic	ND		0.015	0.0056	mg/L		11/23/20 11:05	11/23/20 21:00	1
Barium	**0.26**	**^**	0.0020	0.00070	mg/L		11/23/20 11:05	11/23/20 21:00	1
Copper	ND		0.010	0.0016	mg/L		11/23/20 11:05	11/23/20 21:00	1
Iron	ND		0.050	0.019	mg/L		11/23/20 11:05	11/23/20 21:00	1
Lead	ND		0.010	0.0030	mg/L		11/23/20 11:05	11/23/20 21:00	1
Manganese	ND		0.0030	0.00040	mg/L		11/23/20 11:05	11/23/20 21:00	1
Vanadium	ND		0.0050	0.0015	mg/L		11/23/20 11:05	11/23/20 21:00	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-178108-1

Client Sample ID: RW-3D
Date Collected: 11/11/20 10:00
Date Received: 11/13/20 08:00

Lab Sample ID: 480-178108-1
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	0.054		0.010	0.0015	mg/L		11/23/20 11:05	11/23/20 21:00	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/20 13:27	11/20/20 17:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	785		10.0	4.0	mg/L			11/18/20 22:39	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.32	HF	0.100	0.100	SU			12/08/20 15:17	1
Temperature	16.0	HF	0.00100	0.00100	Degrees C			12/08/20 15:17	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-178108-1

Client Sample ID: Effluent

Date Collected: 11/11/20 10:10
Date Received: 11/13/20 08:00

Lab Sample ID: 480-178108-2

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			11/14/20 18:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			11/14/20 18:51	1
1,1,2-Trichloroethane	ND		1.0	0.15	ug/L			11/14/20 18:51	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			11/14/20 18:51	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			11/14/20 18:51	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			11/14/20 18:51	1
1,2-Dichloroethane	ND		1.0	0.84	ug/L			11/14/20 18:51	1
1,2-Dichloroethene, Total	**0.97**	**J**	2.0	0.44	ug/L			11/14/20 18:51	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			11/14/20 18:51	1
1,3-Dichlorobenzene	ND		1.0	0.13	ug/L			11/14/20 18:51	1
1,4-Dichlorobenzene	ND		1.0	0.18	ug/L			11/14/20 18:51	1
2-Chloroethyl vinyl ether	ND		1.0	0.91	ug/L			11/14/20 18:51	1
Acrolein	ND		4.0	1.1	ug/L			11/14/20 18:51	1
Acrylonitrile	ND		2.0	0.77	ug/L			11/14/20 18:51	1
Benzene	ND		1.0	0.43	ug/L			11/14/20 18:51	1
Bromoform	ND		1.0	0.54	ug/L			11/14/20 18:51	1
Bromomethane	ND		1.0	0.45	ug/L			11/14/20 18:51	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			11/14/20 18:51	1
Chlorobenzene	ND		1.0	0.38	ug/L			11/14/20 18:51	1
Chlorodibromomethane	ND		1.0	0.13	ug/L			11/14/20 18:51	1
Chloroethane	ND		1.0	0.32	ug/L			11/14/20 18:51	1
Chloroform	ND		1.0	0.33	ug/L			11/14/20 18:51	1
Chloromethane	ND		1.0	0.43	ug/L			11/14/20 18:51	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			11/14/20 18:51	1
Bromodichloromethane	ND		1.0	0.34	ug/L			11/14/20 18:51	1
Ethylbenzene	ND		1.0	0.30	ug/L			11/14/20 18:51	1
Methylene Chloride	ND		1.0	0.32	ug/L			11/14/20 18:51	1
Tetrachloroethene	**0.58**	**J**	1.0	0.25	ug/L			11/14/20 18:51	1
Toluene	ND		1.0	0.38	ug/L			11/14/20 18:51	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			11/14/20 18:51	1
trans-1,3-Dichloropropene	ND		1.0	0.22	ug/L			11/14/20 18:51	1
Trichloroethene	**0.92**	**J**	1.0	0.31	ug/L			11/14/20 18:51	1
Vinyl chloride	ND		1.0	0.34	ug/L			11/14/20 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 140*		*11/14/20 18:51*	*1*
4-Bromofluorobenzene	*110*		*60 - 140*		*11/14/20 18:51*	*1*
Toluene-d8 (Surr)	*112*		*60 - 140*		*11/14/20 18:51*	*1*
Dibromofluoromethane (Surr)	*106*		*60 - 140*		*11/14/20 18:51*	*1*

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		11/23/20 11:05	11/23/20 21:18	1
Arsenic	ND		0.015	0.0056	mg/L		11/23/20 11:05	11/23/20 21:18	1
Barium	**0.26**	**^**	0.0020	0.00070	mg/L		11/23/20 11:05	11/23/20 21:18	1
Copper	**0.22**		0.010	0.0016	mg/L		11/23/20 11:05	11/23/20 21:18	1
Iron	**0.041**	**J**	0.050	0.019	mg/L		11/23/20 11:05	11/23/20 21:18	1
Lead	**0.020**		0.010	0.0030	mg/L		11/23/20 11:05	11/23/20 21:18	1
Manganese	**0.00092**	**J**	0.0030	0.00040	mg/L		11/23/20 11:05	11/23/20 21:18	1
Vanadium	ND		0.0050	0.0015	mg/L		11/23/20 11:05	11/23/20 21:18	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-178108-1

Client Sample ID: Effluent
Date Collected: 11/11/20 10:10
Date Received: 11/13/20 08:00

Lab Sample ID: 480-178108-2
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	0.59		0.010	0.0015	mg/L		11/23/20 11:05	11/23/20 21:18	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		11/20/20 13:27	11/20/20 17:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	733		10.0	4.0	mg/L			11/18/20 22:39	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.05	HF	0.100	0.100	SU			12/08/20 15:19	1
Temperature	15.6	HF	0.00100	0.00100	Degrees C			12/08/20 15:19	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-179323-1

Client Sample ID: RW-3D

Date Collected: 12/10/20 12:10
Date Received: 12/12/20 08:00

Lab Sample ID: 480-179323-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			12/16/20 14:16	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			12/16/20 14:16	1
1,1,2-Trichloroethane	ND		1.0	0.15	ug/L			12/16/20 14:16	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			12/16/20 14:16	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			12/16/20 14:16	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			12/16/20 14:16	1
1,2-Dichloroethane	ND		1.0	0.84	ug/L			12/16/20 14:16	1
1,2-Dichloroethene, Total	**34**		2.0	0.44	ug/L			12/16/20 14:16	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			12/16/20 14:16	1
1,3-Dichlorobenzene	ND		1.0	0.13	ug/L			12/16/20 14:16	1
1,4-Dichlorobenzene	ND		1.0	0.18	ug/L			12/16/20 14:16	1
2-Chloroethyl vinyl ether	ND		1.0	0.91	ug/L			12/16/20 14:16	1
Acrolein	ND	H	4.0	1.1	ug/L			12/16/20 14:16	1
Acrylonitrile	ND		2.0	0.77	ug/L			12/16/20 14:16	1
Benzene	ND		1.0	0.43	ug/L			12/16/20 14:16	1
Bromoform	ND		1.0	0.54	ug/L			12/16/20 14:16	1
Bromomethane	ND		1.0	0.45	ug/L			12/16/20 14:16	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			12/16/20 14:16	1
Chlorobenzene	ND		1.0	0.38	ug/L			12/16/20 14:16	1
Chlorodibromomethane	ND		1.0	0.13	ug/L			12/16/20 14:16	1
Chloroethane	ND		1.0	0.32	ug/L			12/16/20 14:16	1
Chloroform	**0.55**	**J**	1.0	0.33	ug/L			12/16/20 14:16	1
Chloromethane	ND		1.0	0.43	ug/L			12/16/20 14:16	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			12/16/20 14:16	1
Bromodichloromethane	ND		1.0	0.34	ug/L			12/16/20 14:16	1
Ethylbenzene	ND		1.0	0.30	ug/L			12/16/20 14:16	1
Methylene Chloride	ND		1.0	0.32	ug/L			12/16/20 14:16	1
Tetrachloroethene	**73**		1.0	0.25	ug/L			12/16/20 14:16	1
Toluene	ND		1.0	0.38	ug/L			12/16/20 14:16	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			12/16/20 14:16	1
trans-1,3-Dichloropropene	ND		1.0	0.22	ug/L			12/16/20 14:16	1
Trichloroethene	**70**		1.0	0.31	ug/L			12/16/20 14:16	1
Vinyl chloride	ND		1.0	0.34	ug/L			12/16/20 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*60 - 140*		*12/16/20 14:16*	*1*
4-Bromofluorobenzene	*102*		*60 - 140*		*12/16/20 14:16*	*1*
Toluene-d8 (Surr)	*102*		*60 - 140*		*12/16/20 14:16*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 140*		*12/16/20 14:16*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**754**		10.0	4.0	mg/L			12/12/20 14:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.35**	**HF**	0.100	0.100	SU			12/15/20 20:25	1
Temperature	**17.5**	**HF**	0.00100	0.00100	Degrees C			12/15/20 20:25	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-179323-1

Client Sample ID: EFFLUENT

Date Collected: 12/10/20 12:00
Date Received: 12/12/20 08:00

Lab Sample ID: 480-179323-2

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.24	ug/L			12/16/20 13:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.37	ug/L			12/16/20 13:54	1
1,1,2-Trichloroethane	ND		1.0	0.15	ug/L			12/16/20 13:54	1
1,1-Dichloroethane	ND		1.0	0.26	ug/L			12/16/20 13:54	1
1,1-Dichloroethene	ND		1.0	0.12	ug/L			12/16/20 13:54	1
1,2-Dichlorobenzene	ND		1.0	0.19	ug/L			12/16/20 13:54	1
1,2-Dichloroethane	ND		1.0	0.84	ug/L			12/16/20 13:54	1
1,2-Dichloroethene, Total	**2.0**		2.0	0.44	ug/L			12/16/20 13:54	1
1,2-Dichloropropane	ND		1.0	0.35	ug/L			12/16/20 13:54	1
1,3-Dichlorobenzene	ND		1.0	0.13	ug/L			12/16/20 13:54	1
1,4-Dichlorobenzene	ND		1.0	0.18	ug/L			12/16/20 13:54	1
2-Chloroethyl vinyl ether	ND		1.0	0.91	ug/L			12/16/20 13:54	1
Acrolein	ND	H	4.0	1.1	ug/L			12/16/20 13:54	1
Acrylonitrile	ND		2.0	0.77	ug/L			12/16/20 13:54	1
Benzene	ND		1.0	0.43	ug/L			12/16/20 13:54	1
Bromoform	ND		1.0	0.54	ug/L			12/16/20 13:54	1
Bromomethane	ND		1.0	0.45	ug/L			12/16/20 13:54	1
Carbon tetrachloride	ND		1.0	0.21	ug/L			12/16/20 13:54	1
Chlorobenzene	ND		1.0	0.38	ug/L			12/16/20 13:54	1
Chlorodibromomethane	ND		1.0	0.13	ug/L			12/16/20 13:54	1
Chloroethane	ND		1.0	0.32	ug/L			12/16/20 13:54	1
Chloroform	ND		1.0	0.33	ug/L			12/16/20 13:54	1
Chloromethane	ND		1.0	0.43	ug/L			12/16/20 13:54	1
cis-1,3-Dichloropropene	ND		1.0	0.46	ug/L			12/16/20 13:54	1
Bromodichloromethane	ND		1.0	0.34	ug/L			12/16/20 13:54	1
Ethylbenzene	ND		1.0	0.30	ug/L			12/16/20 13:54	1
Methylene Chloride	ND		1.0	0.32	ug/L			12/16/20 13:54	1
Tetrachloroethene	**1.1**		1.0	0.25	ug/L			12/16/20 13:54	1
Toluene	ND		1.0	0.38	ug/L			12/16/20 13:54	1
trans-1,2-Dichloroethene	ND		1.0	0.24	ug/L			12/16/20 13:54	1
trans-1,3-Dichloropropene	ND		1.0	0.22	ug/L			12/16/20 13:54	1
Trichloroethene	**1.6**		1.0	0.31	ug/L			12/16/20 13:54	1
Vinyl chloride	ND		1.0	0.34	ug/L			12/16/20 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*60 - 140*		*12/16/20 13:54*	*1*
4-Bromofluorobenzene	*103*		*60 - 140*		*12/16/20 13:54*	*1*
Toluene-d8 (Surr)	*104*		*60 - 140*		*12/16/20 13:54*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 140*		*12/16/20 13:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**779**		10.0	4.0	mg/L			12/12/20 14:16	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.23**	**HF**	0.100	0.100	SU			12/15/20 20:26	1
Temperature	**17.2**	**HF**	0.00100	0.00100	Degrees C			12/15/20 20:26	1

APPENDIX E
DATA USABILITY SUMMARY REPORTS

Data Usability Summary Report

Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

COSCO #344035
Eurofins SDG#480-173063-1
August 13, 2020
Sampling date: 7/28/2020

Prepared by:
Jodi Zimmerman
Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for Ramboll, project located at COSCO #344035, Eurofins #480-173063-1 submitted to Vali-Data of WNY, LLC on August 12, 2020. This DUSR has been prepared in general compliance with USEPA National Functional Guidelines(NFG) and NYSDEC Analytical Services Protocols. The laboratory performed the analysis using USEPA method Volatile Organics (624.1).

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times for the sample were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All the criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
No field duplicate was acquired.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

Data Usability Summary Report

Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

COSCO #344035
Eurofins SDG#480-173177-1
August 20, 2020
Reissued: 8/22/2020
Sampling date: 7/29/2020

Prepared by:
Jodi Zimmerman
Vali-Data of WNY, LLC
1514 Davis Rd.
West Falls, NY 14170

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package(reissued, August 22, 2020) for Ramboll, project located at COSCO #344035, Eurofins #480-173177-1 submitted to Vali-Data of WNY, LLC on August 19, 2020. This DUSR has been prepared in general compliance with USEPA National Functional Guidelines(NFG) and NYSDEC Analytical Services Protocols. The laboratory performed the analysis using USEPA method Volatile Organics (624.1).

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

- Data Completeness
- Narrative and Data Reporting Forms
- Chain of Custody and Traffic Reports
- Holding Times
- Internal Standard (IS) Area Performance
- Surrogate Spike Recoveries
- Method Blank
- Laboratory Control Samples
- MS/MSD
- Compound Quantitation
- Initial Calibration
- Continuing Calibration
- GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES

The data are acceptable for use except where qualified below in Laboratory Control Samples, Initial Calibration and Continuing Calibration.

DATA COMPLETENESS

All criteria were met.

NARRATIVE AND DATA REPORTING FORMS

All criteria were met.

CHAIN OF CUSTODY AND TRAFFIC REPORTS

All criteria were met.

HOLDING TIMES
All holding times for the samples were met except the pH of the samples was outside QC limits. The samples were run within 7 days from the date of collection, so no further action is required.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All the criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All the criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met except the %Rec of 1,2-Dichloroethane was outside QC limits, high in LCS/SD 680-629061/4, 5 and should be qualified as estimated. This target analyte should be qualified as estimated high in the associated samples in which it was detected.
The %Rec of Bromomethane was outside QC limits, high in LCS 680-629061/4 and should be qualified as estimated.
The concentration of Chloroethane was outside calibration range in LCS/SD 680-629061/4, 5 and is qualified with an 'E'.

MS/MSD
No MS/MSD was acquired.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met except the RRF of 1,1,2-Trichloroethane was outside QC limits in the initial calibration. The %Rec of Bromomethane and Chloroethane was outside QC limits in ICV 680-627901/15. These target analytes should be qualified as estimated in the samples, blank and spikes.
Some target analytes were outside laboratory QC limits but within NFG limits, so no further action is required.

CONTINUING CALIBRATION
All criteria were met except the %Rec of Bromomethane and Chlorodibromomethane were outside QC limits in CCVIS 680-629016/3. These target analytes should be qualified as estimated in the samples, blank and spikes.

GC/MS PERFORMANCE CHECK

All criteria were met.

Data Usability Summary Report

Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

COSCO #344035
Eurofins SDG#480-181811-1
April 23, 2021
Reissued; April 26, 2021
Sampling date: 3/8/2021

Prepared by:
Jodi Zimmerman
Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package(reissued; April 26, 2021) for Ramboll, Eurofins SDG#480-181811-1, submitted to Vali-Data of WNY, LLC on April 6, 2021. This DUSR has been prepared in general compliance with USEPA National Functional Guidelines(NFG) and NYSDEC Analytical Services Protocols. The laboratory performed the analyses using USEPA method Volatile Organics (624.1, RSK-175), Inorganic (6010C) and in accordance with wet chemistry methods.

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

-Data Completeness
-Narrative and Data Reporting Forms
-Chain of Custody and Traffic Reports
-Holding Times
-Internal Standard (IS) Area Performance
-Surrogate Spike Recoveries
-Method Blank
-Field Duplicate Sample Precision
-Laboratory Control Samples
-MS/MSD
-Compound Quantitation
-Initial Calibration
-Continuing Calibration
-GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.
Data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
No MS/MSD was acquired for these analyses.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.
Alternate forms of regression were used on all target analytes in the RSK-175 analysis, with acceptable results.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

METALS

The following items/criteria were reviewed for this analytical suite:

- -Data Completeness
- -Narrative and Data Reporting Forms
- -Chain of Custody and Traffic Reports
- -Holding Times
- -Blanks
- -Laboratory Control Sample
- -MS/MSD/Duplicate
- -Field Duplicate
- -Serial Dilution
- -Compound Quantitation
- -Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use but are qualified below in Blanks and Calibration.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

BLANKS
All criteria were met except Mn was detected above the MDL, below the reporting limit and is qualified as estimated in MB 480-571925/1-A. This target analyte should be qualified as undetected at the reporting limit in associated samples in which it was detected below the reporting limit. This target analyte should be qualified as estimated high in associated samples in which it was detected above the reporting limit.

LABORATORY CONTROL SAMPLE
All criteria were met.

MS/MSD/DUPLICATE
All criteria were met.

FIELD DUPLICATE
All criteria were met.

SERIAL DILUTION
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

CALIBRATION
All criteria were met except the %Rec of Fe was outside QC limits, high in CCVL 480-572128/27. This target analyte should be qualified as estimated high in the associated blanks, samples and spikes in which it was detected.

GENERAL CHEMISTRY

The following items/criteria were reviewed for this analytical suite:

- Chloride/Sulfate
- Nitrogen, Nitrate-Nitrite
- Alkalinity
- Sulfide
- TOC

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below.

ALKALINITY
All criteria were met.

CHORIDE/SULFATE
All criteria were met.
All of the samples were diluted due to high target analyte concentration.

NITROGEN, NITRATE-NITRITE
All criteria were met.

SULFIDE
All criteria were met.

TOC
All criteria were met.

Data Usability Summary Report

Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

COSCO #344035
Eurofins SDG#480-181846-1
April 23, 2021
Sampling date: 3/9/2021

Prepared by:
Jodi Zimmerman
Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for Ramboll, Eurofins SDG#480-181846-1, submitted to Vali-Data of WNY, LLC on April 6, 2021. This DUSR has been prepared in general compliance with USEPA National Functional Guidelines(NFG) and NYSDEC Analytical Services Protocols. The laboratory performed the analyses using USEPA method Volatile Organics (624.1, RSK-175), Inorganic (6010C) and in accordance with wet chemistry methods.

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

-Data Completeness
-Narrative and Data Reporting Forms
-Chain of Custody and Traffic Reports
-Holding Times
-Internal Standard (IS) Area Performance
-Surrogate Spike Recoveries
-Method Blank
-Field Duplicate Sample Precision
-Laboratory Control Samples
-MS/MSD
-Compound Quantitation
-Initial Calibration
-Continuing Calibration
-GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below in MS/MSD.

Sample: RW-3C-030921 was diluted in method 624.1 due to high concentration of target analytes.
Sample: MW-18-030921 was diluted in method RSK-175 due to high concentration of target analytes.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.
Data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
No field duplicate was acquired.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met except the %RPD of 1,1,2,2-Tetrachloroethane was outside QC limits between RW-1S-030921MS and RW-1S-030921MSD and should be qualified as estimated. This target analyte should be qualified as estimated in RW-1S-030921.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.
Alternate forms of regression were used on all target analytes in the RSK-175 analysis, with acceptable results.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

METALS

The following items/criteria were reviewed for this analytical suite:

- -Data Completeness
- -Narrative and Data Reporting Forms
- -Chain of Custody and Traffic Reports
- -Holding Times
- -Blanks
- -Laboratory Control Sample
- -MS/MSD/Duplicate
- -Field Duplicate
- -Serial Dilution
- -Compound Quantitation
- -Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

BLANKS
All criteria were met.

LABORATORY CONTROL SAMPLE
All criteria were met.

MS/MSD/DUPLICATE
All criteria were met.

FIELD DUPLICATE
No field duplicate was acquired.

SERIAL DILUTION
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

CALIBRATION
All criteria were met.

GENERAL CHEMISTRY

The following items/criteria were reviewed for this analytical suite:

- Chloride/Sulfate
- Nitrogen, Nitrate-Nitrite
- Alkalinity
- Sulfide
- TOC

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below.

ALKALINITY
All criteria were met.

CHORIDE/SULFATE
All criteria were met.
All of the samples were diluted due to high target analyte concentrations.

NITROGEN, NITRATE-NITRITE
All criteria were met.

SULFIDE
All criteria were met.

TOC
All criteria were met.

Data Usability Summary Report

Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

COSCO #344035
Eurofins SDG#480-181931-1
April 23, 2021
Sampling date: 3/10/2021

Prepared by:
Jodi Zimmerman
Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for Ramboll, Eurofins SDG#480-181931-1, submitted to Vali-Data of WNY, LLC on April 6, 2021. This DUSR has been prepared in general compliance with USEPA National Functional Guidelines(NFG) and NYSDEC Analytical Services Protocols. The laboratory performed the analyses using USEPA method Volatile Organics (624.1, RSK-175), Inorganic (6010C) and in accordance with wet chemistry methods.

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

-Data Completeness
-Narrative and Data Reporting Forms
-Chain of Custody and Traffic Reports
-Holding Times
-Internal Standard (IS) Area Performance
-Surrogate Spike Recoveries
-Method Blank
-Field Duplicate Sample Precision
-Laboratory Control Samples
-MS/MSD
-Compound Quantitation
-Initial Calibration
-Continuing Calibration
-GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

Sample: MW-3-031021 was diluted in method 624.1 due to foaming.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.
Data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
No field duplicate was acquired.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
No MS/MSD was acquired for this analysis.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.
Alternate forms of regression were used on all target analytes in the RSK-175 analysis, with acceptable results.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

METALS

The following items/criteria were reviewed for this analytical suite:

-Data Completeness
-Narrative and Data Reporting Forms
-Chain of Custody and Traffic Reports
-Holding Times
-Blanks
-Laboratory Control Sample
-MS/MSD/Duplicate
-Field Duplicate
-Serial Dilution
-Compound Quantitation
-Calibration

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below in Blanks and Calibration.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

BLANKS
All criteria were met except K was detected above the MDL, below the reporting limit and is qualified as estimated in ICB 480-572666/6 and CCB 480-572666/48, 55. Fe was detected above the MDL, below the reporting limit and is qualified as estimated in ICB 480-573120/6 and CCB 480-573120/56. Mn was detected above the MDL, below the reporting limit and is qualified as estimated in MB 480-572302/1-A and CCB 480-573120/47, 56. These target analytes should be qualified as undetected at the reporting limit in associated samples in which they were detected below the reporting limit. These target analytes should be qualified as estimated high in associated samples in which they were detected above the reporting limit.

Fe was detected above the reporting limit in CCB 480-573120/47. This target analyte should be qualified as undetected at the reporting limit in associated samples in which it was detected below the reporting limit. This target analyte should be qualified as undetected in associated samples in which it was detected above the reporting limit but below the blank concentration. This target analyte should be qualified as estimated high in associated samples in which it was detected above the blank concentration.

LABORATORY CONTROL SAMPLE
All criteria were met.

MS/MSD/DUPLICATE
All criteria were met.

FIELD DUPLICATE
No field duplicate was acquired.

SERIAL DILUTION
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

CALIBRATION
All criteria were met except the %Rec of K was outside QC limits, low in CCVL 480-572805/19, 27. The %Rec of Fe was outside QC limit, low in ICVL 480-573263/7 and CCVL 480-573263/19, 24. These target analytes should be qualified as estimated in the associated blanks, spikes and samples.
The %Rec of K was outside QC limits, high in CCVL 480-572666/19, 49. This target analyte should be qualified as estimated high in the associated samples in which it was detected.

GENERAL CHEMISTRY

The following items/criteria were reviewed for this analytical suite:

- Chloride/Sulfate
- Nitrogen, Nitrate-Nitrite
- Alkalinity
- Sulfide
- TOC

The items listed above were technically in compliance with the method and SOP criteria with any exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use except where qualified below.

ALKALINITY
All criteria were met.

CHORIDE/SULFATE
All criteria were met.
All of the samples were diluted due to high target analyte concentrations.

NITROGEN, NITRATE-NITRITE
All criteria were met except Nitrite was detected above the MDL, below the reporting limit and is qualified as estimated in CCB2 from batch#572250. This target analyte should be qualified as undetected at the reporting limit in associated samples in which it was detected below the reporting limit. This target analyte should be qualified as estimated high in associated samples in which it was detected above the reporting limit.

