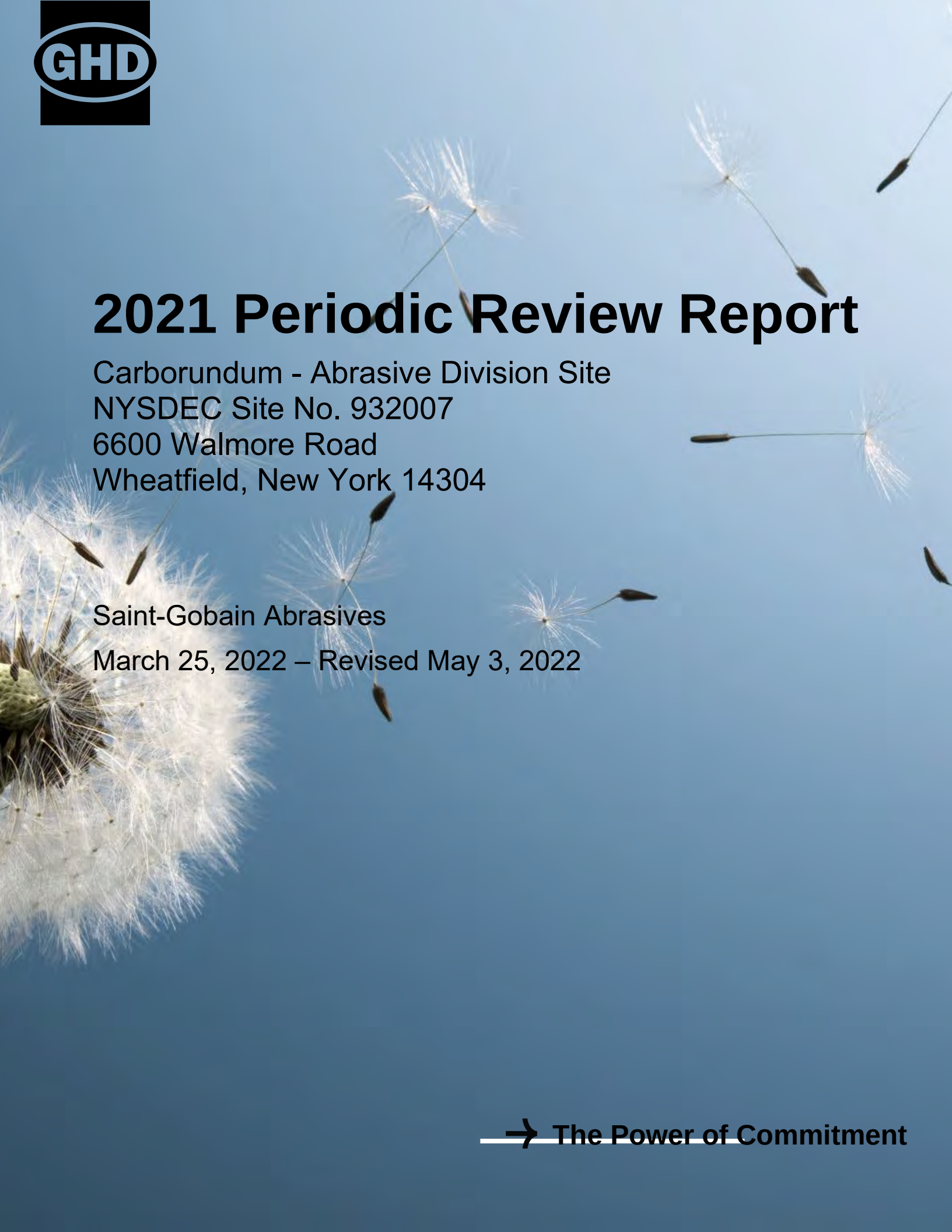


2021 Periodic Review Report

Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
6600 Walmore Road
Wheatfield, New York 14304

Saint-Gobain Abrasives

March 25, 2022 – Revised May 3, 2022

→ The Power of Commitment

Contents

Table index

Figure index

Appendices

1. Introduction

1.1 Overview and Certification

In accordance with the requirements provided in Section 6.3(b) of the New York State Department of Environmental Conservation's (NYSDEC's) DER-10 *Technical Guidance for Site Investigation and Remediation* (DER-10), Saint-Gobain Abrasives, Inc. (SGA) has prepared this Periodic Review Report (PRR) documenting activities completed at the Carborundum - Abrasive Division Site (Site) during the reporting period March 1, 2021 to March 1, 2022.