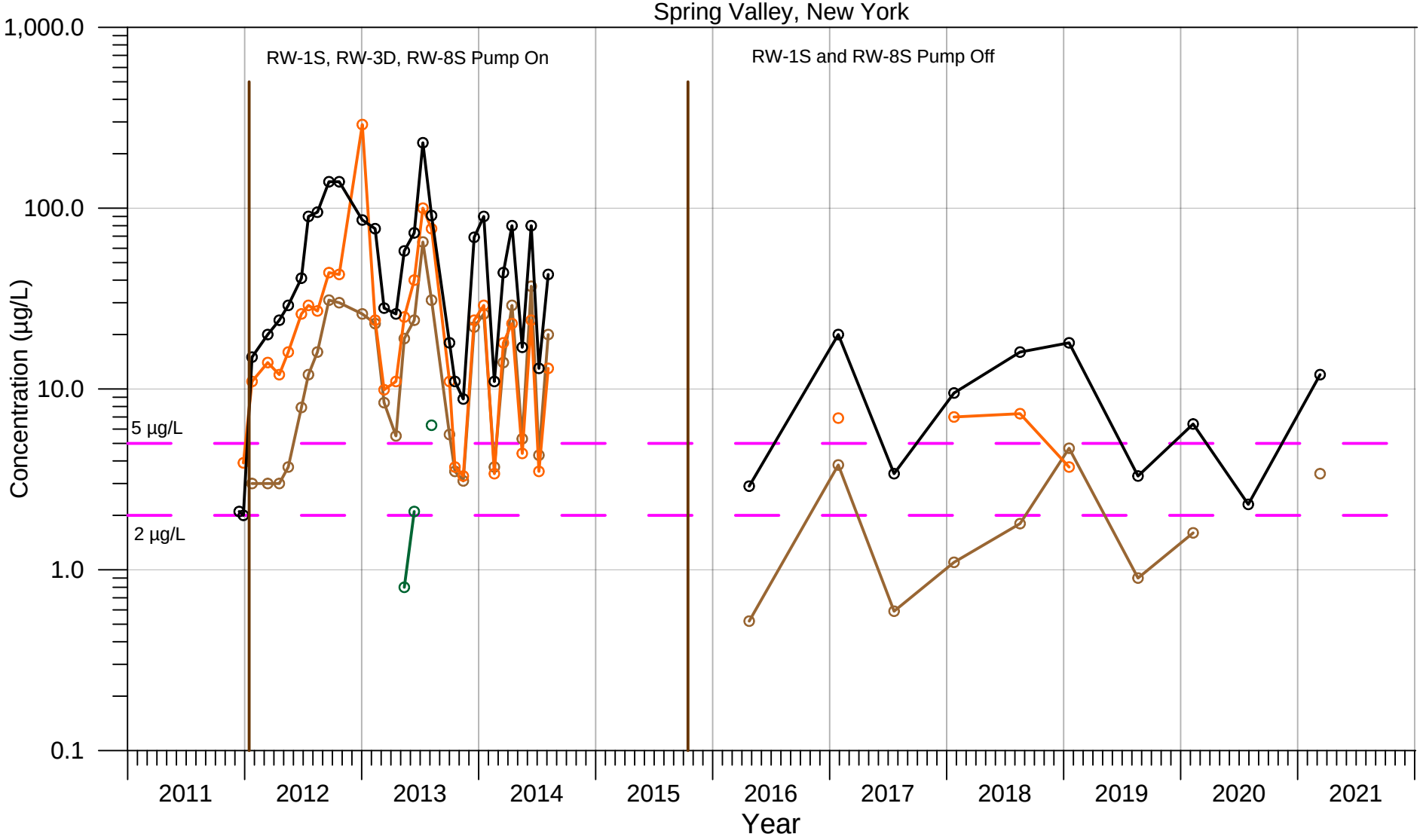
SULFIDE
All criteria were met.

TOC
All criteria were met.

APPENDIX F
CONCENTRATION TREND PLOTS OF SITE CONSTITUENTS OF CONCERN

Concentrations of PCE, TCE, DCE, and VC at Recovery Well RW-1S

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

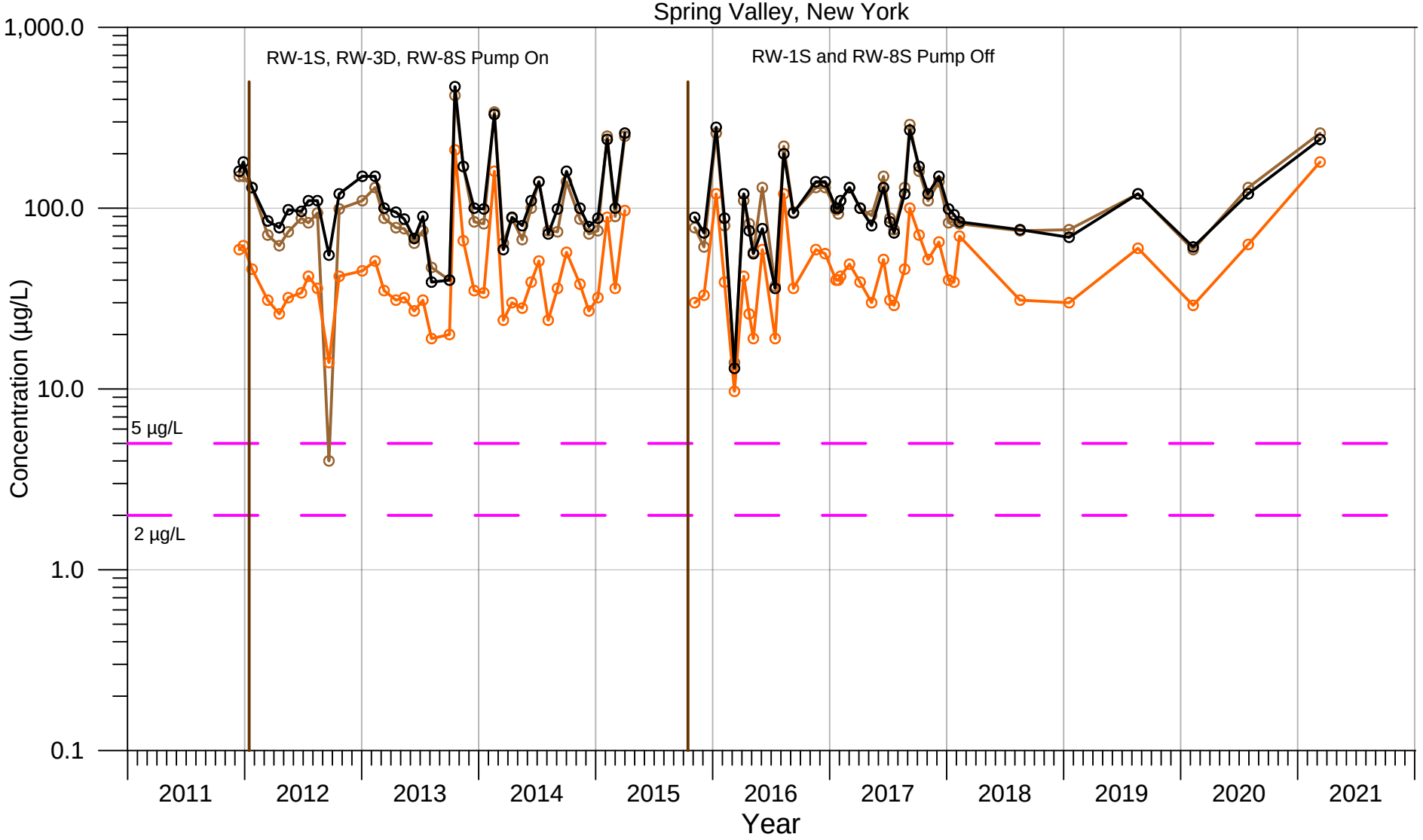
Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Recovery Well RW-3D

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

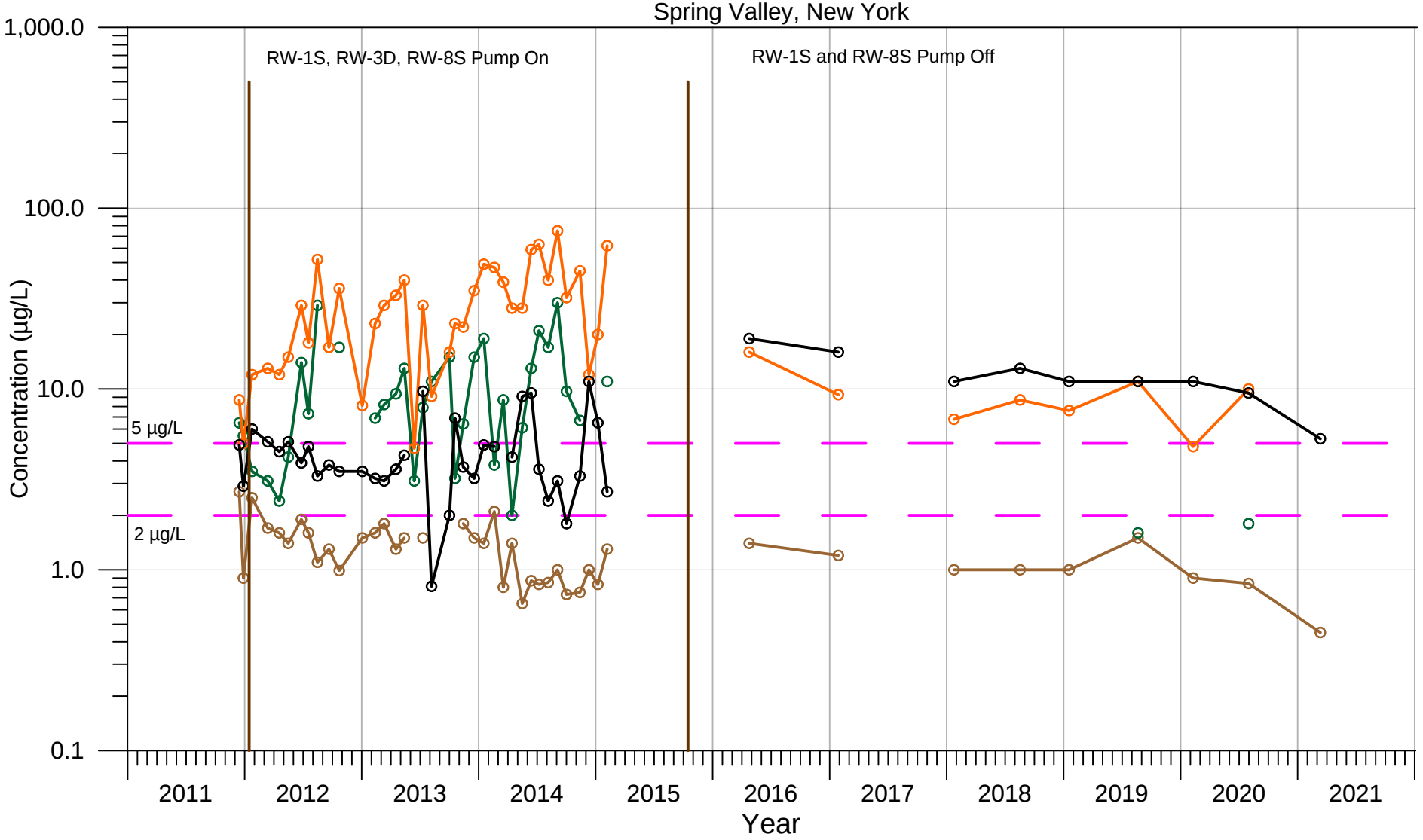
Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Recovery Well RW-8S

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

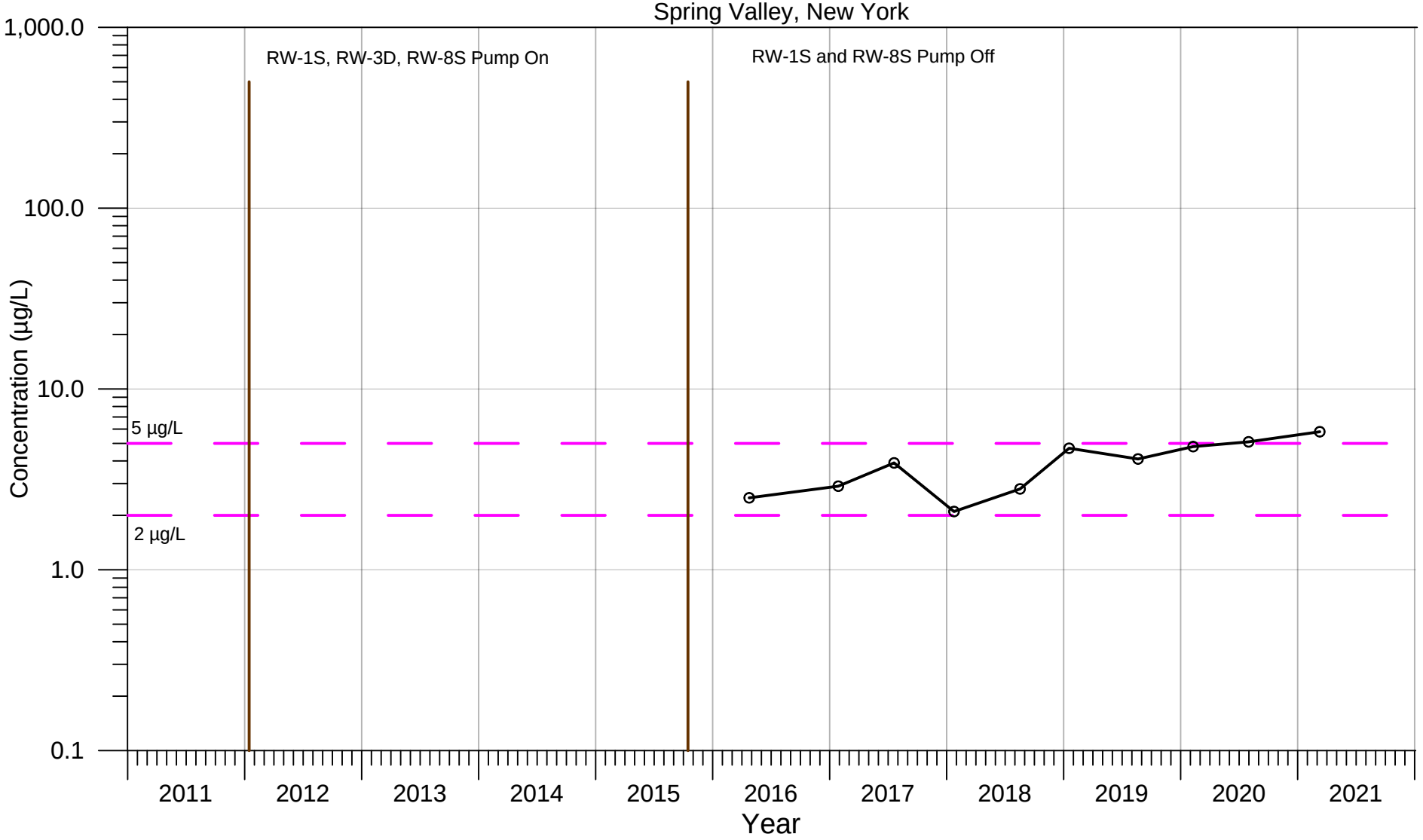
Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Monitoring Well GW-4S

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

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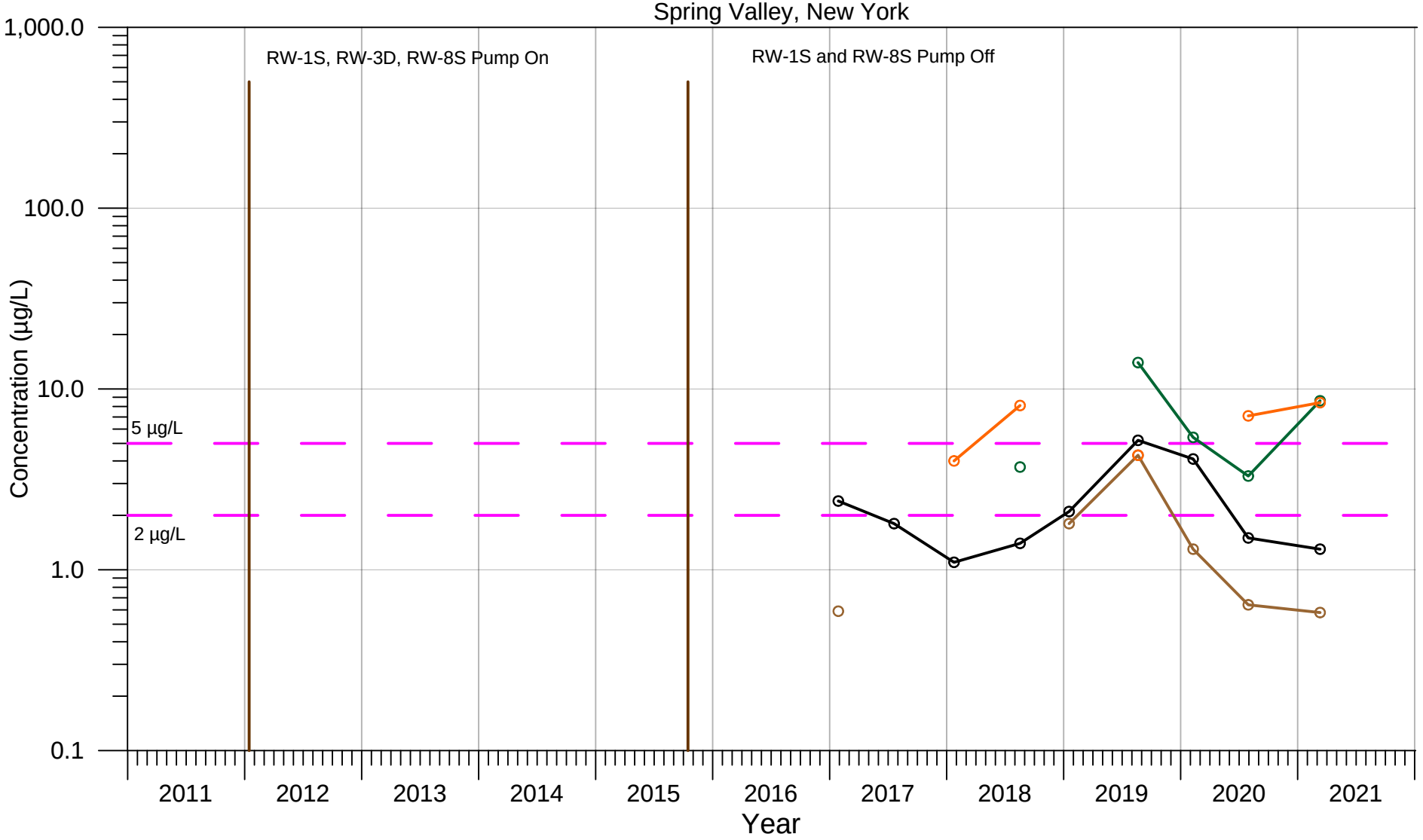
Concentrations of PCE, TCE, DCE, and VC at Monitoring Well MW-18

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

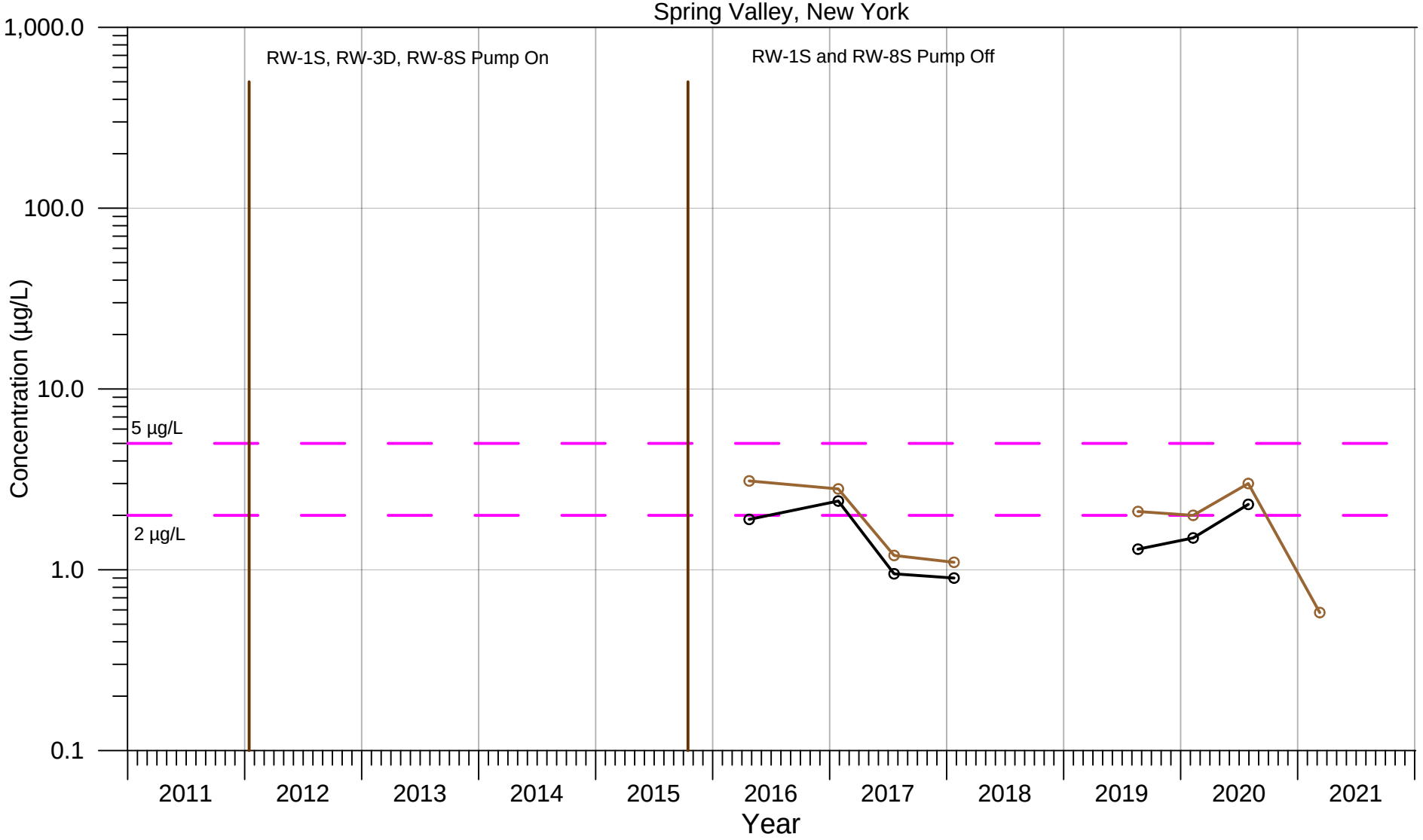
Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Monitoring Well DW-1

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

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APPENDIX G REMEDIAL SYSTEM OPTIMIZATION PHASE 1 SUMMARY NYSDEC COSCO SITE (ID NO. 3-44-035), SPRING VALLEY, NEW YORK

Project name	**NYSDEC COSCO Site**
Recipient	**Robert Strang, E.I.T.** **Division of Environmental Remediation** **New York State Department of Environmental Conservation**
Document type	**Final Report**
Version	**[1]**
Date	**May 4, 2021**
Prepared by	**Robert Hornung, P.G.**
Checked by	**Paul D'Annibale, P.G.**
Approved by	**Paul Hare, P.G., C.P.G.**

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1. Introduction

Ramboll Americas Engineering Solutions, Inc. (Ramboll) has prepared the following summary of the results of the first phase of the Remedial System Optimization (RSO) activities completed at the Consolidated Stamp Company (COSCO) Site (the Site) located at 15 West Street, Spring Valley, New York as part of an optimization of the existing remedial system. As discussed in the Scope of Work (SOW) submitted to the New York State Department of Environmental Conservation (NYSDEC) on December 18, 2020, the RSO activities will be conducted in a phased approach to allow the additional information that is collected to be used to guide subsequent portions of the evaluation.

As discussed in the SOW, the objective of this phase of the RSO was to evaluate the effectiveness of continued operation of the groundwater extraction and treatment (GWE&T) system contrasted with potential cost-effective remedial alternatives to address the remaining volatile organic compound (VOC) impacts at the Site. The results of this phase of the RSO will be used to support the remainder of the RSO and also revision of the Site Management Plan (SMP).

The GWE&T system consists of two overburden recovery wells (RW-1S and RW-8S) and one bedrock recovery well (RW-3D). Currently only bedrock recovery well RW-3D is actively recovering groundwater. Overburden recovery wells RW-1S and RW-8S have been offline since the fall of 2015. The treatment system consists of a low-profile air stripper, and the treated groundwater is discharged to the surface drainage, Reach B Diversion.

The first phase of RSO included the following activities, each of which is discussed in subsequent sections of this report:

- Review of historic data for the Site, specifically, individual volatile organic compounds (VOCs) at the Site with detectable concentrations, primarily tetrachloroethene (PCE), trichloroethene (TCE), and 1,2-dichloroethene (1,2-DCE), and VOC mass removal from RW-3D (the only recovery well in the bedrock) to evaluate current VOC degradation and effectiveness of the GWE&T system;
- Evaluation of the vertical distribution of VOCs in RW-3D using passive diffusion bag samplers (PDBs);
- Performing a 72-hour constant-rate pumping test using RW-3D to evaluate the hydraulic properties of the bedrock immediately surrounding RW-3D; and
- Collection of the second semi-annual 2021 groundwater quality samples using low-flow purging and sampling techniques to obtain field parameters and collect samples for certain inorganic analyses in addition to VOC analyses.[1] .

2. Review of Historic Site Data

Historic data consisting of concentration trend plots of the Site-related VOCs were reviewed to evaluate current groundwater chemistry and concentration trends at the Site (**Appendix G-1**). In general, concentrations of Site-related VOCs in overburden recovery well RW-1S have decreased since the

[1] The first semi-annual sampling event was performed in July 2020 and was limited to the collection of groundwater samples for VOC analyses. The second semi-annual sampling event was performed in March 2021.

recovery well was placed into operation in 2012, with current PCE concentrations below Class GA Standards and TCE concentration at or above Class GA Standards. In overburden recovery well RW-8S, concentrations of TCE and 1,2-DCE have remained relatively consistent at or above Class GA Standards, and concentrations of PCE have remained below Class GA Standards. In addition, concentrations of vinyl chloride (VC) have decreased below Class GA Standards since 2012.

Concentrations of Site-related VOCs in bedrock recovery well RW-3D have remained consistent, above Class GA Standards, since 2012. Concentrations have also remained consistent in the three monitoring wells that still have detections (GW-4S and MW-18, and DW-1).

VOC mass removal was evaluated for the currently active recovery well (RW-3D) using the monthly influent sample concentrations and groundwater extraction volumes from 2017.[2] As shown on **Figure G-1,** approximately 37 pounds of VOCs were removed from the bedrock and treated by the GWE&T system in 2017. TCE accounts for the highest percentage (approximately 42%) of mass removed by recovery well RW-3D, followed very closely by PCE (approximately 41%); 1,2-DCE[3] accounted for the remaining 17% of 37 pounds of mass that were removed. Although the datasets for 2018, 2019 and 2020 are not complete, the annual amount of mass removal and the percentages of each Site-related VOC in 2017 appear to be representative based on our review of the more recent data.

3. Vertical Distribution of VOCs in Bedrock Recovery Well RW-3D

Ramboll collected groundwater samples using PDBs at multiple intervals within bedrock recovery well RW-3D to evaluate the vertical distribution of VOCs within the screened interval. The PDBs were installed on February 18, 2021 at five of the six intervals in the SOW (55-57 feet below grade [ft bg], 65-67 ft bg, 75-77 ft bg, 85-87 ft bg, and 95-97 ft bg). The static depth to water in RW-3D was below the uppermost sampling interval (45-47 ft bg), so a PDB was not installed at that interval. Prior to installing the PDBs at each interval in recovery well RW-3D, the submersible pump was shut-off and the recovery well pump and discharge piping was removed from the well. The PDBs were deployed for 15 days to allow for equilibration between the PDBs and the surrounding formation water. The PDBs were retrieved and the Groundwater samples were collected on March 5, 2021. The samples were submitted for VOC analysis by United States Environmental Protection Agency (USEPA) Method 624. Quality control (QC) samples collected during the sampling event included a blind duplicate, a matrix spike/matrix spike duplicate (MS/MSD) sample pair, and a trip blank. The PDB sample analytical results are provided in **Appendix G-2**. Data validation was performed for the PDB sample results by Vali-Data of WNY, LLC, located in Fulton, New York. The data usability summary report (DUSR) are provided in **Appendix G-3**.

The results of the PDB sampling event in RW-3D are summarized on **Table 3-1** and **Figure G-2**. PCE ranged from 340 micrograms per liter (µg/L) in the 95-97 ft bg interval to 390 µg/L in the 55-57 ft bg interval. TCE ranged from 300 µg/L in the 65-67 and 75-77 ft bg intervals to 330 µg/L in the 55-57 ft bg interval. 1,2-DCE ranged from 190 µg/L in the 75-77 ft bg interval to 230 µg/L in the 55-57 ft bg interval. The highest concentration of total VOCs (950 µg/L) was in the shallowest interval (55-57 ft bg). The lowest concentration of total VOCs (840 µg/L) was in the 75-77 ft bg interval.

[2] Mass removal data for 2017 was used in the evaluation because the treatment system influent results and/or groundwater extraction volume datasets were incomplete for the 2018, 2019, and 2020 calendar years.

[3] 1,2-Dichloroethene represents the sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene. Note that the cis isomer is dominant at the Site.

The results of the PDB samples indicate that VOC concentrations in RW-3D are relatively uniform throughout the length of the screened interval and therefore are likely consistent between the shallow and deep bedrock intervals.

4. Results of 72-Hour Constant-Rate Pumping Test

A constant-rate pumping test was performed to evaluate the hydraulic response to pumping within the bedrock aquifer. Bedrock recovery well RW-3D was shut down for approximately one month before performing the constant-rate pumping test. RW-3D was placed back into operation on March 23, 2021 at a constant pumping rate of approximately 10 gallons per minute (gpm). Groundwater level responses were measured in RW-3D using the pressure transducer and associated datalogger installed as part of the GWE&T system and in bedrock monitoring wells GP-4D and DW-1 using pressure transducers with associated dataloggers. The dataloggers were deployed in DW-1 and GP-4D from March 11, 2021 to March 26, 2021 to collect background static data and pump test data. The hydraulic monitoring data for GP-4D, DW-1, and RW-3D are presented on **Figure G-3**.

The drawdown data for RW-3D was evaluated using the Cooper-Jacob method (modified from the Theis method) for a confined aquifer (see **Figure G-4**). The evaluation resulted in an estimated transmissivity of approximately 1,940 square feet/day. Storage parameters of the aquifer could not be estimated using data from the pumping well. Drawdown observed in RW-3D for approximately the first two days of the pump test matches conditions of radial flow (linear drawdown on a semi-log chart). The drawdown at RW-3D was approximately 6 feet after two days of the test, with relatively stable drawdown. Based on the drawdown of 6 feet and the 10 gpm pumping rate, a specific capacity of 1.67 gallons per minute per foot (gpm/ft) is calculated for RW-3D. Using the estimated transmissivity and assuming an aquifer thickness of 53.5 feet (the saturated interval of the RW-3D well screen), the estimated hydraulic conductivity of the bedrock aquifer is 36.2 feet per day (ft/day).

The evaluation of the drawdown in monitoring wells DW-1 and GP-4D yielded similar estimated transmissivities to that presented above for RW-3D. However, the transmissivities are not presented due to uncertainty related to the flow regime at the Site and negative correlation between drawdown in the monitoring wells with distance from the pumping well.

5. Groundwater Geochemistry

To assess groundwater geochemistry in support of the historical data review and assessment of cost-effective remedial alternatives other than continued pump-and-treat, groundwater samples were collected from Site wells during the second semi-annual 2021 sampling event using low-flow methods for collection of field parameter measurements and groundwater samples for laboratory analyses. The sampling was conducted from March 8 to 10, 2021. The field measurements included pH, dissolved oxygen [DO]), oxidation-reduction potential [ORP], temperature, specific-conductance, and turbidity. The groundwater sampling field forms are provided in **Appendix G-4**. The groundwater samples were analyzed for VOCs by USEPA Method 624, for dissolved hydrocarbon gases (DHGs, specifically, methane, ethane, ethene) by USEPA Method RSK-175, and also for major cations (calcium, potassium, magnesium, and sodium), major

anions (chloride, sulfate, nitrate, and nitrite), sulfide, total organic carbon (TOC), total alkalinity, dissolved iron, and dissolved manganese.

QC samples were collected for VOCs and consisted of a blind duplicate sample, an MS/MSD sample pair, and an equipment blank. A trip blanks was included in each sample cooler shipped to the laboratory containing VOC samples. A blind duplicate sample was collected for the inorganic analyses. A summary of the laboratory analytical results is provided in **Appendix G-5**.

Prior to collection of groundwater samples, water levels were measured to the nearest 0.01 foot in each well using a water level probe. Each well was purged and sampled using low-flow purging and sampling techniques with a submersible pump. During purging, groundwater quality parameters (pH, DO, ORP, temperature, specific-conductance, and turbidity) and water level measurements were collected at approximately 5-minute intervals.

5.1 pH, DO, and ORP

The groundwater quality parameters measured in the field (specifically, pH, DO and ORP) are evaluated to assess the general geochemistry of the overburden and bedrock groundwater at the Site as it relates to Site-related VOC degradation processes. The inorganic data are used to corroborate conclusions based on the pH, DO and ORP measurements. The geochemical conditions can often help explain the VOC and DHG results. In addition, the molar ratio of chloride to sodium, if significantly greater than unity (i.e., road salt) can often result from the degradation of chlorinated VOCs.
The pH measurements for the overburden and bedrock groundwater ranged from 6.1 to 7.5 standard units (SU), which is within the 6 to 8 SU range deemed optimal for biotic activity. The mean pH for overburden groundwater was 6.7 SU, slightly below neutral. The mean pH for the bedrock groundwater was 7.3 SU, slightly above neutral.

DO measurements in the overburden ranged from 0.00 to 6.07 milligrams per liter (mg/L), with a mean of 1.8 mg/L. The low DO of 0.00 mg/L was obtained from monitoring well MW-18 (adjacent to bedrock recovery well RW-3D). The DO measurements in the bedrock ranged from 3.33 to 7.81 mg/L, with a mean of 6.22 mg/L. The DO measurements suggest that the groundwater in the overburden and bedrock is aerobic under ambient conditions. The low DO at MW-18 is indicative of anaerobic conditions and may be due to the presence of naturally occurring organic matter and/or more degradable contaminants at that location, the degradation of which would act to lower the DO.

ORP measurements in the overburden ranged from -84.4 millivolts (mV) to +89.1 mV. The low ORP of -84.4 mV was obtained from monitoring well MW-18 ; the second lowest ORP measurement was considerably higher, at 70 mV. ORP measurements in the bedrock ranged from +191.1 mV to +287.7 mV. The mean ORP for overburden groundwater was +44.8 mV, and the mean ORP for bedrock groundwater was +244.8 mV. The ORP measurements suggest that the groundwater in the overburden and bedrock is only mildly reducing; the ORP measurements are not sufficiently negative to indicate sulfate reducing or methanogenic conditions, even at monitoring well MW-18.

Collectively, the DO and ORP data suggest that the overburden and bedrock groundwater geochemistry at the Site is generally aerobic and mildly reducing. The geochemical conditions at exception of overburden monitoring well MW-18 are different; the DO and ORP measurements for MW-18 suggest the groundwater is anaerobic and slightly more reducing (i.e., the oxidation-reduction state is iron- and nitrate-reducing).

Although some of the ORP measurements were below 0 mV, none were sufficiently negative to indicate sulfate-reducing or methanogenic conditions. Overall, the pH data for the Site are favorable for biotic activity. The current conditions are not suitable for *Dehalococcoides* (DHC) bacteria, which are capable of degrading PCE and TCE through 1,2-DCE and VC to non-toxic ethene, However, several bacteria are capable of degrading PCE and TCE under the redox conditions present at the Site, and the redox conditions are also suitable for the metabolic and/or co-metabolic degradation of any 1,2-DCE or VC that is produced from the degradation of PCE and TCE..

5.2 Redox Pairs

As shown on **Table G-2**, nitrate was detected in each of the wells, at concentrations ranging from 0.16 to 3.4 mg/L, with a mean concentration of approximately 1.41 mg/L. In contrast, nitrite was only detected at one well location (RW-1S), at an estimated concentration of 0.021 mg/L. Nitrate concentrations are generally higher in the bedrock groundwater (DW-1 at 1.1 mg/L, RW-3D at 2.3 mg/L, and GP-4D at 3.4 mg/L) than the overburden groundwater (MW-18 at 0.16 mg/L, MW-3 at 0.29 mg/L, GW-4S at 0.45 mg/L, RW-8S at 1.4 mg/L, and RW-1S at 2.2 mg/L). The detection of nitrate in all of the wells, and the detection of nitrate at a very low, estimated concentration in just one well, are consistent with the redox conditions based on the ORP data.

With the exception of overburden monitoring well MW-3, sulfate was detected in each of the wells. Detected sulfate concentrations ranged from 10.4 mg/L in bedrock monitoring well DW-1 to an estimated 31.9 mg/L in overburden recovery well RW-8S. The detected sulfate concentrations were generally consistent with no discernable trends based on location at the Site or unit. Sulfide was not detected in any of the overburden or bedrock groundwater samples. The sulfate and sulfide data are consistent with the redox conditions, as none of the ORP data are sufficiently negative to suggest sulfate reduction.

As shown on **Table G-2**, dissolved iron was detected in each of the wells, with the exception of bedrock recovery well RW-3D. The dissolved iron concentrations ranged from an estimated 0.046 mg/L in GP-4D to an estimated 8.3 mg/L in monitoring well MW-3. Dissolved iron concentrations were significantly higher in the overburden groundwater (mean 2.6 mg/L than in the bedrock groundwater (mean 0.06 mg/L, excluding the non-detect result for RW-3D). However, this difference appears to be caused by the elevated concentration of dissolved iron in two of the overburden monitoring wells, specifically, 7.6 mg/L in MW-18 and 8.3 mg/L in MW-3, both of which suggest the presence of anaerobic conditions because iron precipitates under aerobic conditions. MW-18 had a DO reading of 0.00 mg/L, which is consistent with an elevated concentration of dissolved iron. MW-3 had a DO reading of 2.08 mg/L, slightly above the DO range (0 to 2 mg/L) where iron dissolves more readily in groundwater.

5.3 Other Parameters

TOC was detected in each of the wells. As shown on **Table G-2**, the TOC results ranged from 0.49 mg/L, estimated, in bedrock monitoring well DW-1 to 7.9 mg/L at overburden monitoring well MW-3, with an average of concentration of 3.10 mg/L. TOC concentrations are generally an order of magnitude higher in the overburden groundwater than the bedrock. Naturally occurring TOC promotes biological degradation of Site-related COCs in groundwater.

As shown on **Table G-2**, methane was detected in three overburden wells at concentrations ranging from 1.6 µg/L, estimated, in RW-8S to 520 µg/L in MW-18. The methane results suggest that while the

subsurface is mildly reducing overall, more deeply reducing conditions may exist in the overburden that could support methanogenic bacteria and limited methane production.

Ethane and ethene were not detected in any of the wells. Ethane and ethene are labile under aerobic and microaerophilic conditions. Thus, the lack of ethane and ethene detections suggests that either ethane and ethene were not produced or that ethane and ethene were produced but were rapidly degraded by co-metabolic bacteria and did not accumulate.

The degradation of chlorinated VOCs results in the production of chloride. The use of road salt in locations with cold winters can also result in elevated chloride. However, it is often possible to "see through" road salt impacts by evaluating the molar ratio of chloride to sodium. Ramboll generally considers a chloride/sodium molar ratio of 1.25 moles or greater as possibly suggesting the production of chloride from the degradation of chlorinated VOCs. As shown on **Table G-3**, the chloride/sodium molar ratio for the Site ranges from approximately 0.70 in overburden monitoring well MW-18 to approximately 1.19 in inactive overburden recovery well RW-8S and are not sufficiently elevated to suggest significant degradation of chlorinated VOCs. This is to be expected given the relatively low concentrations of VOCs that remain in groundwater at the Site.

5.4 VOCs

As shown on **Table G-4**, VOCs were detected four overburden wells (GW-4S, MW-18, RW-1S, and RW-8S) and two bedrock wells (DW-1 and RW-3D). The highest total VOC concentration in the overburden was 18.88 µg/L in MW-18 (adjacent to RW-3D), and the highest total VOC concentration in the bedrock was 680 µg/L in recovery well RW-3D.

PCE and TCE are the dominant Site-related VOCs in the overburden and bedrock. PCE was detected at concentrations ranging from 0.45 ug/L, estimated, to 260 ug/L. TCE was detected at concentrations ranging from 1.3 ug/L, estimated, to 240 ug/L. In general, TCE was detected at higher concentrations than PCE, with the exception of recovery well RW-3D. 1,2-DCE was detected in two wells at concentrations of 8.4 ug/L, estimated, in MW-18 and 180 ug/L in recovery well RW-3D, and VC was detected in MW-18 at a concentration of 8.6 ug/L.

6. Degradation Pathways for Chlorinated VOCs

Degradation of chlorinated VOCs can occur in multiple ways, depending upon the subsurface conditions and the remedial technology applied. The predominant biological pathway that is exploited for the Site-related VOCs is reductive dechlorination, expressed below.

PCE -> TCE -> 1,2-DCE[4] -> VC -> Ethene

This pathway takes place under anaerobic conditions and results in the sequential removal of chlorine from the parent compounds (i.e., PCE and/or TCE through 1,2-DCE and VC) until ethene is formed (Leeson, et al., 2004; Interstate Technology & Regulatory Council [ITRC], 2008; Marks and Acheson, 2018). Reductive dechlorination requires the presence of an electron donor (e.g., source of carbon and

[4] The cis isomer is the dominant 1,2-DCE produced via biotic degradation from PCE and TCE.

energy) and electron acceptor (e.g., iron, sulfate, carbon dioxide). Several different bacteria can mediate the reduction of PCE and/or TCE to 1,2-DCE. DHC has been identified as the major class of bacteria that are capable of mediating the reduction of 1,2-DCE to VC to ethene. These bacteria typically use hydrogen generated by the fermentation of other electron donors (e.g., oils, fatty acids, simple sugars) as their primary source of energy. Deeply reducing conditions are generally required for complete reductive dechlorination of PCE and TCE to ethene. Anaerobic conditions already occur at the Site at/near overburden monitoring well MW-18. The groundwater from MW-18 is also more reducing than at other wells, but not sufficiently reducing for DHC to be active.

1,2-DCE and VC can also be biodegraded via a direct oxidative pathway under both aerobic and anaerobic conditions (Bradley, 2003; Mattes, et al., 2010). Aerobic biodegradation may occur either directly or via a co-metabolic pathway if there are other substrates available to support microbial growth, such as phenol, toluene, propane, methane, ethane, or ethene (Fogel, et al., 1996; Semprini, 2001). TCE can also be biodegraded via a co-metabolic pathway using some of these substrates. Direct aerobic oxidation is most commonly observed with VC, but it has also been observed with 1,2-DCE (Bradley and Chapelle, 1998a; Bradley and Chapelle, 2000). Direct anaerobic oxidation of 1,2-DCE and VC has also been demonstrated under a number of different oxidation-reduction states, including iron-reducing, sulfate-reducing and methanogenic conditions (Bradley and Chapelle, 1998b; Bradley, 2003).

Various amendments including electron donors (e.g., lactate, emulsified vegetable oil [EVO], or EHC®), sulfate, and nutrients, can be injected into the subsurface to promote microbial growth (i.e., biostimulation) and evaluate the efficacy for biodegradation of the Site-related VOCs through time. It is recommended that a pilot study of reductive dechlorination via biodegradation be developed for the Site. The pilot study would include baseline monitoring for initial microbial population(s) and VOCs of interest to support design of the study, followed by implementation of the pilot study, and subsequent performance monitoring to evaluate biodegradation.

7. Recommendations

Based on the above, the conditions at the Site appear favorable for implementing enhanced in-situ bioremediation (EISB) or a combination of EISB and in-situ chemical reduction (ISCR)[5] with performance monitoring to address residual VOCs.

Advantages for a reductive dechlorination via biodegradation pilot study at the Site include:

- Reductive dechlorination via biodegradation works in concert with the natural oxidation-reduction conditions in the subsurface to degrade Site-related VOCs in place.
- The amendments are much longer-lived (e.g., one to four years), in sharp contrast to the oxidants used for in-situ chemical oxidation (ISCO). Studies show that EISB is less prone to rebound, likely in part due to the difference in longevity of the amendments.
- The size and depth of the source area that would be targeted is not significant, which means that the pilot study could be designed to be sufficient to transition the Site from pump-and-treat to monitored natural attenuation (MNA).
- All injection amendments are food grade, safe, and non-hazardous.

[5] EHC® is a solid amendment that combined a carbon substrate to promote EISB and zero valent iron (ZVI) to promote ISCR.

- Injection of amendments may be possible through the existing site wells.
- During the pilot study, the GWE&T system would not be in operation; therefore, costs associated with the operation, monitoring, and maintenance of the GWE&T system could then be applied to the labor and direct costs associated with the pilot study and performance monitoring.

8. References

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Mattes, T.E.; Alexander, A.K.; Coleman, N.V., 2010. Aerobic biodegradation of the chloro-ethenes: pathways, enzymes, ecology, and evolution. FEMS Microbiology Review. July, 2010, 34, 4, 445-475.

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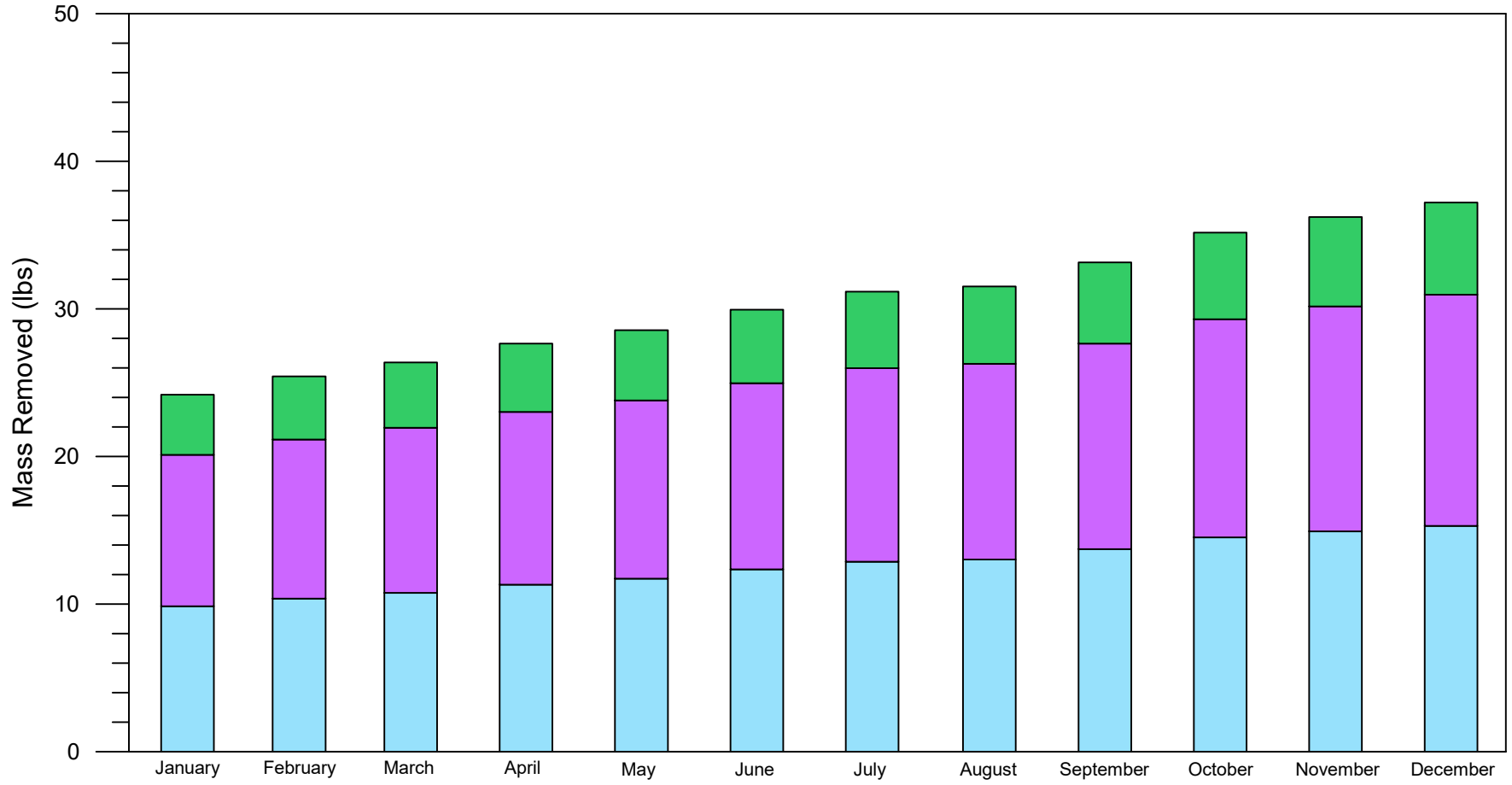
Semprini L., 2001. Editorial. Biodegradation, 2001, 12, 79–80.

FIGURES

FIGURE G-1
CUMULATIVE MASS OF PCE, TCE, AND DCE REMOVED FROM RW-3D

NYSDEC COSCO Site
Spring Valley, New York



1. For non-detects, zero is used.
2. PCE is tetrachloroethene.
3. TCE is trichloroethene.
4. DCE is dichloroethene.
5. Mass removal for PCE, TCE and DCE for 2017 is shown.

RAMBOLL

FIGURE G-2
SUMMARY OF PASSIVE DIFFUSION BAG SAMPLING RESULTS IN RW-3D

NYSDEC COSCO Site
Spring Valley, New York

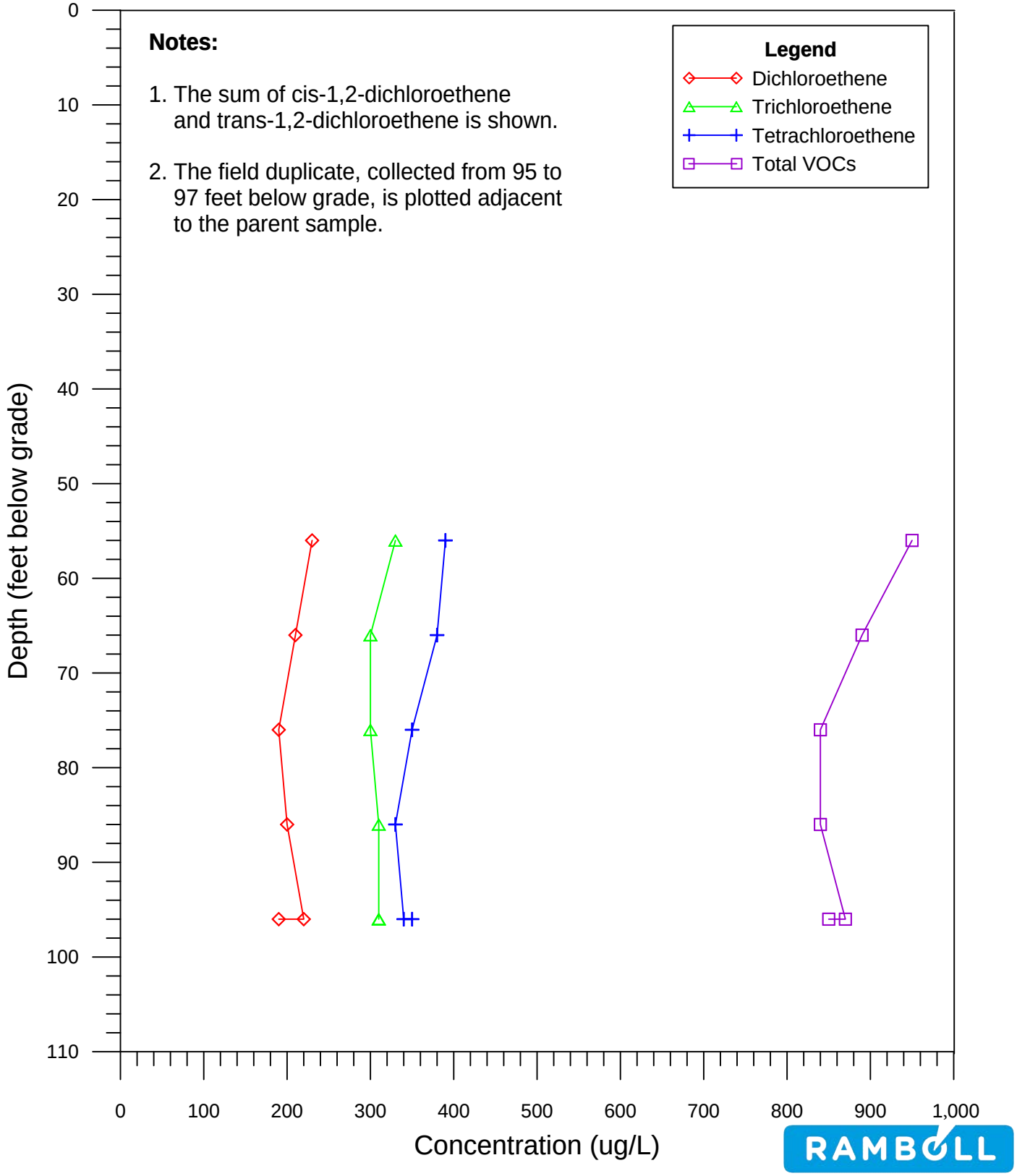
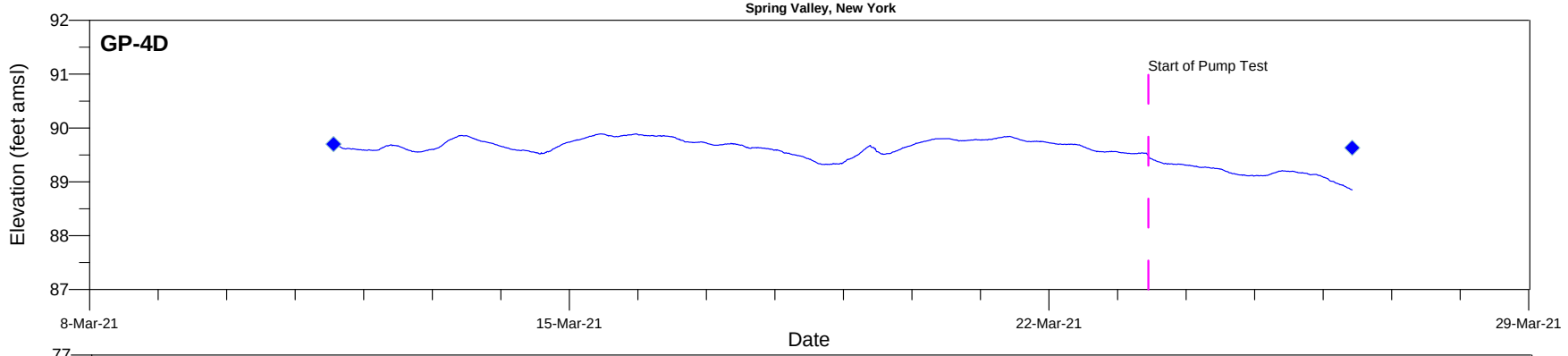
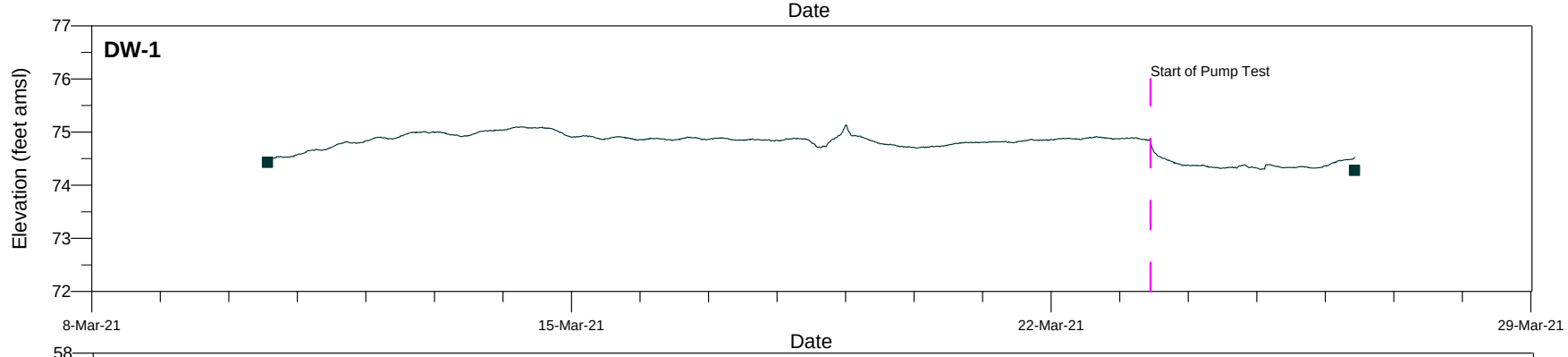
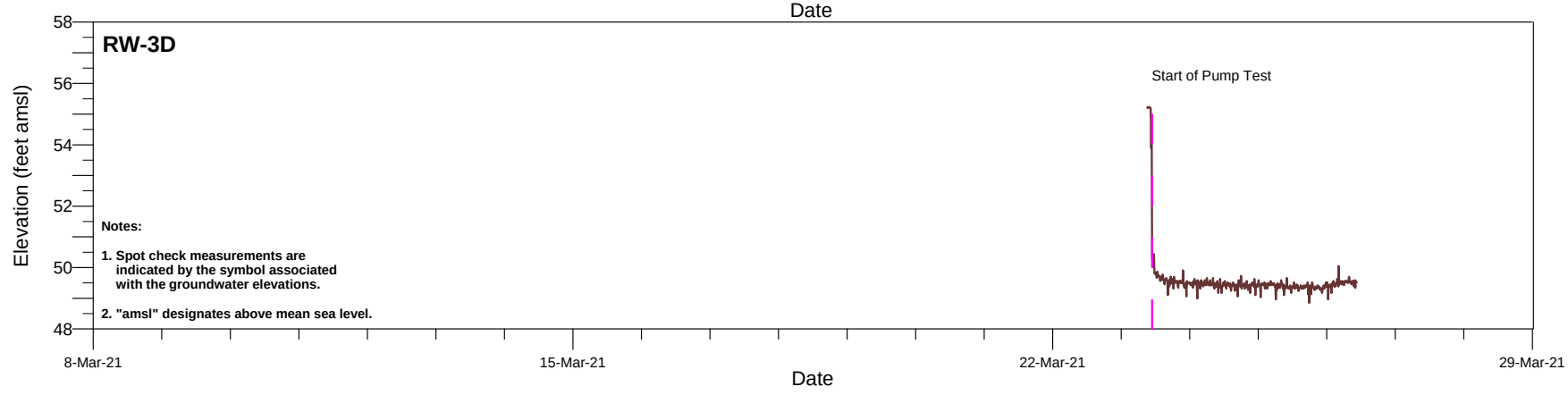


Figure G-3
72-Hour Constant Rate Pumping Test Hydraulic Monitoring Data for GP-4D, DW-1, and RW-3D
NYSDEC COSCO Site
Spring Valley, New York





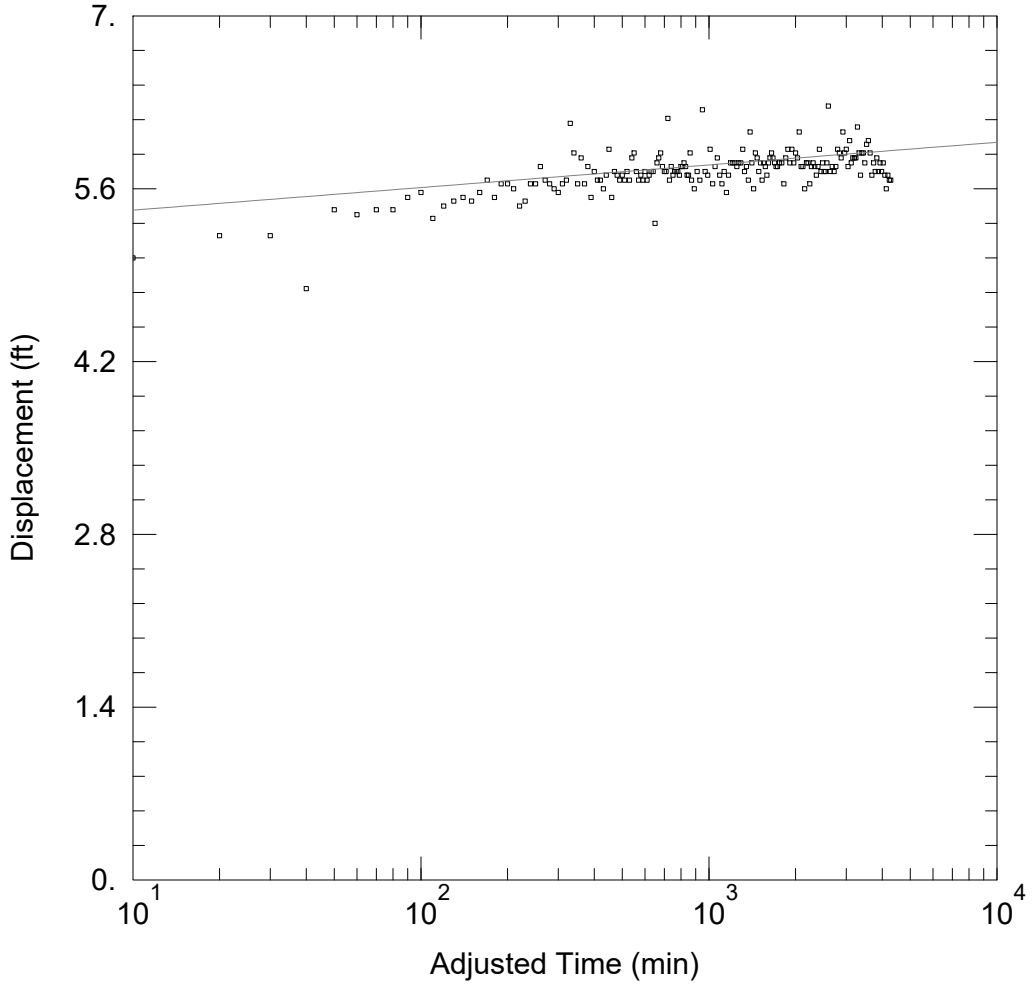


Notes:

1. Spot check measurements are indicated by the symbol associated with the groundwater elevations.

2. "amsl" designates above mean sea level.

FIGURE G-4
RECOVERY WELL RW-3D DRAWDOWN ANALYSIS



WELL TEST ANALYSIS

PROJECT INFORMATION

Company: Ramboll
Client: COSCO
Test Well: RW-3D
Test Date: 3/23/2021

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 1923.8 ft^2/day
S = 3.054E-28

TABLES

Table G-1
Summary of Detected Constituents in Passive Diffusion Bags in RW-3D
NYSDEC COSCO Site
Spring Valley, New York

Compounds	Location ID	RW-3D	RW-3D	RW-3D	RW-3D	RW-3D	RW-3D
	Sample ID	RW-3D-PDB-55-57-030521	RW-3D-PDB-65-67-030521	RW-3D-PDB-75-77-030521	RW-3D-PDB-85-87-030521	RW-3D-PDB-95-97-030521	DUP-001-030521
	Sample Date	3/5/2021	3/5/2021	3/5/2021	3/5/2021	3/5/2021	3/5/2021
1,2-Dichloroethene, Total		230	210	190	200	220	190
Tetrachloroethene		390	380	350	350	350	350
Trichloroethene		330	300	300	310	310	310

Notes:

1. Samples analyzed for volatile organic compounds using United States Environmental Protection Agency Method 624 by Eurofins TestAmerica in Amherst, New York.
2. Results are reported in micrograms per liter (µg/L).

Table G-2
Summary of Additional Geochemical Parameter Data - March 2021
NYSDEC COSCO Site
Spring Valley, New York

Compounds	Location ID	GP-4D	GP-4D	DW-1	GW-4S	RW-1S	RW-3D	MW-18	RW-8S	MW-3
	Sample ID	GP-4D-030821	DUP-001-030821	DW-1-030821	GW-4S-030821	RW-1S-030921	RW-3D-030921	MW-18-030921	RW-8S-031021	MW-3-031021
	Sample Date	3/8/2021	3/8/2021	3/8/2021	3/8/2021	3/9/2021	3/9/2021	3/9/2021	3/10/2021	3/10/2021
Calcium		47.8	47.6	36.4	49.0	47.9	68.9	41.5	325	49.1
Iron		0.046 JH	0.26 JH	0.065 JH	0.15 JH	0.067	0.050 U	7.6	0.30 J	8.3 JH
Magnesium		8.4	8.3	7.4	10.1	7.7	21.2	7.4	37.1	11.6
Manganese		0.003 U	0.012 JH	0.0031 JH	0.54 JH	0.13	0.0030 U	2.4	0.12 JH	2.1 JH
Potassium		1.2	1.3	1.3	1.7	2.0	2.0	2.4	17.6 J	1.7 J
Sodium		173	171	140	121	158	163	135	1,700	379
Total Organic Carbon (TOC)		0.71 J	0.75 J	0.49 J	1.6	2.0	0.72 J	5.0	6.4	7.9
Methane		4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	520	1.6 J	25
Nitrate		3.4	3.4	1.1	0.45	2.2	2.3	0.16	1.4	0.29
Nitrite		0.050 U	0.050 U	0.050 U	0.050 U	0.021 J	0.050 U	0.050 U	0.050 U	0.050 U
Chloride		243	243	211	184	199	272	146	3,110	641
Sulfate		19.7	19.6	10.4	17.3	19.6	19.9	11.2	31.9 J	40.0 U
Total Alkalinity*		147	146	122	170	168	206	198	151	53.4

Notes:

1. Samples analyzed for total and dissolved (field filtered for Fe and Mn only) metals by United States Environmental Protection Agency (USEPA) Method 6010C, total organic carbon by standard method (SM) 5310D, dissolved gases (methane, ethane, ethene) by method RSK-175, anions by USEPA method 300.0, nitrate and nitrite by USEPA method 353.2, alkalinity (total as calcium carbonate) by SM 2320B, and sulfide by SM 4500 S2-F by Eurofins TestAmerica in Amherst, New York.
2. Results are reported as detects only in micrograms per liter (µg/L) for dissolved gases. The remaining analyses are reported as detects only in milligrams per liter (mg/L).
3. "NYSDEC" designates New York State Department of Environmental Conservation.
4. "J" indicates that the compound was detected at an estimated concentration.
5. "JH" indicates that the compound was detected at an estimated concentration, biased high.
6. "U" indicates that the compound was not detected at or above the practical quantitation limit shown.
7. "*" designates total alkalinity reported as total of calcium carbonate.

Table G-3
Chloride and Sodium Molar Ratio Summary
NYSDEC COSCO Site
Spring Valley, New York

Well	Geologic Unit	Chloride Concentration (mg/L)	Sodium Concentration (mg/L)	Chloride/Sodium Molar Ratio (moles)
MW-3	Overburden	641	379	1.10
MW-18	Overburden	146	135	0.70
GW-4S	Overburden	184	121	0.99
RW-1S	Overburden	199	158	0.82
RW-8S	Overburden	3,110	1,700	1.19
DW-1	Bedrock	211	140	0.98
GP-4D	Bedrock	243	173	0.91
RW-3D	Bedrock	272	163	1.08

Notes:

1. "NYSDEC" designates New York State Department of Environmental Conservation.
2. "mg/L" designates concentrations are presented in milligrams per liter.

Table G-4
Summary of Detected Constituents in Groundwater - March 2021
NYSDEC COSCO Site
Spring Valley, New York

Compounds	NYSDEC TOGs (1.1.1), Class GA Standards and Guidance Values[1]	Location ID	RW-1S	RW-3D	DW-1	MW-18	GW-4S	RW-8S
		Sample ID	RW-1S-030921	RW-3D-030921	DW-1-030821	MW-18-030921	GW-4S-030821	RW-8S-031021
		Sample Date	3/9/2021	3/9/2021	3/8/2021	3/9/2021	3/8/2021	3/10/2021
1,2-Dichloroethene, Total	5[2]		10 U	**180**	10 U	**8.4 J**	10 U	10 U
Tetrachloroethene	5		3.4 J	**260**	0.58 J	0.58 J	5.0 U	0.45 J
Trichloroethene	5		**12**	**240**	5.0 U	1.3 J	**5.8**	**5.3**
Vinyl chloride	2		5.0 U	25 U	5.0 U	**8.6**	5.0 U	5.0 U

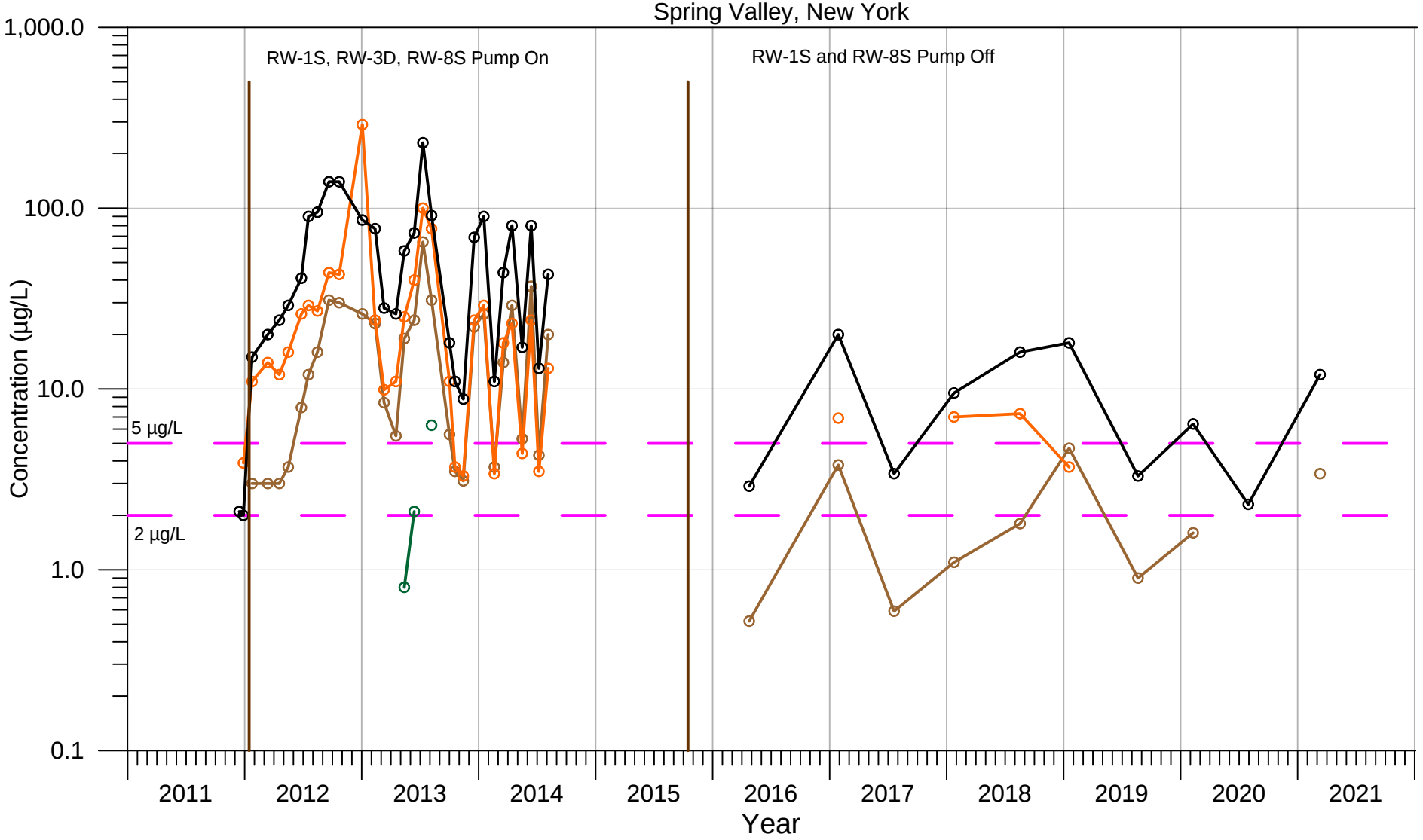
Notes:

1. Samples analyzed for volatile organic compounds using United States Environmental Protection Agency Method 624 by Eurofins TestAmerica in Amherst, New York.
2. Results are reported in micrograms per liter (µg/L).
3. "NYSDEC" designates New York State Department of Environmental Conservation.
4. "TOGS" designates Technical and Operational Guidance Series.
5. [1]New York State Department of Environmental Conservation, Technical and Operational Guidance Series (1.1.1), Class GA Standards and Guidance Values, June 1998, with all current addendums.
6. [2]To be conservative, the individual Class GA Standard is used for cis-1,2-dichloroethene and trans-1,2-dichloroethene.
7. "U" indicates that the compound was not detected at or above the practical quantitation limit shown.
8. "J" indicates that the compound was detected at an estimated concentration.
9. Values that are bold indicate exceedance of criteria.

APPENDIX G-1
CONCENTRATION TREND PLOTS OF SITE CONSTITUENTS OF CONCERN

Concentrations of PCE, TCE, DCE, and VC at Recovery Well RW-1S

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

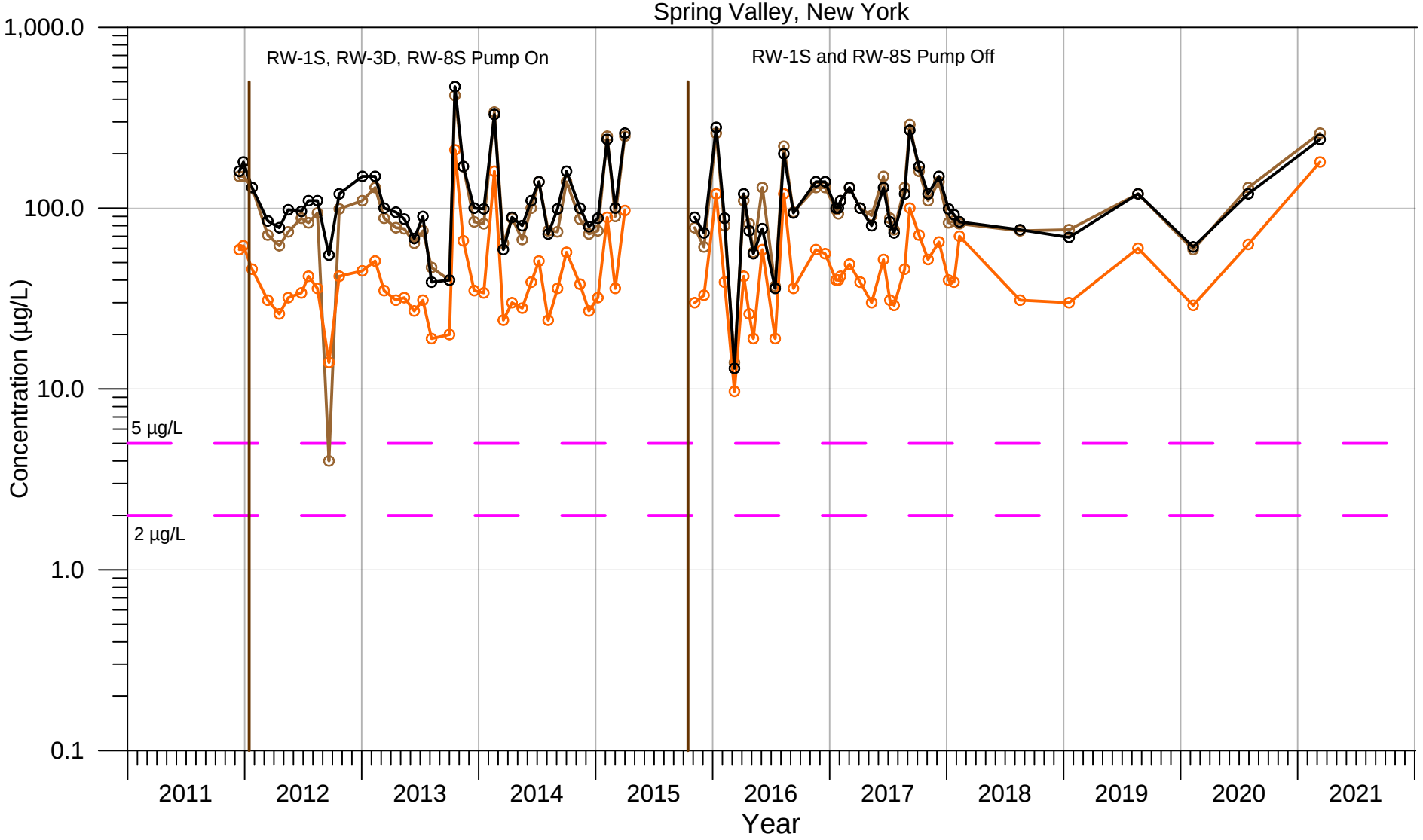
Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Recovery Well RW-3D

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

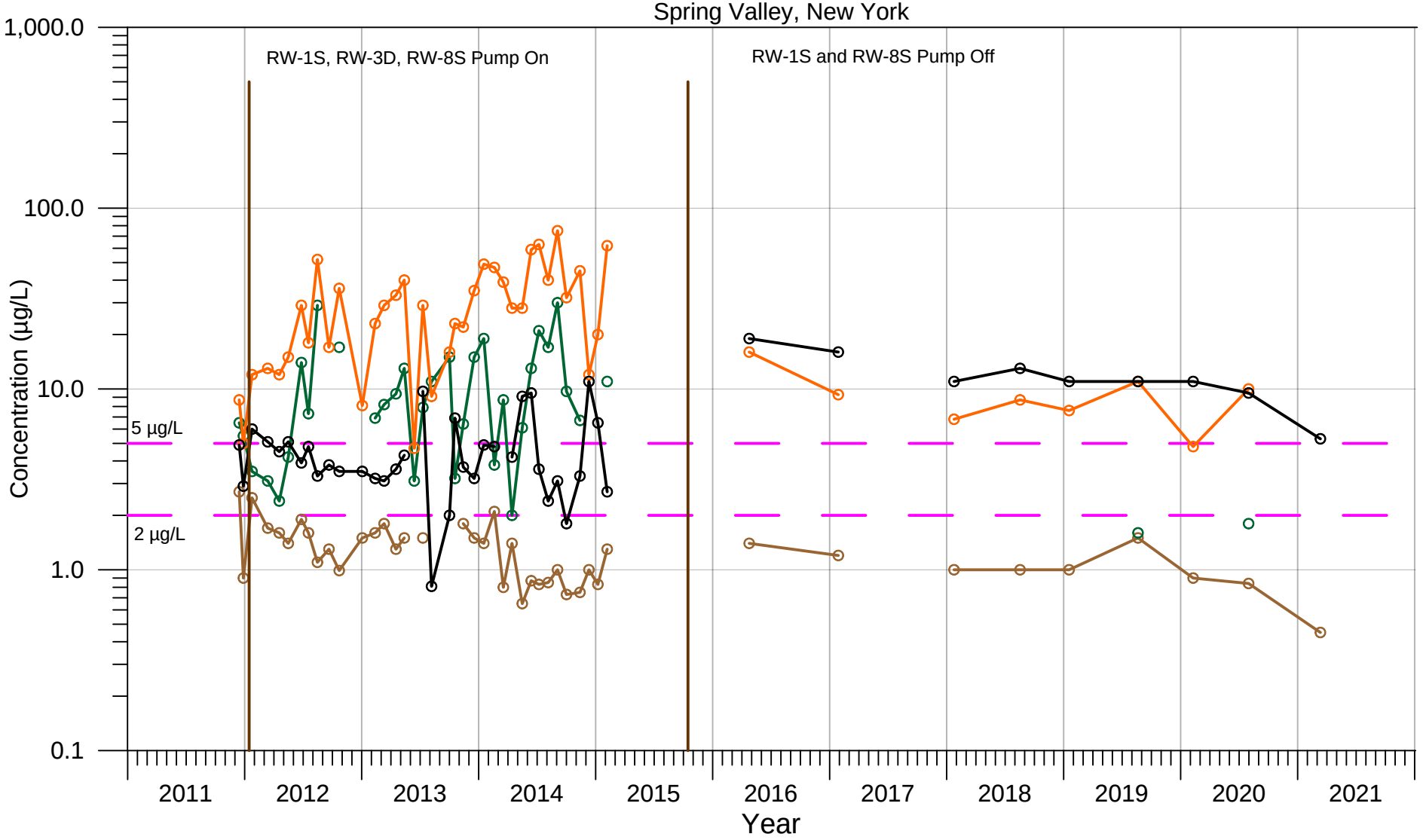
Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Recovery Well RW-8S

NYSDEC COSCO Site
Spring Valley, New York



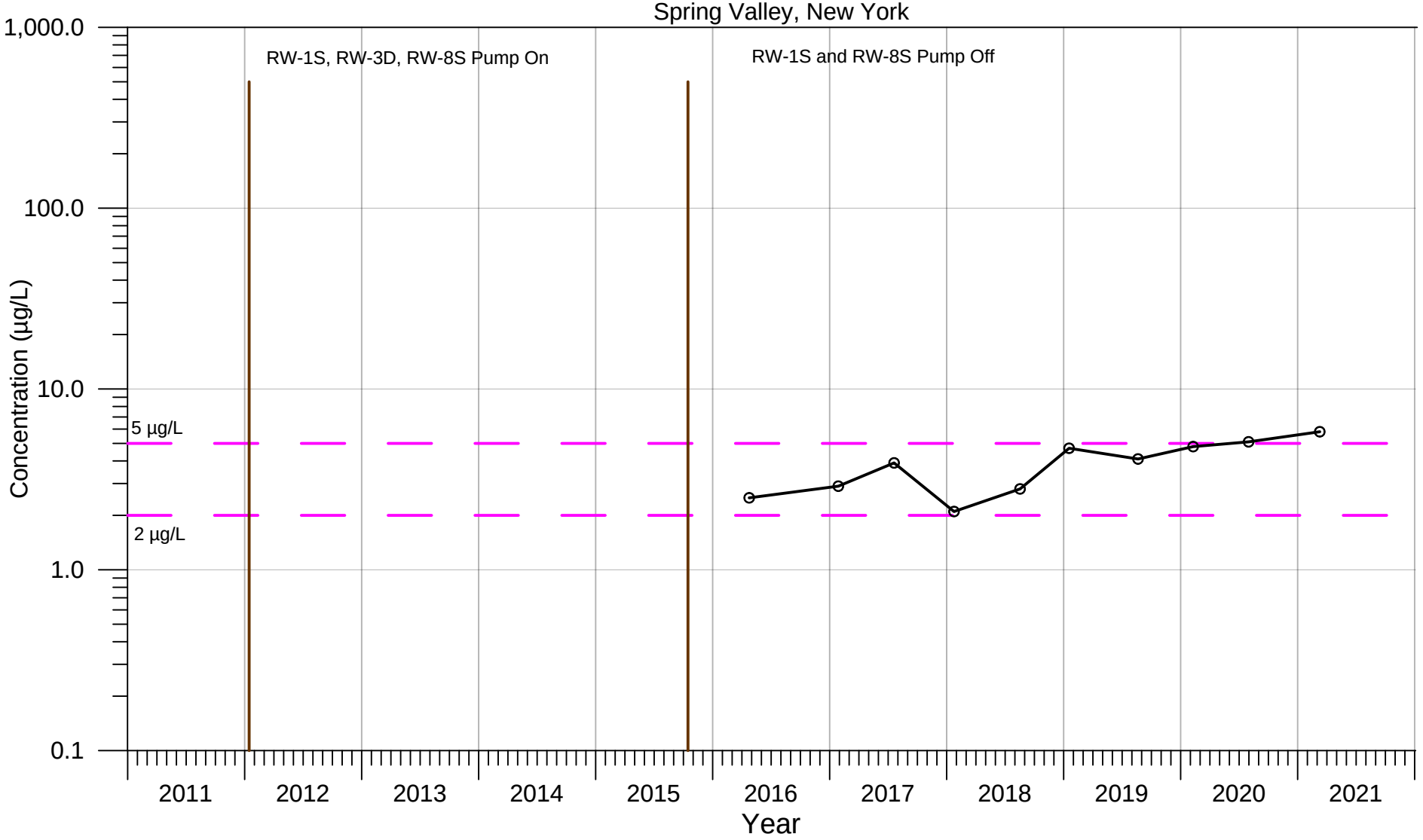
Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

Notes:
1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Monitoring Well GW-4S

NYSDEC COSCO Site
Spring Valley, New York



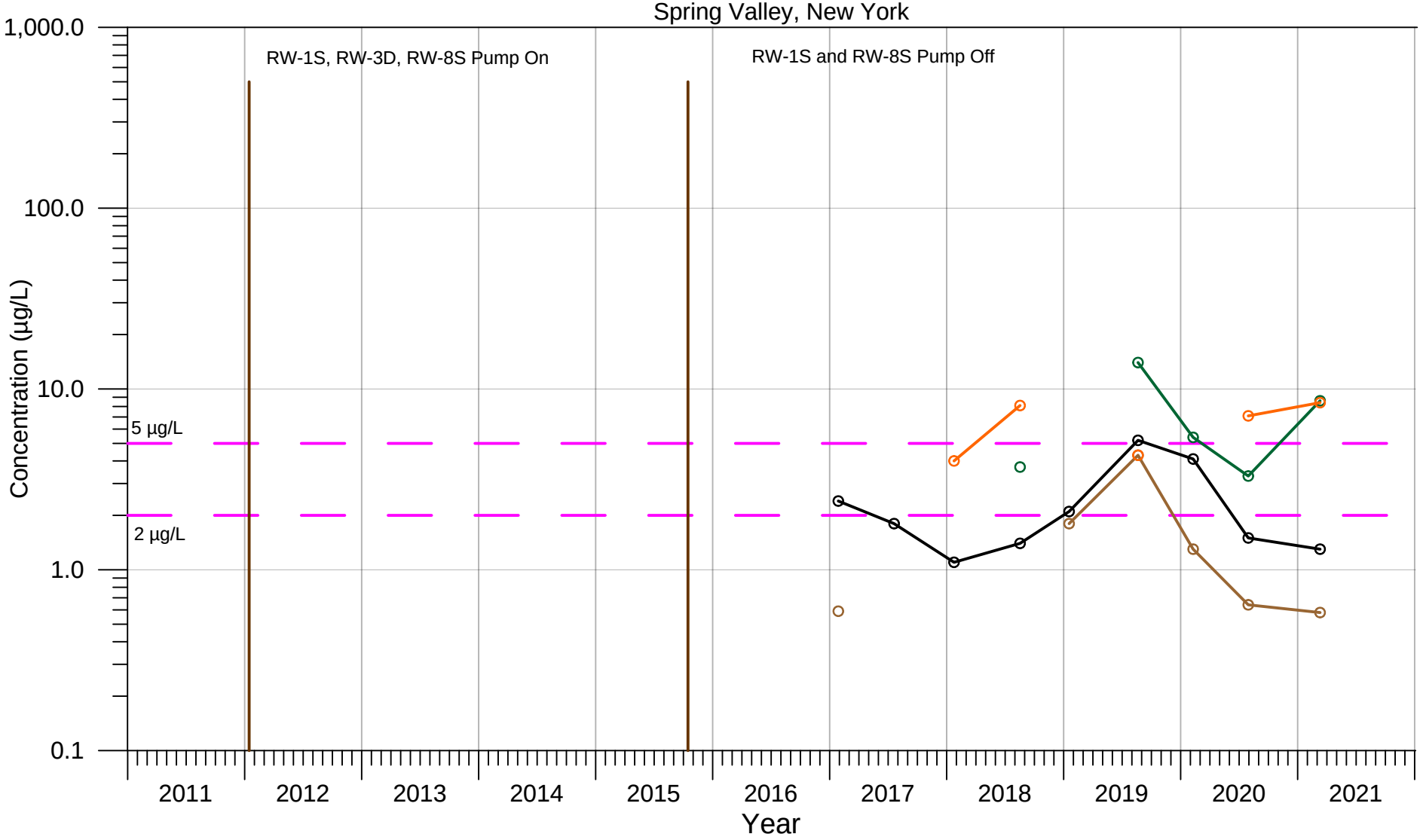
Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

Notes:
1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Monitoring Well MW-18

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

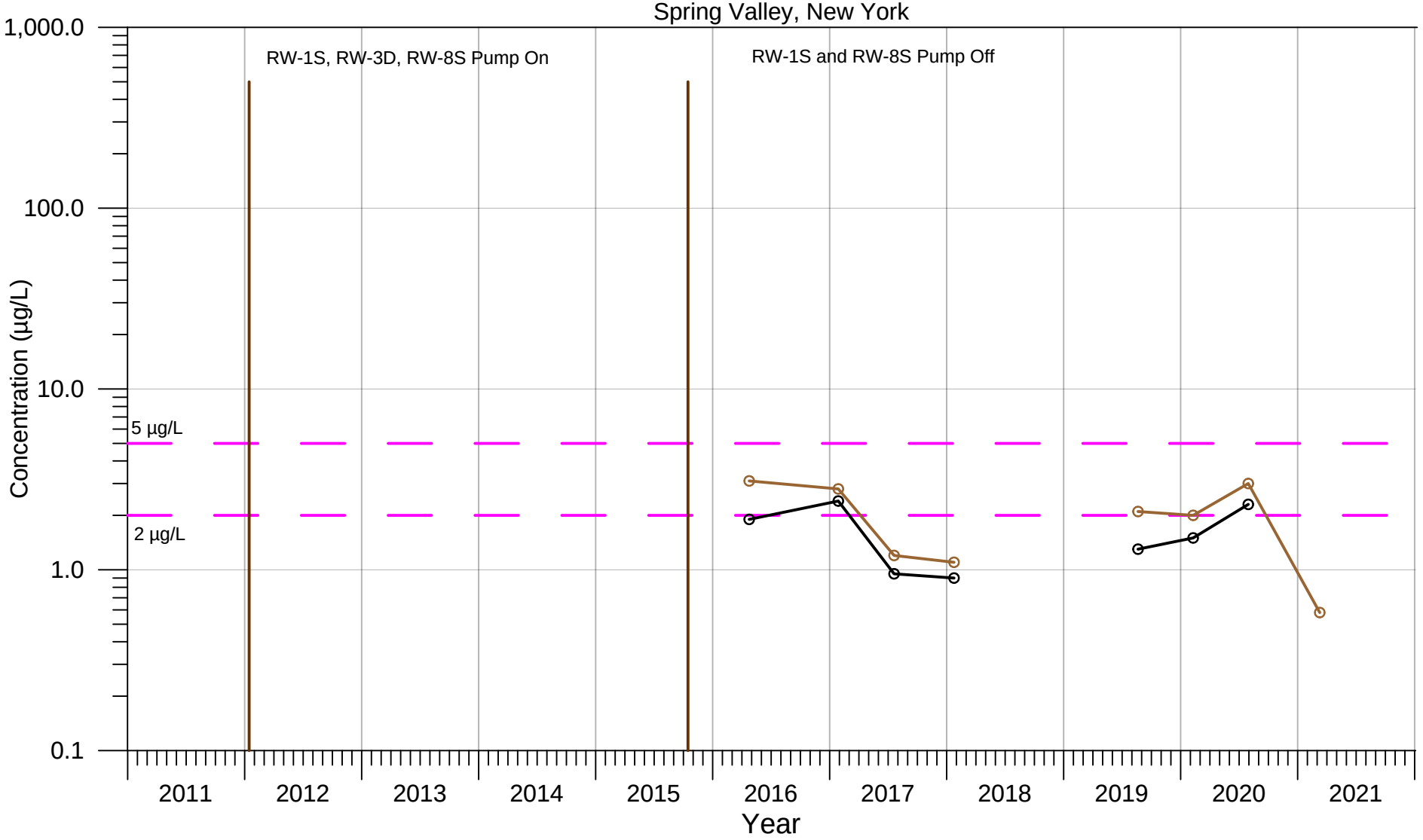
Notes:

1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

Concentrations of PCE, TCE, DCE, and VC at Monitoring Well DW-1

NYSDEC COSCO Site
Spring Valley, New York



Tetrachloroethene
Trichloroethene
Dichloroethene
Vinyl Chloride

Notes:
1. The sum of cis-1,2-dichloroethene and trans-1,2-dichloroethene is plotted.
2. The Class GA Standard of 2 micrograms per liter (ug/L) for vinyl chloride is shown.
3. The Class GA Standard of 5 ug/L for tetrachloroethene and trichloroethene is shown.
4. To be conservative, the individual Class GA Standard is plotted for cis-1,2-dichloroethene and trans-1,2-dichloroethene, 5 ug/L.
5. For clarity, none detects are not shown.

RAMBOLL

APPENDIX G-2
PASSIVE DIFFUSION BAG SAMPLE ANALYTICAL RESULTS

Client Sample ID: RW-3D-PDB-55-57-030521
Lab Sample ID: 480-181764-1

Date Collected: 03/05/21 11:15
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	3.1	ug/L			03/08/21 14:09	8
1,1,2,2-Tetrachloroethane	ND		40	2.1	ug/L			03/08/21 14:09	8
1,1,2-Trichloroethane	ND		40	3.9	ug/L			03/08/21 14:09	8
1,1-Dichloroethane	ND		40	4.7	ug/L			03/08/21 14:09	8
1,1-Dichloroethene	ND		40	6.8	ug/L			03/08/21 14:09	8
1,2-Dichlorobenzene	ND		40	3.6	ug/L			03/08/21 14:09	8
1,2-Dichloroethane	ND		40	4.8	ug/L			03/08/21 14:09	8
1,2-Dichloroethene, Total	**230**		80	26	ug/L			03/08/21 14:09	8
1,2-Dichloropropane	ND		40	4.9	ug/L			03/08/21 14:09	8
1,3-Dichlorobenzene	ND		40	4.3	ug/L			03/08/21 14:09	8
1,4-Dichlorobenzene	ND		40	4.1	ug/L			03/08/21 14:09	8
2-Chloroethyl vinyl ether	ND		200	15	ug/L			03/08/21 14:09	8
Acrolein	ND		800	140	ug/L			03/08/21 14:09	8
Acrylonitrile	ND		400	15	ug/L			03/08/21 14:09	8
Benzene	ND		40	4.8	ug/L			03/08/21 14:09	8
Bromodichloromethane	ND		40	4.3	ug/L			03/08/21 14:09	8
Bromoform	ND		40	3.7	ug/L			03/08/21 14:09	8
Bromomethane	ND		40	9.5	ug/L			03/08/21 14:09	8
Carbon tetrachloride	ND		40	4.1	ug/L			03/08/21 14:09	8
Chlorobenzene	ND		40	3.8	ug/L			03/08/21 14:09	8
Chlorodibromomethane	ND		40	3.3	ug/L			03/08/21 14:09	8
Chloroethane	ND		40	7.0	ug/L			03/08/21 14:09	8
Chloroform	ND		40	4.3	ug/L			03/08/21 14:09	8
Chloromethane	ND		40	5.1	ug/L			03/08/21 14:09	8
cis-1,3-Dichloropropene	ND		40	2.6	ug/L			03/08/21 14:09	8
Ethylbenzene	ND		40	3.7	ug/L			03/08/21 14:09	8
Methylene Chloride	ND		40	6.5	ug/L			03/08/21 14:09	8
Tetrachloroethene	**390**		40	2.7	ug/L			03/08/21 14:09	8
Toluene	ND		40	3.6	ug/L			03/08/21 14:09	8
trans-1,2-Dichloroethene	ND		40	4.7	ug/L			03/08/21 14:09	8
trans-1,3-Dichloropropene	ND		40	3.5	ug/L			03/08/21 14:09	8
Trichloroethene	**330**		40	4.8	ug/L			03/08/21 14:09	8
Vinyl chloride	ND		40	6.0	ug/L			03/08/21 14:09	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*68 - 130*		*03/08/21 14:09*	*8*
4-Bromofluorobenzene (Surr)	*108*		*76 - 123*		*03/08/21 14:09*	*8*
Dibromofluoromethane (Surr)	*101*		*75 - 123*		*03/08/21 14:09*	*8*
Toluene-d8 (Surr)	*92*		*77 - 120*		*03/08/21 14:09*	*8*

Client Sample ID: RW-3D-PDB-65-67-030521
Lab Sample ID: 480-181764-2

Date Collected: 03/05/21 11:25
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	3.1	ug/L			03/08/21 14:34	8
1,1,2,2-Tetrachloroethane	ND		40	2.1	ug/L			03/08/21 14:34	8
1,1,2-Trichloroethane	ND		40	3.9	ug/L			03/08/21 14:34	8
1,1-Dichloroethane	ND		40	4.7	ug/L			03/08/21 14:34	8

Client Sample ID: RW-3D-PDB-65-67-030521

Lab Sample ID: 480-181764-2

Date Collected: 03/05/21 11:25
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		40	6.8	ug/L			03/08/21 14:34	8
1,2-Dichlorobenzene	ND		40	3.6	ug/L			03/08/21 14:34	8
1,2-Dichloroethane	ND		40	4.8	ug/L			03/08/21 14:34	8
1,2-Dichloroethene, Total	**210**		80	26	ug/L			03/08/21 14:34	8
1,2-Dichloropropane	ND		40	4.9	ug/L			03/08/21 14:34	8
1,3-Dichlorobenzene	ND		40	4.3	ug/L			03/08/21 14:34	8
1,4-Dichlorobenzene	ND		40	4.1	ug/L			03/08/21 14:34	8
2-Chloroethyl vinyl ether	ND		200	15	ug/L			03/08/21 14:34	8
Acrolein	ND		800	140	ug/L			03/08/21 14:34	8
Acrylonitrile	ND		400	15	ug/L			03/08/21 14:34	8
Benzene	ND		40	4.8	ug/L			03/08/21 14:34	8
Bromodichloromethane	ND		40	4.3	ug/L			03/08/21 14:34	8
Bromoform	ND		40	3.7	ug/L			03/08/21 14:34	8
Bromomethane	ND		40	9.5	ug/L			03/08/21 14:34	8
Carbon tetrachloride	ND		40	4.1	ug/L			03/08/21 14:34	8
Chlorobenzene	ND		40	3.8	ug/L			03/08/21 14:34	8
Chlorodibromomethane	ND		40	3.3	ug/L			03/08/21 14:34	8
Chloroethane	ND		40	7.0	ug/L			03/08/21 14:34	8
Chloroform	ND		40	4.3	ug/L			03/08/21 14:34	8
Chloromethane	ND		40	5.1	ug/L			03/08/21 14:34	8
cis-1,3-Dichloropropene	ND		40	2.6	ug/L			03/08/21 14:34	8
Ethylbenzene	ND		40	3.7	ug/L			03/08/21 14:34	8
Methylene Chloride	ND		40	6.5	ug/L			03/08/21 14:34	8
Tetrachloroethene	**380**		40	2.7	ug/L			03/08/21 14:34	8
Toluene	ND		40	3.6	ug/L			03/08/21 14:34	8
trans-1,2-Dichloroethene	ND		40	4.7	ug/L			03/08/21 14:34	8
trans-1,3-Dichloropropene	ND		40	3.5	ug/L			03/08/21 14:34	8
Trichloroethene	**300**		40	4.8	ug/L			03/08/21 14:34	8
Vinyl chloride	ND		40	6.0	ug/L			03/08/21 14:34	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*68 - 130*		*03/08/21 14:34*	*8*
4-Bromofluorobenzene (Surr)	*113*		*76 - 123*		*03/08/21 14:34*	*8*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/08/21 14:34*	*8*
Toluene-d8 (Surr)	*105*		*77 - 120*		*03/08/21 14:34*	*8*

Client Sample ID: RW-3D-PDB-75-77-030521

Lab Sample ID: 480-181764-3

Date Collected: 03/05/21 11:30
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	3.1	ug/L			03/08/21 14:57	8
1,1,2,2-Tetrachloroethane	ND		40	2.1	ug/L			03/08/21 14:57	8
1,1,2-Trichloroethane	ND		40	3.9	ug/L			03/08/21 14:57	8
1,1-Dichloroethane	ND		40	4.7	ug/L			03/08/21 14:57	8
1,1-Dichloroethene	ND		40	6.8	ug/L			03/08/21 14:57	8
1,2-Dichlorobenzene	ND		40	3.6	ug/L			03/08/21 14:57	8
1,2-Dichloroethane	ND		40	4.8	ug/L			03/08/21 14:57	8
1,2-Dichloroethene, Total	**190**		80	26	ug/L			03/08/21 14:57	8

Client Sample ID: RW-3D-PDB-75-77-030521

Lab Sample ID: 480-181764-3

Date Collected: 03/05/21 11:30
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		40	4.9	ug/L			03/08/21 14:57	8
1,3-Dichlorobenzene	ND		40	4.3	ug/L			03/08/21 14:57	8
1,4-Dichlorobenzene	ND		40	4.1	ug/L			03/08/21 14:57	8
2-Chloroethyl vinyl ether	ND		200	15	ug/L			03/08/21 14:57	8
Acrolein	ND		800	140	ug/L			03/08/21 14:57	8
Acrylonitrile	ND		400	15	ug/L			03/08/21 14:57	8
Benzene	ND		40	4.8	ug/L			03/08/21 14:57	8
Bromodichloromethane	ND		40	4.3	ug/L			03/08/21 14:57	8
Bromoform	ND		40	3.7	ug/L			03/08/21 14:57	8
Bromomethane	ND		40	9.5	ug/L			03/08/21 14:57	8
Carbon tetrachloride	ND		40	4.1	ug/L			03/08/21 14:57	8
Chlorobenzene	ND		40	3.8	ug/L			03/08/21 14:57	8
Chlorodibromomethane	ND		40	3.3	ug/L			03/08/21 14:57	8
Chloroethane	ND		40	7.0	ug/L			03/08/21 14:57	8
Chloroform	ND		40	4.3	ug/L			03/08/21 14:57	8
Chloromethane	ND		40	5.1	ug/L			03/08/21 14:57	8
cis-1,3-Dichloropropene	ND		40	2.6	ug/L			03/08/21 14:57	8
Ethylbenzene	ND		40	3.7	ug/L			03/08/21 14:57	8
Methylene Chloride	ND		40	6.5	ug/L			03/08/21 14:57	8
Tetrachloroethene	**350**		40	2.7	ug/L			03/08/21 14:57	8
Toluene	ND		40	3.6	ug/L			03/08/21 14:57	8
trans-1,2-Dichloroethene	ND		40	4.7	ug/L			03/08/21 14:57	8
trans-1,3-Dichloropropene	ND		40	3.5	ug/L			03/08/21 14:57	8
Trichloroethene	**300**		40	4.8	ug/L			03/08/21 14:57	8
Vinyl chloride	ND		40	6.0	ug/L			03/08/21 14:57	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*68 - 130*		*03/08/21 14:57*	*8*
4-Bromofluorobenzene (Surr)	*107*		*76 - 123*		*03/08/21 14:57*	*8*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*03/08/21 14:57*	*8*
Toluene-d8 (Surr)	*100*		*77 - 120*		*03/08/21 14:57*	*8*

Client Sample ID: RW-3D-PDB-85-87-030521

Lab Sample ID: 480-181764-4

Date Collected: 03/05/21 11:35
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	3.1	ug/L			03/08/21 15:21	8
1,1,2,2-Tetrachloroethane	ND		40	2.1	ug/L			03/08/21 15:21	8
1,1,2-Trichloroethane	ND		40	3.9	ug/L			03/08/21 15:21	8
1,1-Dichloroethane	ND		40	4.7	ug/L			03/08/21 15:21	8
1,1-Dichloroethene	ND		40	6.8	ug/L			03/08/21 15:21	8
1,2-Dichlorobenzene	ND		40	3.6	ug/L			03/08/21 15:21	8
1,2-Dichloroethane	ND		40	4.8	ug/L			03/08/21 15:21	8
1,2-Dichloroethene, Total	**200**		80	26	ug/L			03/08/21 15:21	8
1,2-Dichloropropane	ND		40	4.9	ug/L			03/08/21 15:21	8
1,3-Dichlorobenzene	ND		40	4.3	ug/L			03/08/21 15:21	8
1,4-Dichlorobenzene	ND		40	4.1	ug/L			03/08/21 15:21	8
2-Chloroethyl vinyl ether	ND		200	15	ug/L			03/08/21 15:21	8

Client Sample ID: RW-3D-PDB-85-87-030521

Lab Sample ID: 480-181764-4

Date Collected: 03/05/21 11:35
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acrolein	ND		800	140	ug/L			03/08/21 15:21	8
Acrylonitrile	ND		400	15	ug/L			03/08/21 15:21	8
Benzene	ND		40	4.8	ug/L			03/08/21 15:21	8
Bromodichloromethane	ND		40	4.3	ug/L			03/08/21 15:21	8
Bromoform	ND		40	3.7	ug/L			03/08/21 15:21	8
Bromomethane	ND		40	9.5	ug/L			03/08/21 15:21	8
Carbon tetrachloride	ND		40	4.1	ug/L			03/08/21 15:21	8
Chlorobenzene	ND		40	3.8	ug/L			03/08/21 15:21	8
Chlorodibromomethane	ND		40	3.3	ug/L			03/08/21 15:21	8
Chloroethane	ND		40	7.0	ug/L			03/08/21 15:21	8
Chloroform	ND		40	4.3	ug/L			03/08/21 15:21	8
Chloromethane	ND		40	5.1	ug/L			03/08/21 15:21	8
cis-1,3-Dichloropropene	ND		40	2.6	ug/L			03/08/21 15:21	8
Ethylbenzene	ND		40	3.7	ug/L			03/08/21 15:21	8
Methylene Chloride	ND		40	6.5	ug/L			03/08/21 15:21	8
Tetrachloroethene	**350**		40	2.7	ug/L			03/08/21 15:21	8
Toluene	ND		40	3.6	ug/L			03/08/21 15:21	8
trans-1,2-Dichloroethene	ND		40	4.7	ug/L			03/08/21 15:21	8
trans-1,3-Dichloropropene	ND		40	3.5	ug/L			03/08/21 15:21	8
Trichloroethene	**310**		40	4.8	ug/L			03/08/21 15:21	8
Vinyl chloride	ND		40	6.0	ug/L			03/08/21 15:21	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*68 - 130*		*03/08/21 15:21*	*8*
4-Bromofluorobenzene (Surr)	*101*		*76 - 123*		*03/08/21 15:21*	*8*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*03/08/21 15:21*	*8*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/08/21 15:21*	*8*

Client Sample ID: RW-3D-PDB-95-97-030521

Lab Sample ID: 480-181764-5

Date Collected: 03/05/21 11:45
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	3.1	ug/L			03/08/21 15:45	8
1,1,2,2-Tetrachloroethane	ND		40	2.1	ug/L			03/08/21 15:45	8
1,1,2-Trichloroethane	ND		40	3.9	ug/L			03/08/21 15:45	8
1,1-Dichloroethane	ND		40	4.7	ug/L			03/08/21 15:45	8
1,1-Dichloroethene	ND		40	6.8	ug/L			03/08/21 15:45	8
1,2-Dichlorobenzene	ND		40	3.6	ug/L			03/08/21 15:45	8
1,2-Dichloroethane	ND		40	4.8	ug/L			03/08/21 15:45	8
1,2-Dichloroethene, Total	**220**		80	26	ug/L			03/08/21 15:45	8
1,2-Dichloropropane	ND		40	4.9	ug/L			03/08/21 15:45	8
1,3-Dichlorobenzene	ND		40	4.3	ug/L			03/08/21 15:45	8
1,4-Dichlorobenzene	ND		40	4.1	ug/L			03/08/21 15:45	8
2-Chloroethyl vinyl ether	ND		200	15	ug/L			03/08/21 15:45	8
Acrolein	ND		800	140	ug/L			03/08/21 15:45	8
Acrylonitrile	ND		400	15	ug/L			03/08/21 15:45	8
Benzene	ND		40	4.8	ug/L			03/08/21 15:45	8
Bromodichloromethane	ND		40	4.3	ug/L			03/08/21 15:45	8

Client Sample ID: RW-3D-PDB-95-97-030521
Lab Sample ID: 480-181764-5
Date Collected: 03/05/21 11:45
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		40	3.7	ug/L			03/08/21 15:45	8
Bromomethane	ND		40	9.5	ug/L			03/08/21 15:45	8
Carbon tetrachloride	ND		40	4.1	ug/L			03/08/21 15:45	8
Chlorobenzene	ND		40	3.8	ug/L			03/08/21 15:45	8
Chlorodibromomethane	ND		40	3.3	ug/L			03/08/21 15:45	8
Chloroethane	ND		40	7.0	ug/L			03/08/21 15:45	8
Chloroform	ND		40	4.3	ug/L			03/08/21 15:45	8
Chloromethane	ND		40	5.1	ug/L			03/08/21 15:45	8
cis-1,3-Dichloropropene	ND		40	2.6	ug/L			03/08/21 15:45	8
Ethylbenzene	ND		40	3.7	ug/L			03/08/21 15:45	8
Methylene Chloride	ND		40	6.5	ug/L			03/08/21 15:45	8
Tetrachloroethene	**340**		40	2.7	ug/L			03/08/21 15:45	8
Toluene	ND		40	3.6	ug/L			03/08/21 15:45	8
trans-1,2-Dichloroethene	ND		40	4.7	ug/L			03/08/21 15:45	8
trans-1,3-Dichloropropene	ND		40	3.5	ug/L			03/08/21 15:45	8
Trichloroethene	**310**		40	4.8	ug/L			03/08/21 15:45	8
Vinyl chloride	ND		40	6.0	ug/L			03/08/21 15:45	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*68 - 130*		*03/08/21 15:45*	*8*
4-Bromofluorobenzene (Surr)	*100*		*76 - 123*		*03/08/21 15:45*	*8*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*03/08/21 15:45*	*8*
Toluene-d8 (Surr)	*92*		*77 - 120*		*03/08/21 15:45*	*8*

Client Sample ID: DUP-001-030521
Lab Sample ID: 480-181764-6
Date Collected: 03/05/21 00:00
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		40	3.1	ug/L			03/08/21 16:09	8
1,1,2,2-Tetrachloroethane	ND		40	2.1	ug/L			03/08/21 16:09	8
1,1,2-Trichloroethane	ND		40	3.9	ug/L			03/08/21 16:09	8
1,1-Dichloroethane	ND		40	4.7	ug/L			03/08/21 16:09	8
1,1-Dichloroethene	ND		40	6.8	ug/L			03/08/21 16:09	8
1,2-Dichlorobenzene	ND		40	3.6	ug/L			03/08/21 16:09	8
1,2-Dichloroethane	ND		40	4.8	ug/L			03/08/21 16:09	8
1,2-Dichloroethene, Total	**190**		80	26	ug/L			03/08/21 16:09	8
1,2-Dichloropropane	ND		40	4.9	ug/L			03/08/21 16:09	8
1,3-Dichlorobenzene	ND		40	4.3	ug/L			03/08/21 16:09	8
1,4-Dichlorobenzene	ND		40	4.1	ug/L			03/08/21 16:09	8
2-Chloroethyl vinyl ether	ND		200	15	ug/L			03/08/21 16:09	8
Acrolein	ND		800	140	ug/L			03/08/21 16:09	8
Acrylonitrile	ND		400	15	ug/L			03/08/21 16:09	8
Benzene	ND		40	4.8	ug/L			03/08/21 16:09	8
Bromodichloromethane	ND		40	4.3	ug/L			03/08/21 16:09	8
Bromoform	ND		40	3.7	ug/L			03/08/21 16:09	8
Bromomethane	ND		40	9.5	ug/L			03/08/21 16:09	8
Carbon tetrachloride	ND		40	4.1	ug/L			03/08/21 16:09	8
Chlorobenzene	ND		40	3.8	ug/L			03/08/21 16:09	8

Client Sample ID: DUP-001-030521

Lab Sample ID: 480-181764-6

Date Collected: 03/05/21 00:00
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorodibromomethane	ND		40	3.3	ug/L			03/08/21 16:09	8
Chloroethane	ND		40	7.0	ug/L			03/08/21 16:09	8
Chloroform	ND		40	4.3	ug/L			03/08/21 16:09	8
Chloromethane	ND		40	5.1	ug/L			03/08/21 16:09	8
cis-1,3-Dichloropropene	ND		40	2.6	ug/L			03/08/21 16:09	8
Ethylbenzene	ND		40	3.7	ug/L			03/08/21 16:09	8
Methylene Chloride	ND		40	6.5	ug/L			03/08/21 16:09	8
Tetrachloroethene	**350**		40	2.7	ug/L			03/08/21 16:09	8
Toluene	ND		40	3.6	ug/L			03/08/21 16:09	8
trans-1,2-Dichloroethene	ND		40	4.7	ug/L			03/08/21 16:09	8
trans-1,3-Dichloropropene	ND		40	3.5	ug/L			03/08/21 16:09	8
Trichloroethene	**310**		40	4.8	ug/L			03/08/21 16:09	8
Vinyl chloride	ND		40	6.0	ug/L			03/08/21 16:09	8

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*68 - 130*		*03/08/21 16:09*	*8*
4-Bromofluorobenzene (Surr)	*99*		*76 - 123*		*03/08/21 16:09*	*8*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*03/08/21 16:09*	*8*
Toluene-d8 (Surr)	*98*		*77 - 120*		*03/08/21 16:09*	*8*

Client Sample ID: TRIPBLANK- 01-030521

Lab Sample ID: 480-181764-7

Date Collected: 03/05/21 00:00
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/08/21 16:33	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/08/21 16:33	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/08/21 16:33	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/08/21 16:33	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/08/21 16:33	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/08/21 16:33	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/08/21 16:33	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/08/21 16:33	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/08/21 16:33	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/08/21 16:33	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/08/21 16:33	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/08/21 16:33	1
Acrolein	ND		100	17	ug/L			03/08/21 16:33	1
Acrylonitrile	ND		50	1.9	ug/L			03/08/21 16:33	1
Benzene	ND		5.0	0.60	ug/L			03/08/21 16:33	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/08/21 16:33	1
Bromoform	ND		5.0	0.47	ug/L			03/08/21 16:33	1
Bromomethane	ND		5.0	1.2	ug/L			03/08/21 16:33	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/08/21 16:33	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/08/21 16:33	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/08/21 16:33	1
Chloroethane	ND		5.0	0.87	ug/L			03/08/21 16:33	1
Chloroform	ND		5.0	0.54	ug/L			03/08/21 16:33	1
Chloromethane	ND		5.0	0.64	ug/L			03/08/21 16:33	1

Client Sample ID: TRIPBLANK- 01-030521
Lab Sample ID: 480-181764-7

Date Collected: 03/05/21 00:00
Matrix: Water
Date Received: 03/06/21 10:30

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/08/21 16:33	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/08/21 16:33	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/08/21 16:33	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/08/21 16:33	1
Toluene	ND		5.0	0.45	ug/L			03/08/21 16:33	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/08/21 16:33	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/08/21 16:33	1
Trichloroethene	ND		5.0	0.60	ug/L			03/08/21 16:33	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/08/21 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*68 - 130*		*03/08/21 16:33*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 123*		*03/08/21 16:33*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*03/08/21 16:33*	*1*
Toluene-d8 (Surr)	*103*		*77 - 120*		*03/08/21 16:33*	*1*

APPENDIX G-3
DATA USABILITY SUMMARY REPORT FOR PASSIVE DIFFUSION BAG SAMPLE ANALYTICAL RESULTS

Data Usability Summary Report

Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

COSCO #344035
Eurofins SDG#480-181764-1
April 23, 2021
Sampling date: 3/5/2021

Prepared by:
Jodi Zimmerman
Vali-Data of WNY, LLC
20 Hickory Grove Spur
Fulton, NY 13069

DELIVERABLES

This Data Usability Summary Report (DUSR) was prepared by evaluating the analytical data package for Ramboll, Eurofins SDG#480-181764-1, submitted to Vali-Data of WNY, LLC on April 6, 2021. This DUSR has been prepared in general compliance with USEPA National Functional Guidelines(NFG) and NYSDEC Analytical Services Protocols. The laboratory performed the analysis using USEPA method Volatile Organics (624.1).

VOLATILE ORGANIC COMPOUNDS

The following items/criteria were reviewed for this analytical suite:

-Data Completeness
-Narrative and Data Reporting Forms
-Chain of Custody and Traffic Reports
-Holding Times
-Internal Standard (IS) Area Performance
-Surrogate Spike Recoveries
-Method Blank
-Field Duplicate Sample Precision
-Laboratory Control Samples
-MS/MSD
-Compound Quantitation
-Initial Calibration
-Continuing Calibration
-GC/MS Performance Check

The items listed above were technically in compliance with the method and SOP criteria with the exceptions discussed in the text below. The data have been reviewed according to the procedures outlined above and qualified accordingly.

OVERALL EVALUATION OF DATA AND POTENTIAL USABILITY ISSUES
The data are acceptable for use.

All of the samples and the matrix spike/matrix spike duplicate was diluted due to high target analyte concentration, except TRIPBLANK-01-030521.

DATA COMPLETENESS
All criteria were met.

NARRATIVE AND DATA REPORTING FORMS
All criteria were met.
Data was not reported to 3 significant figures. This does not affect the usability of the data.

CHAIN OF CUSTODY AND TRAFFIC REPORTS
All criteria were met.

HOLDING TIMES
All holding times were met.

INTERNAL STANDARD (IS)
All criteria were met.

SURROGATE SPIKE RECOVERIES
All criteria were met.

METHOD BLANK
All criteria were met.

FIELD DUPLICATE SAMPLE PRECISION
All criteria were met.

LABORATORY CONTROL SAMPLES
All criteria were met.

MS/MSD
All criteria were met.

COMPOUND QUANTITATION
All criteria were met.

INITIAL CALIBRATION
All criteria were met.

CONTINUING CALIBRATION
All criteria were met.

GC/MS PERFORMANCE CHECK
All criteria were met.

APPENDIX G-4
GROUNDWATER SAMPLING FIELD FORMS

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: DW-1

Site Name: DEC COSCO site | Sampling Method: Submersible Pump | Field Personnel: SET, CDW
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3-8-2021
Project #: 1940075217 | Equipment ID#s: PID 0465/FLO | Weather: ±30°F, Sunny
Sampling Program: 1st SA sampling event | Location: DEC Cosco Site Spring Valley, NY

Well information:

Depth of Well*: 66.00 ft. bmp.
Depth to Water*: 25.80 ft. bmp.
Length of Water Column: 40.20 ft.
Well Diameter: 4.00 in.
Well Volume: 26.25 gal.

Well Volume Multipliers:

- ☐ 1 in. = 0.041 gal/ft
- ☐ 1.5 in. = 0.092 gal/ft
- ☐ 2 in. = 0.163 gal/ft
- ☑ 4 in. = 0.653 gal/ft

Measurement Point:
- ☑ Well Casing
- ☐ Protective Casing
- ☐ Other:

Screen Interval: 51'-61' ft. bmp.
Pump Intake Depth*: 59 ft. bmp.

Start Purge Time: 1050
Initial Observations: *PID:* NA
Depth to Product: na ft. bmp.
Product Thickness: na ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	25.80	13.7	6.07	0.962	322.3	8.52	3.71	500	
5	25.96	13.3	6.76	0.986	313.2	7.76	3.12	200	
10	25.93	12.8	7.03	0.966	309.1	7.47	2.15	200	
15	25.95	13.1	7.23	0.954	303.7	7.79	1.34	200	
20	25.95	13.2	7.33	0.951	296.3	7.46	0.51	200	
25	25.95	13.3	7.47	0.950	292.8	7.58	1.00	200	
30	25.95	13.3	7.44	0.955	291.8	7.95	1.71	200	
35	25.93	13.3	7.47	0.952	289.4	7.82	1.69	200	
40	25.93	13.3	7.48	0.954	287.7	7.81	1.70	200	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1130
Total volume of groundwater purged: 5 gal.

Final Observations: *Color* clear *Odor* none *Sheen/Free Product* none

Sample ID: DW-1- 030821 **Sample Time:** 1140

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	~~HCl~~ none	VOCs
125 mL	Plastic	1	No	none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40 mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	HCl ~~H3PO4~~	Total Organic Carbon
250mL	Plastic	1	No	HNO_3	Major Cations (magnesium, sodium, calcium, and potassium)
60mL/125mL	Plastic/Plastic	2/2	No / No	None / None	and Anions (chloride, sulfate, nitrate, nitrite)

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: GP-4D

Site Name: DEC COSCO site | Sampling Method: Submersible Pump | Field Personnel: SET
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3-3-21
Project #: 1940075217 | Equipment ID#s: FA01468 / FA01464 | Weather: ±35°F, Sunny
Sampling Program: 1st SA sampling event | Location: Cosco Site, Spring Valley, NY

Well information:

Depth of Well*: 99.00 ft. bmp.
Depth to Water*: 11.52 ft. bmp.
Length of Water Column: 87.48 ft.
Well Diameter: 2.00 in.
Well Volume: 14.3 gal.

Well Volume Multipliers:

☐ 1 in. = 0.041 gal/ft
☐ 1.5 in. = 0.092 gal/ft
☑ 2 in. = 0.163 gal/ft
☐ 4 in. = 0.653 gal/ft

*** Measurement Point:**

☑ Well Casing
☐ Protective Casing
☐ Other:

Screen Interval: 41'-99' ft. bmp.
Pump Intake Depth*: ~94' ft. bmp.

Start Purge Time: 1340
Initial Observations: *PID:* NA
Depth to Product: NA ft. bmp.
Product Thickness: NA ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	11.52	13.0	7.00	1.144	283.8	70.30	6.92	500	
5	11.60	13.2	6.94	1.142	280.6	9.49	4.18	500	
10	11.62	13.3	6.89	1.142	279.3	8.56	2.35	400	
15	11.51	12.6	6.80	1.141	275.3	7.86	1.09	400	
20	11.52	12.5	6.79	1.141	270.8	7.74	1.09	400	
25	11.52	12.7	6.78	1.143	265.7	7.65	1.16	400	
30	11.52	12.7	6.77	1.140	258.9	7.63	1.10	400	
35	11.52	12.8	6.77	1.141	256.8	7.59	1.11	400	
40	11.52	12.7	6.77	1.142	255.6	7.52	1.13	400	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1420
Total volume of groundwater purged: 5 gal.

Final Observations: *Color* Clear *Odor* _____ *Sheen/Free Product* None

Sample ID: GP-4D- 030821 **Sample Time:** 1430

Analytical Parameters: Eurofins SP 3/8/21

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	~~3~~ 6	No	~~HCl~~ none	RP VOCs
125mL	Plastic	1 2	No	none	Total Alkalinity
250 mL	Plastic	~~1~~ 2	Yes	HNO3	Dissolved Iron/Manganese
40mL	Glass VOA	~~3~~ 6	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	~~1~~ 2	No	NaOH, ZnAC	Sulfide
40 mL	~~Glass~~ Amber VOA	~~2~~ 4	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	~~1~~ 2	No	HNO3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	plastic / plastic	24 / 24	NO / NO	none / none	

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: GW-4S

Site Name: DEC COSCO site | Sampling Method: low flow | Field Personnel: CDL
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 5/8/20
Project #: 1940075217 | Equipment ID#s: 2111 / 1058 | Weather: 45° sunny
Sampling Program: 1st SA sampling event | Location: COSCO Site Spring Valley, NY

Well information:
Depth of Well*: 25.00 ft. bmp.
Depth to Water*: 13.27 ft. bmp.
Length of Water Column: 11.73 ft.
Well Diameter: 2.00 in.
Well Volume: 7.66 gal.

Well Volume Multipliers:
☐ 1 in. = 0.041 gal/ft
☐ 1.5 in. = 0.092 gal/ft
☐ 2 in. = 0.163 gal/ft
☒ 4 in. = 0.653 gal/ft

*** Measurement Point:**
☒ Well Casing
☐ Protective Casing
☐ Other:
Screen Interval: 10'-25' ft. bmp.
Pump Intake Depth*: ft. bmp.

Start Purge Time: 1350
Initial Observations: *PID:*
Depth to Product: ft. bmp.
Product Thickness: ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	13.27	12.4	7.25	0.96	149.9	8.17	41.8	500	
5	14.12	11.7	7.11	0.95	129.1	.35	53.6	400	
10	14.08	11.9	7.12	0.96	108.3	.05	62.1	400	
15	14.05	12.0	7.14	0.97	91.6	.13	61.1	460	
20	14.06	12.1	7.14	0.97	86.6	.18	58.3	450	
25	14.05	12.1	7.15	0.96	80.0	.01	44.7	450	
30	14.04	12.1	7.15	0.96	75.1	.02	43.0	450	
35	14.04	12.0	7.15	0.97	71.9	.01	42.5	450	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1425
Total volume of groundwater purged: 8 gal.
Final Observations: *Color* Clear/slight tint *Odor* ~~None~~ not biological *Sheen/Free Product* none

Sample ID: GW-4S-030821 **Sample Time:** 1430

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	~~HCl~~ None	PP VOCs
125mL	Plastic	1	No	none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	No	HNO3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	none / none	

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: RW-3D

Site Name: DEC COSCO site | Sampling Method: Low Flow | Field Personnel: CDW SET
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 03/09/2021
Project #: 1940075217 | Equipment ID#s: FA00468/FA01058 | Weather: 55°, sunny
Sampling Program: 1st SA sampling event | Location: DEC COSCO site SPRING VALLEY NY

Well information:
Depth of Well*: 102.50 ft. bmp.
Depth to Water*: 48.95 ft. bmp.
Length of Water Column: 53.55 ft.
Well Diameter: 4.00 in.
Well Volume: 34.96 gal.

Well Volume Multipliers:
☐ 1 in. = 0.041 gal/ft
☐ 1.5 in. = 0.092 gal/ft
☐ 2 in. = 0.163 gal/ft
☑ 4 in. = 0.653 gal/ft

* Measurement Point:
~~☐ Well Casing~~ (S1) 3/9/21
☒ Protective Casing
☐ Other:
Screen Interval: 41'-102.5' ft. bmp.
Pump Intake Depth*: 92' ft. bmp.

Start Purge Time: 1050
Initial Observations: *PID:* —
Depth to Product: — ft. bmp.
Product Thickness: — ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	48.95	13.1	7.14	1309	272.9	31.94	78.8	400	
5	49.04	13.2	7.38	1311	265.3	4.41	63.8	400	
10	49.04	13.3	7.43	1310	253.6	3.62	47.2	350	
15	49.05	13.3	7.46	1316	238.7	3.44	38.5	350	
20	49.03	13.3	7.48	1309	216.9	3.37	25.4	350	
25	49.03	13.4	7.50	1313	203.7	3.31	20.2	350	
30	49.02	13.3	7.50	1315	198.5	3.35	16.1	350	
35	49.04	13.3	7.51	1314	194.6	3.33	16.3	350	
40	49.02	13.2	7.51	1316	191.1	3.33	15.9	350	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1130
Total volume of groundwater purged: 5 gal.

Final Observations: *Color* Clear *Odor* none *Sheen/Free Product* none

Sample ID: RW-3D-030921 **Sample Time:** 1135

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	(S1) ~~3g/L HCl~~ none	PP VOCs
125mL	Plastic	1	NO	none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40mL	GlassVOA	3	NO	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	NO	HNO_3	Major Cations (magnesium, sodium, calcium, and potassium)
60mL / 125mL	plastic / plastic	2 / 2	NO / NO	None / None	and Anions (chloride, sulfate, nitrate, nitrite)

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-18

Site Name: DEC COSCO site | Sampling Method: low flow | Field Personnel: CDW
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 03/09/21
Project #: 1940075217 | Equipment ID#s: 2111 / 1414 | Weather: 55 n sunny
Sampling Program: 1st SA sampling event | Location: DEC COSCO Site Spring Valley, NY

Well information:

Depth of Well*:	23.00	ft. bmp.
Depth to Water*:	11.49	ft. bmp.
Length of Water Column:	11.51	ft.
Well Diameter:	2.00	in.
Well Volume:	1.87	gal.

Well Volume Multipliers:
- ☐ 1 in. = 0.041 gal/ft
- ☐ 1.5 in. = 0.092 gal/ft
- ☑ 2 in. = 0.163 gal/ft
- ☐ 4 in. = 0.653 gal/ft

*** Measurement Point:**
- ☑ Well Casing
- ☐ Protective Casing
- ☐ Other:

Screen Interval: 11'-23' ft. bmp.
Pump Intake Depth*: 18 ft. bmp.

Start Purge Time: 1340
Initial Observations: *PID:* —
Depth to Product: — ft. bmp.
Product Thickness: — ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	11.49	12.7	6.56	0.82	-45.6	.06	over range	500	
5	12.59	12.8	6.73	0.88	-65.8	0.00	over range	400	
10	12.57	13.0	6.76	0.90	-77.4	0.00	3205	300	
15	12.61	12.9	6.74	0.90	-80.8	0.00	887	300	
20	12.65	12.9	6.73	0.91	-81.5	0.00	128	300	
25	12.66	12.9	6.73	0.91	-82.7	0.00	97.3	300	
30	12.67	12.9	6.74	0.92	-83.5	0.00	92.4	300	
35	12.72	12.9	6.73	.91	-83.5	0.00	55.5	350	
40	12.73	12.9	6.73	.91	-83.7	0.00	30.8	300	
45	12.73	12.9	6.74	0.92	-83.3	0.00	17.2	300	
50	12.69	12.9	6.74	.91	-84.3	0.00	16.1	300	
55	12.70	12.9	6.74	0.91	-84.4	0.00	15.6	300	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1435
Total volume of groundwater purged: 7.5 gal.

Final Observations: *Color* clear *Odor* ~~Acid~~ Petrol/chem *Sheen/Free Product* none

Sample ID: MW-18- 030921 **Sample Time:** 1440

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	~~HCl~~ none	PP VOCs
125 mL	Plastic	1	No	none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H2PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	No	HNO_3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	None / None	

Notes:

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: RW-1S

Site Name: DEC COSCO site | Sampling Method: Submersible pump | Field Personnel: SET
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3-9-21
Project #: 1940075217 | Equipment ID#s: PAD6468/PAD1058 | Weather: ±55°F, Sunny
Sampling Program: 1st SA sampling event | Location: DEC Cosco Site Spring Valley, NY

Well information:

Depth of Well*: 28.00 ft. bmp.
Depth to Water*: 13.22 ft. bmp.
Length of Water Column: 14.78 ft.
Well Diameter: 4.00 in.
Well Volume: 9.65 gal.

Well Volume Multipliers:

- ☐ 1 in. = 0.041 gal/ft
- ☐ 1.5 in. = 0.092 gal/ft
- ☐ 2 in. = 0.163 gal/ft
- ☑ 4 in. = 0.653 gal/ft

*** Measurement Point:**

- ☐ Well Casing
- ☑ Protective Casing
- ☐ Other:

Screen Interval: 10'-25' ft. bmp.
Pump Intake Depth*: 20' ft. bmp.

Start Purge Time: 1340
Initial Observations: *PID:* NA

Depth to Product: NA ft. bmp.
Product Thickness: NA ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	13.22	12.8	7.38	1.287	100.7	5.06	50.9	800	
5	13.36	12.7	7.04	1.270	58.9	0.69	45.1	800	
10	13.42	12.6	6.97	1.227	72.8	0.56	23.7	800	
15	13.42	12.6	6.93	1.215	62.4	0.58	15.5	800	
20	13.42	12.7	6.90	1.196	61.3	0.64	14.8	800	
25	13.42	12.7	6.85	1.157	64.6	0.65	14.6	800	
30	13.42	12.7	6.83	1.141	70.1	0.67	14.1	800	
35	13.42	12.7	6.81	1.133	73.4	0.69	13.8	800	
40	13.42	12.7	6.80	1.110	75.2	0.71	13.5	800	
45	13.42	12.6	6.77	1.100	81.1	0.72	13.1	800	
50	13.42	12.6	6.75	1.082	85.1	0.73	12.9	800	
55	13.42	12.7	6.76	1.071	89.1	0.72	12.7	800	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1435
Total volume of groundwater purged: 10 gal.

Final Observations: *Color* clear *Odor* none *Sheen/Free Product* none

Sample ID: RW-1S- 030921 / RW-1S-MS-030921 / RW-1S-MSD-030921 **Sample Time:** 1445

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	(3) 3 9	No	~~HCl~~ None	PP VOCs
125mL	Plastic	3/9/21 1	No	None	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40 mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	No	HNO3	Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	None / None	

Notes: Pump was pumping 800mL/min at bottling
MS/MSD collected here for PP VOCs

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: MW-3

Site Name: DEC COSCO site | Sampling Method: Submersible pump | Field Personnel: SET & CDW
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3/10/21
Project #: 1940075217 | Equipment ID#s: FA004168 / FA01058 | Weather: ±45°F, Sunny
Sampling Program: 1st SA sampling event | Location: DEC Cosco Site, Spring Valley, NY

Well information:
Depth of Well*: 16.75 ft. bmp.
Depth to Water*: 10.99 ft. bmp.
Length of Water Column: 5.76 ft.
Well Diameter: 2.00 in.
Well Volume: 0.94 gal.

Well Volume Multipliers:
☐ 1 in. = 0.041 gal/ft
☐ 1.5 in. = 0.092 gal/ft
☑ 2 in. = 0.163 gal/ft
☐ 4 in. = 0.653 gal/ft

* Measurement Point:
☑ Well Casing
☐ Protective Casing
☐ Other:
Screen Interval: ?-16.75' ft. bmp.
Pump Intake Depth*: 15' ft. bmp.

Start Purge Time: 1035
Initial Observations: *PID:* NA
Depth to Product: NA ft. bmp.
Product Thickness: NA ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	10.99	11.3	6.42	1.994	89.7	4.93	784	400 (S) 3/10/21	
5	11.85	11.3	6.22	2.217	41.0	2.19	42.1	~~400~~ 250	
10	12.00	11.2	6.16	2.439	50.5	2.25	18.0	~~400~~ 250	
15	11.95	11.2	6.10	2.483	55.0	2.19	17.5	250	
20	12.05	11.3	6.09	2.570	59.2	2.00	8.06	250	
25	12.09	11.3	6.07	2.606	62.6	2.09	5.04	250	
30	12.06	11.4	6.06	2.627	67.1	2.09	5.07	250	
35	12.01	11.3	6.06	2.653	70.2	2.08	5.05	250	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1110
Total volume of groundwater purged: 2.5 gal.
Final Observations: *Color* clear *Odor* none *Sheen/Free Product* (S) 3/10/21 ~~None~~ yes, iridescent sheen

Sample ID: MW-3- 031021 **Sample Time:** 1115

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	(S) ~~HCl~~ none	VOCs
125 mL	Plastic	1	No	3/10/21 none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40 mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250 mL	Plastic	1	No	HNO3	Major Cations (magnesium, sodium, calcium, and potassium)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	None / None	and Anions (chloride, sulfate, nitrate, nitrite)

Notes: Well went dry during sampling, but all bottles were filled

RAMBOLL

Low Flow Groundwater Sampling Log

Well ID: RW-8S

Site Name: DEC COSCO site | Sampling Method: low flow | Field Personnel: CDV
Site Location: Spring Valley | Monitoring Equipment: YSI & Lamotte 2020 | Date: 3/10/21
Project #: 1940075217 | Equipment ID#s: PID 2111 / 14164 | Weather: 50°, Sunny
Sampling Program: 1st SA sampling event | Location: DEC Cosco Site Spring Valley, NY

Well information:

Depth of Well*:	25.00	ft. bmp.
Depth to Water*:	9.98	ft. bmp.
Length of Water Column:	15.02	ft.
Well Diameter:	4.00	in.
Well Volume:	9.81	gal.

Well Volume Multipliers:
- ☐ 1 in. = 0.041 gal/ft
- ☐ 1.5 in. = 0.092 gal/ft
- ☐ 2 in. = 0.163 gal/ft
- ☒ 4 in. = 0.653 gal/ft

*Measurement Point:
- ☒ Well Casing
- ☐ Protective Casing
- ☐ Other:

Screen Interval: 10'-25' ft. bmp.
Pump Intake Depth*: 20 ft. bmp.

Start Purge Time: 1115
Initial Observations: *PID:* —

Depth to Product: none ft. bmp.
Product Thickness: none ft.

indicate units

Elapsed Time (minutes)	Depth to Water (ft bmp)	Temperature (Celsius)	pH (SU)	Specific Conductivity (mS/cm)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Flow Rate (mL/min)	Other ( )
0	9.98	13.8	6.73	6.88	127.0	7.18	51.3	800	
5	10.28	7.0	6.83	5.11	112.8	6.83	43.3	700	
10	10.41	6.9	6.77	4.73	101.0	6.81	36.1	325	
15	10.67	7.0	6.75	4.01	92.7	6.77	35.9	500	
20	10.81	6.9	6.77	10.14	82.7	6.52	33.6	500	
25	10.88	6.9	6.82	10.11	79.9	6.51	32.0	500	
30	10.89	6.9	6.82	10.11	77.2	6.57	31.6	500	
Stabilization	Δ ≤ 0.3'	± 3%	± 0.1	± 3%	± 10 mV	± 10%	± 10%	200 ≤ X ≤ 500	-

End Purge Time: 1145
Total volume of groundwater purged: 7 gal.

Final Observations: *Color* clear *Odor* metallic *Sheen/Free Product* no

Sample ID: RW-8S- 031021 **Sample Time:** 1150

Analytical Parameters: Eurofins

Container Size	Container Type	# Collected	Field Filtered?	Preservative	Analysis
40 mL	Glass VOA	3	No	(SU) ~~HCl~~ none	VOCs
125mL	Plastic	1	No	3/10/21 none	Total Alkalinity
250 mL	Plastic	1	Yes	HNO3	Dissolved Iron/Manganese
40mL	Glass VOA	3	No	HCl	Methane, Ethane, and Ethene
250 mL	Glass VOA	1	No	NaOH, ZnAC	Sulfide
40 mL	~~Amber~~ VOA	2	No	~~H3PO4~~ HCl	Total Organic Carbon
250mL	Plastic	1	No	HNO_3	← Major Cations (magnesium, sodium, calcium, and potassium) and Anions (chloride, sulfate, nitrate, nitrite)
60mL / 125mL	Plastic / Plastic	2 / 2	No / No	none / none	

Notes:

APPENDIX G-5
SUMMARY OF LABORATORY ANALYTICAL RESULTS

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: MW-3-031021

Date Collected: 03/10/21 11:15
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	0.77	ug/L			03/11/21 13:03	2
1,1,2,2-Tetrachloroethane	ND		10	0.52	ug/L			03/11/21 13:03	2
1,1,2-Trichloroethane	ND		10	0.96	ug/L			03/11/21 13:03	2
1,1-Dichloroethane	ND		10	1.2	ug/L			03/11/21 13:03	2
1,1-Dichloroethene	ND		10	1.7	ug/L			03/11/21 13:03	2
1,2-Dichlorobenzene	ND		10	0.89	ug/L			03/11/21 13:03	2
1,2-Dichloroethane	ND		10	1.2	ug/L			03/11/21 13:03	2
1,2-Dichloroethene, Total	ND		20	6.4	ug/L			03/11/21 13:03	2
1,2-Dichloropropane	ND		10	1.2	ug/L			03/11/21 13:03	2
1,3-Dichlorobenzene	ND		10	1.1	ug/L			03/11/21 13:03	2
1,4-Dichlorobenzene	ND		10	1.0	ug/L			03/11/21 13:03	2
2-Chloroethyl vinyl ether	ND		50	3.7	ug/L			03/11/21 13:03	2
Acrolein	ND		200	35	ug/L			03/11/21 13:03	2
Acrylonitrile	ND		100	3.8	ug/L			03/11/21 13:03	2
Benzene	ND		10	1.2	ug/L			03/11/21 13:03	2
Bromodichloromethane	ND		10	1.1	ug/L			03/11/21 13:03	2
Bromoform	ND		10	0.94	ug/L			03/11/21 13:03	2
Bromomethane	ND		10	2.4	ug/L			03/11/21 13:03	2
Carbon tetrachloride	ND		10	1.0	ug/L			03/11/21 13:03	2
Chlorobenzene	ND		10	0.95	ug/L			03/11/21 13:03	2
Chlorodibromomethane	ND		10	0.83	ug/L			03/11/21 13:03	2
Chloroethane	ND		10	1.7	ug/L			03/11/21 13:03	2
Chloroform	ND		10	1.1	ug/L			03/11/21 13:03	2
Chloromethane	ND		10	1.3	ug/L			03/11/21 13:03	2
cis-1,3-Dichloropropene	ND		10	0.66	ug/L			03/11/21 13:03	2
Ethylbenzene	ND		10	0.93	ug/L			03/11/21 13:03	2
Methylene Chloride	ND		10	1.6	ug/L			03/11/21 13:03	2
Tetrachloroethene	ND		10	0.68	ug/L			03/11/21 13:03	2
Toluene	ND		10	0.91	ug/L			03/11/21 13:03	2
trans-1,2-Dichloroethene	ND		10	1.2	ug/L			03/11/21 13:03	2
trans-1,3-Dichloropropene	ND		10	0.88	ug/L			03/11/21 13:03	2
Trichloroethene	ND		10	1.2	ug/L			03/11/21 13:03	2
Vinyl chloride	ND		10	1.5	ug/L			03/11/21 13:03	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*85*		*68 - 130*		*03/11/21 13:03*	*2*
4-Bromofluorobenzene (Surr)	*107*		*76 - 123*		*03/11/21 13:03*	*2*
Dibromofluoromethane (Surr)	*94*		*75 - 123*		*03/11/21 13:03*	*2*
Toluene-d8 (Surr)	*103*		*77 - 120*		*03/11/21 13:03*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**25**		4.0	1.0	ug/L			03/16/21 15:22	1
Ethane	ND		7.5	1.5	ug/L			03/16/21 15:22	1
Ethene	ND		7.0	1.5	ug/L			03/16/21 15:22	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**49.1**		0.50	0.10	mg/L		03/12/21 09:56	03/16/21 17:13	1
Potassium	**1.7**	J	0.50	0.10	mg/L		03/12/21 09:56	03/16/21 17:13	1

Client Sample Results

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: MW-3-031021

Date Collected: 03/10/21 11:15
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-1

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	11.6		0.20	0.043	mg/L		03/12/21 09:56	03/16/21 17:13	1
Sodium	379		1.0	0.32	mg/L		03/12/21 09:56	03/16/21 17:13	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	8.3	~~^2~~ JH	0.050	0.019	mg/L		03/15/21 10:40	03/18/21 22:48	1
Manganese	2.1	~~B~~ JH	0.0030	0.00040	mg/L		03/15/21 10:40	03/18/21 22:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	641		10.0	5.6	mg/L			03/15/21 20:24	20
Sulfate	ND		40.0	7.0	mg/L			03/15/21 20:24	20
Nitrite as N	~~0.039~~ J	0.050 U	0.050	0.020	mg/L			03/11/21 20:22	1
Nitrate as N	0.29		0.050	0.020	mg/L			03/11/21 20:22	1
Alkalinity, Total	53.4		5.0	0.79	mg/L			03/15/21 14:15	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	7.9		1.0	0.43	mg/L			03/14/21 03:40	1

ARF 05/04/2021

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: RW-8S-031021

Date Collected: 03/10/21 11:50
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-2

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/11/21 13:27	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/11/21 13:27	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/11/21 13:27	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/11/21 13:27	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/11/21 13:27	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/11/21 13:27	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/11/21 13:27	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/11/21 13:27	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/11/21 13:27	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/11/21 13:27	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/11/21 13:27	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/11/21 13:27	1
Acrolein	ND		100	17	ug/L			03/11/21 13:27	1
Acrylonitrile	ND		50	1.9	ug/L			03/11/21 13:27	1
Benzene	ND		5.0	0.60	ug/L			03/11/21 13:27	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/11/21 13:27	1
Bromoform	ND		5.0	0.47	ug/L			03/11/21 13:27	1
Bromomethane	ND		5.0	1.2	ug/L			03/11/21 13:27	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/11/21 13:27	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/11/21 13:27	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/11/21 13:27	1
Chloroethane	ND		5.0	0.87	ug/L			03/11/21 13:27	1
Chloroform	ND		5.0	0.54	ug/L			03/11/21 13:27	1
Chloromethane	ND		5.0	0.64	ug/L			03/11/21 13:27	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/11/21 13:27	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/11/21 13:27	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/11/21 13:27	1
Tetrachloroethene	**0.45**	**J**	5.0	0.34	ug/L			03/11/21 13:27	1
Toluene	ND		5.0	0.45	ug/L			03/11/21 13:27	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/11/21 13:27	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/11/21 13:27	1
Trichloroethene	**5.3**		5.0	0.60	ug/L			03/11/21 13:27	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/11/21 13:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*68 - 130*		*03/11/21 13:27*	*1*
4-Bromofluorobenzene (Surr)	*102*		*76 - 123*		*03/11/21 13:27*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*03/11/21 13:27*	*1*
Toluene-d8 (Surr)	*98*		*77 - 120*		*03/11/21 13:27*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**1.6**	**J**	4.0	1.0	ug/L			03/16/21 15:41	1
Ethane	ND		7.5	1.5	ug/L			03/16/21 15:41	1
Ethene	ND		7.0	1.5	ug/L			03/16/21 15:41	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**325**		0.50	0.10	mg/L		03/12/21 09:56	03/16/21 17:43	1
Potassium	**17.6**	J	0.50	0.10	mg/L		03/12/21 09:56	03/16/21 17:43	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: RW-8S-031021
Date Collected: 03/10/21 11:50
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-2
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	37.1		0.20	0.043	mg/L		03/12/21 09:56	03/16/21 17:43	1
Sodium	1700		5.0	1.6	mg/L		03/12/21 09:56	03/16/21 17:47	5

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.30	J	0.050	0.019	mg/L		03/15/21 10:40	03/19/21 13:30	1
Manganese	0.12	~~B~~ JH	0.0030	0.00040	mg/L		03/15/21 10:40	03/18/21 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3110		25.0	14.1	mg/L			03/15/21 20:38	50
Sulfate	31.9	J	100	17.5	mg/L			03/15/21 20:38	50
Nitrite as N	~~0.020~~ J	0.050 U	0.050	0.020	mg/L			03/11/21 20:23	1
Nitrate as N	1.4		0.050	0.020	mg/L			03/11/21 20:23	1
Alkalinity, Total	151		5.0	0.79	mg/L			03/15/21 14:21	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	6.4		1.0	0.43	mg/L			03/14/21 03:57	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: RW-3D-030921

Date Collected: 03/09/21 11:35
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		25	1.9	ug/L			03/10/21 11:36	5
1,1,2,2-Tetrachloroethane	ND		25	1.3	ug/L			03/10/21 11:36	5
1,1,2-Trichloroethane	ND		25	2.4	ug/L			03/10/21 11:36	5
1,1-Dichloroethane	ND		25	2.9	ug/L			03/10/21 11:36	5
1,1-Dichloroethene	ND		25	4.3	ug/L			03/10/21 11:36	5
1,2-Dichlorobenzene	ND		25	2.2	ug/L			03/10/21 11:36	5
1,2-Dichloroethane	ND		25	3.0	ug/L			03/10/21 11:36	5
1,2-Dichloroethene, Total	**180**		50	16	ug/L			03/10/21 11:36	5
1,2-Dichloropropane	ND		25	3.1	ug/L			03/10/21 11:36	5
1,3-Dichlorobenzene	ND		25	2.7	ug/L			03/10/21 11:36	5
1,4-Dichlorobenzene	ND		25	2.5	ug/L			03/10/21 11:36	5
2-Chloroethyl vinyl ether	ND		130	9.3	ug/L			03/10/21 11:36	5
Acrolein	ND		500	87	ug/L			03/10/21 11:36	5
Acrylonitrile	ND		250	9.5	ug/L			03/10/21 11:36	5
Benzene	ND		25	3.0	ug/L			03/10/21 11:36	5
Bromodichloromethane	ND		25	2.7	ug/L			03/10/21 11:36	5
Bromoform	ND		25	2.3	ug/L			03/10/21 11:36	5
Bromomethane	ND		25	6.0	ug/L			03/10/21 11:36	5
Carbon tetrachloride	ND		25	2.6	ug/L			03/10/21 11:36	5
Chlorobenzene	ND		25	2.4	ug/L			03/10/21 11:36	5
Chlorodibromomethane	ND		25	2.1	ug/L			03/10/21 11:36	5
Chloroethane	ND		25	4.4	ug/L			03/10/21 11:36	5
Chloroform	ND		25	2.7	ug/L			03/10/21 11:36	5
Chloromethane	ND		25	3.2	ug/L			03/10/21 11:36	5
cis-1,3-Dichloropropene	ND		25	1.7	ug/L			03/10/21 11:36	5
Ethylbenzene	ND		25	2.3	ug/L			03/10/21 11:36	5
Methylene Chloride	ND		25	4.1	ug/L			03/10/21 11:36	5
Tetrachloroethene	**260**		25	1.7	ug/L			03/10/21 11:36	5
Toluene	ND		25	2.3	ug/L			03/10/21 11:36	5
trans-1,2-Dichloroethene	ND		25	2.9	ug/L			03/10/21 11:36	5
trans-1,3-Dichloropropene	ND		25	2.2	ug/L			03/10/21 11:36	5
Trichloroethene	**240**		25	3.0	ug/L			03/10/21 11:36	5
Vinyl chloride	ND		25	3.7	ug/L			03/10/21 11:36	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*68 - 130*		*03/10/21 11:36*	*5*
4-Bromofluorobenzene (Surr)	*102*		*76 - 123*		*03/10/21 11:36*	*5*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/10/21 11:36*	*5*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/10/21 11:36*	*5*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/11/21 19:07	1
Ethane	ND		7.5	1.5	ug/L			03/11/21 19:07	1
Ethene	ND		7.0	1.5	ug/L			03/11/21 19:07	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**68.9**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:36	1
Potassium	**2.0**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:36	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: RW-3D-030921
Date Collected: 03/09/21 11:35
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-1
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**21.2**		0.20	0.043	mg/L		03/11/21 09:08	03/12/21 16:36	1
Sodium	**163**		1.0	0.32	mg/L		03/11/21 09:08	03/12/21 16:36	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050	0.019	mg/L		03/11/21 09:11	03/17/21 05:02	1
Manganese	ND		0.0030	0.00040	mg/L		03/11/21 09:11	03/17/21 05:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**272**		2.5	1.4	mg/L			03/12/21 06:07	5
Sulfate	**19.9**		10.0	1.7	mg/L			03/12/21 06:07	5
Nitrite as N	ND		0.050	0.020	mg/L			03/10/21 20:33	1
Nitrate as N	**2.3**		0.050	0.020	mg/L			03/10/21 20:33	1
Alkalinity, Total	**206**		5.0	0.79	mg/L			03/15/21 13:52	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	**0.72**	**J**	1.0	0.43	mg/L			03/13/21 09:42	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: MW-18-030921
Date Collected: 03/09/21 14:40
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-3
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/10/21 12:24	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/10/21 12:24	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/10/21 12:24	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/10/21 12:24	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/10/21 12:24	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/10/21 12:24	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/10/21 12:24	1
1,2-Dichloroethene, Total	**8.4**	**J**	10	3.2	ug/L			03/10/21 12:24	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/10/21 12:24	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/10/21 12:24	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/10/21 12:24	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/10/21 12:24	1
Acrolein	ND		100	17	ug/L			03/10/21 12:24	1
Acrylonitrile	ND		50	1.9	ug/L			03/10/21 12:24	1
Benzene	ND		5.0	0.60	ug/L			03/10/21 12:24	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/10/21 12:24	1
Bromoform	ND		5.0	0.47	ug/L			03/10/21 12:24	1
Bromomethane	ND		5.0	1.2	ug/L			03/10/21 12:24	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/10/21 12:24	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/10/21 12:24	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/10/21 12:24	1
Chloroethane	ND		5.0	0.87	ug/L			03/10/21 12:24	1
Chloroform	ND		5.0	0.54	ug/L			03/10/21 12:24	1
Chloromethane	ND		5.0	0.64	ug/L			03/10/21 12:24	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/10/21 12:24	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/10/21 12:24	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/10/21 12:24	1
Tetrachloroethene	**0.58**	**J**	5.0	0.34	ug/L			03/10/21 12:24	1
Toluene	ND		5.0	0.45	ug/L			03/10/21 12:24	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/10/21 12:24	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/10/21 12:24	1
Trichloroethene	**1.3**	**J**	5.0	0.60	ug/L			03/10/21 12:24	1
Vinyl chloride	**8.6**		5.0	0.75	ug/L			03/10/21 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*68 - 130*		*03/10/21 12:24*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 123*		*03/10/21 12:24*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*03/10/21 12:24*	*1*
Toluene-d8 (Surr)	*99*		*77 - 120*		*03/10/21 12:24*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	**520**		44	11	ug/L			03/11/21 19:26	11
Ethane	ND		83	17	ug/L			03/11/21 19:26	11
Ethene	ND		77	17	ug/L			03/11/21 19:26	11

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**41.5**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:39	1
Potassium	**2.4**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:39	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: MW-18-030921
Date Collected: 03/09/21 14:40
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-3
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	7.4		0.20	0.043	mg/L		03/11/21 09:08	03/12/21 16:39	1
Sodium	135		1.0	0.32	mg/L		03/11/21 09:08	03/12/21 16:39	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7.6		0.050	0.019	mg/L		03/11/21 09:11	03/17/21 05:20	1
Manganese	2.4		0.0030	0.00040	mg/L		03/11/21 09:11	03/17/21 05:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	146		2.5	1.4	mg/L			03/12/21 02:07	5
Sulfate	11.2		10.0	1.7	mg/L			03/12/21 02:07	5
Nitrite as N	ND		0.050	0.020	mg/L			03/10/21 20:34	1
Nitrate as N	0.16		0.050	0.020	mg/L			03/10/21 20:34	1
Alkalinity, Total	198		5.0	0.79	mg/L			03/15/21 13:59	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	5.0		1.0	0.43	mg/L			03/13/21 09:58	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: RW-1S-030921
Date Collected: 03/09/21 14:45
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-4
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/10/21 12:48	1
1,1,2,2-Tetrachloroethane	ND	F2 UJ	5.0	0.26	ug/L			03/10/21 12:48	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/10/21 12:48	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/10/21 12:48	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/10/21 12:48	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/10/21 12:48	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/10/21 12:48	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/10/21 12:48	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/10/21 12:48	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/10/21 12:48	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/10/21 12:48	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/10/21 12:48	1
Acrolein	ND		100	17	ug/L			03/10/21 12:48	1
Acrylonitrile	ND		50	1.9	ug/L			03/10/21 12:48	1
Benzene	ND		5.0	0.60	ug/L			03/10/21 12:48	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/10/21 12:48	1
Bromoform	ND		5.0	0.47	ug/L			03/10/21 12:48	1
Bromomethane	ND		5.0	1.2	ug/L			03/10/21 12:48	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/10/21 12:48	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/10/21 12:48	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/10/21 12:48	1
Chloroethane	ND		5.0	0.87	ug/L			03/10/21 12:48	1
Chloroform	ND		5.0	0.54	ug/L			03/10/21 12:48	1
Chloromethane	ND		5.0	0.64	ug/L			03/10/21 12:48	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/10/21 12:48	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/10/21 12:48	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/10/21 12:48	1
Tetrachloroethene	**3.4**	**J**	5.0	0.34	ug/L			03/10/21 12:48	1
Toluene	ND		5.0	0.45	ug/L			03/10/21 12:48	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/10/21 12:48	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/10/21 12:48	1
Trichloroethene	**12**		5.0	0.60	ug/L			03/10/21 12:48	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/10/21 12:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*68 - 130*		*03/10/21 12:48*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 123*		*03/10/21 12:48*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*03/10/21 12:48*	*1*
Toluene-d8 (Surr)	*97*		*77 - 120*		*03/10/21 12:48*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/11/21 19:45	1
Ethane	ND		7.5	1.5	ug/L			03/11/21 19:45	1
Ethene	ND		7.0	1.5	ug/L			03/11/21 19:45	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**47.9**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:43	1
Potassium	**2.0**		0.50	0.10	mg/L		03/11/21 09:08	03/12/21 16:43	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: RW-1S-030921
Date Collected: 03/09/21 14:45
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-4
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	7.7		0.20	0.043	mg/L		03/11/21 09:08	03/12/21 16:43	1
Sodium	158		1.0	0.32	mg/L		03/11/21 09:08	03/12/21 16:43	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.067		0.050	0.019	mg/L		03/11/21 09:11	03/17/21 05:24	1
Manganese	0.13		0.0030	0.00040	mg/L		03/11/21 09:11	03/17/21 05:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	199		2.5	1.4	mg/L			03/12/21 02:35	5
Sulfate	19.6		10.0	1.7	mg/L			03/12/21 02:35	5
Nitrite as N	0.021	J	0.050	0.020	mg/L			03/10/21 20:35	1
Nitrate as N	2.2		0.050	0.020	mg/L			03/10/21 20:35	1
Alkalinity, Total	168		5.0	0.79	mg/L			03/15/21 14:08	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	2.0		1.0	0.43	mg/L			03/13/21 10:14	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: DW-1-030821

Date Collected: 03/08/21 11:40
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-1

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 13:51	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 13:51	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 13:51	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 13:51	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 13:51	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 13:51	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 13:51	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 13:51	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 13:51	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 13:51	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 13:51	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 13:51	1
Acrolein	ND		100	17	ug/L			03/09/21 13:51	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 13:51	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 13:51	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 13:51	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 13:51	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 13:51	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 13:51	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 13:51	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 13:51	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 13:51	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 13:51	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 13:51	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 13:51	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 13:51	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 13:51	1
Tetrachloroethene	**0.58**	**J**	5.0	0.34	ug/L			03/09/21 13:51	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 13:51	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 13:51	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 13:51	1
Trichloroethene	ND		5.0	0.60	ug/L			03/09/21 13:51	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*68 - 130*		*03/09/21 13:51*	*1*
4-Bromofluorobenzene (Surr)	*99*		*76 - 123*		*03/09/21 13:51*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 123*		*03/09/21 13:51*	*1*
Toluene-d8 (Surr)	*105*		*77 - 120*		*03/09/21 13:51*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/10/21 18:46	1
Ethane	ND		7.5	1.5	ug/L			03/10/21 18:46	1
Ethene	ND		7.0	1.5	ug/L			03/10/21 18:46	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**36.4**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:19	1
Potassium	**1.3**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:19	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: DW-1-030821
Date Collected: 03/08/21 11:40
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-1
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	7.4		0.20	0.043	mg/L		03/10/21 09:47	03/11/21 01:19	1
Sodium	140		1.0	0.32	mg/L		03/10/21 09:47	03/11/21 01:19	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.065	JH	0.050	0.019	mg/L		03/10/21 09:47	03/10/21 23:28	1
Manganese	0.0031	~~B~~ JH	0.0030	0.00040	mg/L		03/10/21 09:47	03/10/21 23:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	211		2.5	1.4	mg/L			03/11/21 17:43	5
Sulfate	10.4		10.0	1.7	mg/L			03/11/21 17:43	5
Nitrite as N	ND		0.050	0.020	mg/L			03/09/21 18:50	1
Nitrate as N	1.1		0.050	0.020	mg/L			03/09/21 18:50	1
Alkalinity, Total	122		5.0	0.79	mg/L			03/09/21 19:54	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	0.49	J	1.0	0.43	mg/L			03/10/21 08:14	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: GW-4S-030821
Date Collected: 03/08/21 14:30
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 14:15	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 14:15	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 14:15	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 14:15	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 14:15	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 14:15	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 14:15	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 14:15	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 14:15	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 14:15	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 14:15	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 14:15	1
Acrolein	ND		100	17	ug/L			03/09/21 14:15	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 14:15	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 14:15	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 14:15	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 14:15	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 14:15	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 14:15	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 14:15	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 14:15	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 14:15	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 14:15	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 14:15	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 14:15	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 14:15	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 14:15	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/09/21 14:15	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 14:15	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 14:15	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 14:15	1
Trichloroethene	**5.8**		5.0	0.60	ug/L			03/09/21 14:15	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*68 - 130*		*03/09/21 14:15*	*1*
4-Bromofluorobenzene (Surr)	*112*		*76 - 123*		*03/09/21 14:15*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*03/09/21 14:15*	*1*
Toluene-d8 (Surr)	*103*		*77 - 120*		*03/09/21 14:15*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/10/21 19:05	1
Ethane	ND		7.5	1.5	ug/L			03/10/21 19:05	1
Ethene	ND		7.0	1.5	ug/L			03/10/21 19:05	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**49.0**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:37	1
Potassium	**1.7**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:37	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: GW-4S-030821

Lab Sample ID: 480-181811-2

Date Collected: 03/08/21 14:30

Matrix: Water

Date Received: 03/09/21 10:00

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**10.1**		0.20	0.043	mg/L		03/10/21 09:47	03/11/21 01:37	1
Sodium	**121**		1.0	0.32	mg/L		03/10/21 09:47	03/11/21 01:37	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.15**	JH	0.050	0.019	mg/L		03/10/21 09:47	03/10/21 23:32	1
Manganese	**0.54**	~~B~~ JH	0.0030	0.00040	mg/L		03/10/21 09:47	03/10/21 23:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**184**		2.5	1.4	mg/L			03/11/21 17:58	5
Sulfate	**17.3**		10.0	1.7	mg/L			03/11/21 17:58	5
Nitrite as N	ND		0.050	0.020	mg/L			03/09/21 18:51	1
Nitrate as N	**0.45**		0.050	0.020	mg/L			03/09/21 18:51	1
Alkalinity, Total	**170**		5.0	0.79	mg/L			03/09/21 20:09	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	**1.6**		1.0	0.43	mg/L			03/10/21 08:31	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: GP-4D-030821

Date Collected: 03/08/21 14:30
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-3

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 14:39	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 14:39	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 14:39	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 14:39	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 14:39	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 14:39	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 14:39	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 14:39	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 14:39	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 14:39	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 14:39	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 14:39	1
Acrolein	ND		100	17	ug/L			03/09/21 14:39	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 14:39	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 14:39	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 14:39	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 14:39	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 14:39	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 14:39	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 14:39	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 14:39	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 14:39	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 14:39	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 14:39	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 14:39	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 14:39	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 14:39	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/09/21 14:39	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 14:39	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 14:39	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 14:39	1
Trichloroethene	ND		5.0	0.60	ug/L			03/09/21 14:39	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 14:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*68 - 130*		*03/09/21 14:39*	*1*
4-Bromofluorobenzene (Surr)	*94*		*76 - 123*		*03/09/21 14:39*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/09/21 14:39*	*1*
Toluene-d8 (Surr)	*95*		*77 - 120*		*03/09/21 14:39*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/10/21 19:43	1
Ethane	ND		7.5	1.5	ug/L			03/10/21 19:43	1
Ethene	ND		7.0	1.5	ug/L			03/10/21 19:43	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**47.8**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:41	1
Potassium	**1.2**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:41	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: GP-4D-030821
Date Collected: 03/08/21 14:30
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-3
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	8.4		0.20	0.043	mg/L		03/10/21 09:47	03/11/21 01:41	1
Sodium	173		1.0	0.32	mg/L		03/10/21 09:47	03/11/21 01:41	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.046	~~J~~ JH	0.050	0.019	mg/L		03/10/21 09:47	03/11/21 00:01	1
Manganese	~~0.0023~~	~~J B~~ 0.0030 U	0.0030	0.00040	mg/L		03/10/21 09:47	03/11/21 00:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	243		2.5	1.4	mg/L			03/11/21 19:25	5
Sulfate	19.7		10.0	1.7	mg/L			03/11/21 19:25	5
Nitrite as N	ND		0.050	0.020	mg/L			03/09/21 18:53	1
Nitrate as N	3.4		0.050	0.020	mg/L			03/09/21 18:53	1
Alkalinity, Total	147		5.0	0.79	mg/L			03/09/21 20:22	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	0.71	J	1.0	0.43	mg/L			03/10/21 08:47	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: DUP-001-030821

Date Collected: 03/08/21 00:00
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-4

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 15:02	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 15:02	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 15:02	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 15:02	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 15:02	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 15:02	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 15:02	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 15:02	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 15:02	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 15:02	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 15:02	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 15:02	1
Acrolein	ND		100	17	ug/L			03/09/21 15:02	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 15:02	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 15:02	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 15:02	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 15:02	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 15:02	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 15:02	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 15:02	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 15:02	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 15:02	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 15:02	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 15:02	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 15:02	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 15:02	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 15:02	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/09/21 15:02	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 15:02	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 15:02	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 15:02	1
Trichloroethene	ND		5.0	0.60	ug/L			03/09/21 15:02	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*82*		*68 - 130*		*03/09/21 15:02*	*1*
4-Bromofluorobenzene (Surr)	*104*		*76 - 123*		*03/09/21 15:02*	*1*
Dibromofluoromethane (Surr)	*95*		*75 - 123*		*03/09/21 15:02*	*1*
Toluene-d8 (Surr)	*97*		*77 - 120*		*03/09/21 15:02*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		4.0	1.0	ug/L			03/10/21 20:01	1
Ethane	ND		7.5	1.5	ug/L			03/10/21 20:01	1
Ethene	ND		7.0	1.5	ug/L			03/10/21 20:01	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**47.6**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:45	1
Potassium	**1.3**		0.50	0.10	mg/L		03/10/21 09:47	03/11/21 01:45	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: DUP-001-030821

Date Collected: 03/08/21 00:00
Date Received: 03/09/21 10:00

Lab Sample ID: 480-181811-4

Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	8.3		0.20	0.043	mg/L		03/10/21 09:47	03/11/21 01:45	1
Sodium	171		1.0	0.32	mg/L		03/10/21 09:47	03/11/21 01:45	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.26	JH	0.050	0.019	mg/L		03/10/21 09:47	03/11/21 00:05	1
Manganese	0.012	~~B~~ JH	0.0030	0.00040	mg/L		03/10/21 09:47	03/11/21 00:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	243		2.5	1.4	mg/L			03/11/21 19:40	5
Sulfate	19.6		10.0	1.7	mg/L			03/11/21 19:40	5
Nitrite as N	ND		0.050	0.020	mg/L			03/09/21 18:54	1
Nitrate as N	3.4		0.050	0.020	mg/L			03/09/21 18:54	1
Alkalinity, Total	146		5.0	0.79	mg/L			03/09/21 20:28	1
Sulfide	ND		1.0	0.67	mg/L			03/14/21 13:50	1
Total Organic Carbon	0.75	J	1.0	0.43	mg/L			03/10/21 09:02	1

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181811-1

Client Sample ID: TRIPBLANK-030821

Lab Sample ID: 480-181811-5

Date Collected: 03/08/21 00:00

Matrix: Water

Date Received: 03/09/21 10:00

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/09/21 15:26	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/09/21 15:26	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/09/21 15:26	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/09/21 15:26	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/09/21 15:26	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/09/21 15:26	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/09/21 15:26	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/09/21 15:26	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/09/21 15:26	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/09/21 15:26	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/09/21 15:26	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/09/21 15:26	1
Acrolein	ND		100	17	ug/L			03/09/21 15:26	1
Acrylonitrile	ND		50	1.9	ug/L			03/09/21 15:26	1
Benzene	ND		5.0	0.60	ug/L			03/09/21 15:26	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/09/21 15:26	1
Bromoform	ND		5.0	0.47	ug/L			03/09/21 15:26	1
Bromomethane	ND		5.0	1.2	ug/L			03/09/21 15:26	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/09/21 15:26	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/09/21 15:26	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/09/21 15:26	1
Chloroethane	ND		5.0	0.87	ug/L			03/09/21 15:26	1
Chloroform	ND		5.0	0.54	ug/L			03/09/21 15:26	1
Chloromethane	ND		5.0	0.64	ug/L			03/09/21 15:26	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/09/21 15:26	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/09/21 15:26	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/09/21 15:26	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/09/21 15:26	1
Toluene	ND		5.0	0.45	ug/L			03/09/21 15:26	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/09/21 15:26	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/09/21 15:26	1
Trichloroethene	ND		5.0	0.60	ug/L			03/09/21 15:26	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/09/21 15:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*68 - 130*		*03/09/21 15:26*	*1*
4-Bromofluorobenzene (Surr)	*100*		*76 - 123*		*03/09/21 15:26*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*03/09/21 15:26*	*1*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/09/21 15:26*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: TripBlank-030921
Date Collected: 03/09/21 00:00
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-5
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/10/21 13:12	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/10/21 13:12	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/10/21 13:12	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/10/21 13:12	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/10/21 13:12	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/10/21 13:12	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/10/21 13:12	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/10/21 13:12	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/10/21 13:12	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/10/21 13:12	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/10/21 13:12	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/10/21 13:12	1
Acrolein	ND		100	17	ug/L			03/10/21 13:12	1
Acrylonitrile	ND		50	1.9	ug/L			03/10/21 13:12	1
Benzene	ND		5.0	0.60	ug/L			03/10/21 13:12	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/10/21 13:12	1
Bromoform	ND		5.0	0.47	ug/L			03/10/21 13:12	1
Bromomethane	ND		5.0	1.2	ug/L			03/10/21 13:12	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/10/21 13:12	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/10/21 13:12	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/10/21 13:12	1
Chloroethane	ND		5.0	0.87	ug/L			03/10/21 13:12	1
Chloroform	ND		5.0	0.54	ug/L			03/10/21 13:12	1
Chloromethane	ND		5.0	0.64	ug/L			03/10/21 13:12	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/10/21 13:12	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/10/21 13:12	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/10/21 13:12	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/10/21 13:12	1
Toluene	ND		5.0	0.45	ug/L			03/10/21 13:12	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/10/21 13:12	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/10/21 13:12	1
Trichloroethene	ND		5.0	0.60	ug/L			03/10/21 13:12	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/10/21 13:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*68 - 130*		*03/10/21 13:12*	*1*
4-Bromofluorobenzene (Surr)	*100*		*76 - 123*		*03/10/21 13:12*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*		*03/10/21 13:12*	*1*
Toluene-d8 (Surr)	*97*		*77 - 120*		*03/10/21 13:12*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181846-1

Client Sample ID: EquipmentBlank-030921
Date Collected: 03/09/21 13:10
Date Received: 03/10/21 09:30

Lab Sample ID: 480-181846-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/10/21 12:00	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/10/21 12:00	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/10/21 12:00	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/10/21 12:00	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/10/21 12:00	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/10/21 12:00	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/10/21 12:00	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/10/21 12:00	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/10/21 12:00	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/10/21 12:00	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/10/21 12:00	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/10/21 12:00	1
Acrolein	ND		100	17	ug/L			03/10/21 12:00	1
Acrylonitrile	ND		50	1.9	ug/L			03/10/21 12:00	1
Benzene	ND		5.0	0.60	ug/L			03/10/21 12:00	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/10/21 12:00	1
Bromoform	ND		5.0	0.47	ug/L			03/10/21 12:00	1
Bromomethane	ND		5.0	1.2	ug/L			03/10/21 12:00	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/10/21 12:00	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/10/21 12:00	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/10/21 12:00	1
Chloroethane	ND		5.0	0.87	ug/L			03/10/21 12:00	1
Chloroform	ND		5.0	0.54	ug/L			03/10/21 12:00	1
Chloromethane	ND		5.0	0.64	ug/L			03/10/21 12:00	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/10/21 12:00	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/10/21 12:00	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/10/21 12:00	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/10/21 12:00	1
Toluene	ND		5.0	0.45	ug/L			03/10/21 12:00	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/10/21 12:00	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/10/21 12:00	1
Trichloroethene	ND		5.0	0.60	ug/L			03/10/21 12:00	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/10/21 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*83*		*68 - 130*		*03/10/21 12:00*	*1*
4-Bromofluorobenzene (Surr)	*101*		*76 - 123*		*03/10/21 12:00*	*1*
Dibromofluoromethane (Surr)	*90*		*75 - 123*		*03/10/21 12:00*	*1*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/10/21 12:00*	*1*

Client: New York State D.E.C.
Project/Site: COSCO #344035

Job ID: 480-181931-1

Client Sample ID: TripBlank-031021

Date Collected: 03/10/21 00:00
Date Received: 03/11/21 09:30

Lab Sample ID: 480-181931-3

Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		5.0	0.39	ug/L			03/11/21 13:51	1
1,1,2,2-Tetrachloroethane	ND		5.0	0.26	ug/L			03/11/21 13:51	1
1,1,2-Trichloroethane	ND		5.0	0.48	ug/L			03/11/21 13:51	1
1,1-Dichloroethane	ND		5.0	0.59	ug/L			03/11/21 13:51	1
1,1-Dichloroethene	ND		5.0	0.85	ug/L			03/11/21 13:51	1
1,2-Dichlorobenzene	ND		5.0	0.44	ug/L			03/11/21 13:51	1
1,2-Dichloroethane	ND		5.0	0.60	ug/L			03/11/21 13:51	1
1,2-Dichloroethene, Total	ND		10	3.2	ug/L			03/11/21 13:51	1
1,2-Dichloropropane	ND		5.0	0.61	ug/L			03/11/21 13:51	1
1,3-Dichlorobenzene	ND		5.0	0.54	ug/L			03/11/21 13:51	1
1,4-Dichlorobenzene	ND		5.0	0.51	ug/L			03/11/21 13:51	1
2-Chloroethyl vinyl ether	ND		25	1.9	ug/L			03/11/21 13:51	1
Acrolein	ND		100	17	ug/L			03/11/21 13:51	1
Acrylonitrile	ND		50	1.9	ug/L			03/11/21 13:51	1
Benzene	ND		5.0	0.60	ug/L			03/11/21 13:51	1
Bromodichloromethane	ND		5.0	0.54	ug/L			03/11/21 13:51	1
Bromoform	ND		5.0	0.47	ug/L			03/11/21 13:51	1
Bromomethane	ND		5.0	1.2	ug/L			03/11/21 13:51	1
Carbon tetrachloride	ND		5.0	0.51	ug/L			03/11/21 13:51	1
Chlorobenzene	ND		5.0	0.48	ug/L			03/11/21 13:51	1
Chlorodibromomethane	ND		5.0	0.41	ug/L			03/11/21 13:51	1
Chloroethane	ND		5.0	0.87	ug/L			03/11/21 13:51	1
Chloroform	ND		5.0	0.54	ug/L			03/11/21 13:51	1
Chloromethane	ND		5.0	0.64	ug/L			03/11/21 13:51	1
cis-1,3-Dichloropropene	ND		5.0	0.33	ug/L			03/11/21 13:51	1
Ethylbenzene	ND		5.0	0.46	ug/L			03/11/21 13:51	1
Methylene Chloride	ND		5.0	0.81	ug/L			03/11/21 13:51	1
Tetrachloroethene	ND		5.0	0.34	ug/L			03/11/21 13:51	1
Toluene	ND		5.0	0.45	ug/L			03/11/21 13:51	1
trans-1,2-Dichloroethene	ND		5.0	0.59	ug/L			03/11/21 13:51	1
trans-1,3-Dichloropropene	ND		5.0	0.44	ug/L			03/11/21 13:51	1
Trichloroethene	ND		5.0	0.60	ug/L			03/11/21 13:51	1
Vinyl chloride	ND		5.0	0.75	ug/L			03/11/21 13:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*68 - 130*		*03/11/21 13:51*	*1*
4-Bromofluorobenzene (Surr)	*103*		*76 - 123*		*03/11/21 13:51*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*03/11/21 13:51*	*1*
Toluene-d8 (Surr)	*99*		*77 - 120*		*03/11/21 13:51*	*1*

ATTACHMENTS

ATTACHMENT 1
ENGINEERING CONTROLS – STANDBY CONSULTANT/CONTRACTOR CERTIFICATION FORM

Enclosure 1
Engineering Controls - Standby Consultant/Contractor Certification Form

Site Details **Box 1**

Site No. 344035

Site Name COSCO

Site Address: 15 West Street Zip Code: 10977
City/Town: Spring Valley
County: Rockland
Site Acreage: 0.3

Reporting Period: April 04, 2020 to April 04, 2021

	YES	NO
1. Is the information above correct?	X	
If NO, include handwritten above or on a separate sheet.		
2. To your knowledge has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?		X
3. To your knowledge has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		X
4. To your knowledge have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?		X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. To your knowledge is the site currently undergoing development?		X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	X	
7. Are all ICs/ECs in place and functioning as designed?	X	

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor Date

SITE NO. 344035 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
57.46-1-1	WEST CENTRAL ASSOCIATES L P	
		Monitoring Plan
		O&M Plan

1999 Record of Decision

Box 4

Description of Engineering Controls

Parcel	Engineering Control
57.46-1-1	
	Groundwater Treatment System
	Vapor Mitigation
	Cover System

A cover system consisting of asphalt to prevent human exposure to remaining contaminated soil/fill remaining at the site;
A SSDS at an off-site structure to prevent potential exposure to soil vapor intrusion;
Air stripper groundwater extraction and treatment system

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

_____ _____

Signature of Standby Consultant/Contractor Date

Box 6

IC/EC CERTIFICATIONS

Qualified Environmental Professional Signature

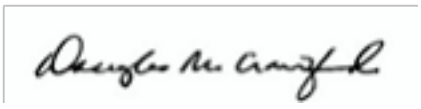
I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Douglas M. Crawford at
print name

Ramboll
94 New Karner Road, Suite 106
Albany, New York 12203,
(print business address)

am certifying as a Qualified Environmental Professional.

Signature of Qualified Environmental Professional



Stamp
(Required for PE)

Date

05/04/2021