The Site is listed in the State Superfund program with a classification of 4, indicating that the Site has been properly closed but requires continued site management (SM) consisting of operation, maintenance, and/or monitoring. Institutional controls (ICs) and engineering controls (ECs) have been emplaced at the Site to ensure protection of public health and the environment. The ICs for the Site consist of the monitoring plan and operations and maintenance (O&M) plan contained within the NYSDEC-approved *Site Management Plan* (SMP) prepared by GHD, dated July 2020. The SMP replaces the former SM documents titled *Groundwater Sampling & Analysis Plan* (SAP) and *Operations and Maintenance Plan* (O&M Plan), prepared by Frontier Technical Associates Inc. (FTA), dated November 19, 2012. The ECs for the Site consist of a clay cap that was installed in 1982 and four monitoring wells located proximate to the perimeter of the Site ("perimeter monitoring wells"). SM requirements for the Site currently consist of an annual Site inspection, which includes a cap inspection and an inspection of the four perimeter monitoring wells, biennial groundwater monitoring, and cap maintenance.

GHD performed the SM requirements on behalf of SGA during the 2021 reporting period. The Site inspection was conducted on July 16, 2021. No conditions were identified through a visual inspection that would suggest that the integrity of the cap has been compromised. As such, additional corrective measures (i.e., corrective measures work plan) relative to the Site inspection are not required.

The biennial groundwater monitoring event was performed on March 23 and March 25, 2021. As per the SMP, SGA provided the NYSDEC with an Interim Data Report for the March 2021 groundwater monitoring event within 30 days of receipt of the laboratory report for the event. The Interim Data Report included the validated laboratory results, an overburden potentiometric surface contour map, and a brief statement regarding the significance of the sampling results. This groundwater monitoring event is detailed in Section 3.2. The concentrations of total phenolic compounds detected slightly exceeded the NYSDEC Class GA Groundwater Standard of 1 part per billion (ppb) in OW2-81 (2.08 ppb, estimated) and in OW3-81 (3.6 ppb, estimated). Both of these wells are located on NFTA property, which is upgradient of the Site. These slight exceedances do not suggest that the integrity of the cap has been compromised and are not evidence of chemical migration from the Site.

2. Site Overview

2.1 Site Location and Features

The Site is located at 6600 Walmore Road in the Town of Wheatfield, Niagara County, New York (Figure 1), and encompasses approximately 1 acre of land on a greater 54.52-acre parcel identified as Section-Block-Lot (SBL) number 146.00-1-9.2. The greater parcel is owned by Patriot Wheatfield Associates, LP. The remainder of the parcel is occupied by the SGA facility.

The Site consists of a clay-capped landfill (Figure 2) and is bordered by the Niagara Falls Air Reserve Station and Cayuga Creek to the north; light industrial complexes or undeveloped areas to the east and south; and the Niagara Falls International Airport (NFIA) to the west. The "A" sewer line (West Branch), catch basins A-9 and A-10,

and Niagara Frontier Transportation Authority (NFTA) security fence are also depicted on Figure 2. Catch basin A-9 drains the surface runoff and subsurface drainage from the landfill area.

2.1.1 Monitoring Wells

Four monitoring wells are associated with the Site. Two of the wells, identified as OW2-81 and OW3-81, are located west of the Site on the NFIA property, which is owned by the NFTA. The two remaining wells, identified as OW4-81 and OW5-81, are located east of the Site in a concrete area. A fifth well, identified as OW1-81, was formerly located within the interior of the landfilled waste and was decommissioned in 1991 because it had fallen into disrepair.

The five monitoring wells OW1-81 through OW5-81 were installed by Empire Soil Investigations, Inc. from January 20 to 22, 1981, following placement of the clay cap by Secured Landfill Contractors, Inc. The four perimeter wells, OW2-81 through OW5-81, were installed to the overburden-bedrock interface, or may slightly penetrate the bedrock. Monitoring well OW5-81 extended to the bottom of the landfilled materials. All five wells are/were constructed of 2-inch diameter black steel pipe attached to a 2-foot long stainless steel slotted well point. All joints were welded during construction. Each well has a lockable cap. Figure 3 illustrates a typical well installation. Table 1 provides the well depths measured by FTA and GHD following redevelopment activities in 1998 and 2018.

2.2 Site History

The former Carborundum - Abrasives Company landfill (Site) was identified by the Inter-Agency Task Force on Hazardous Wastes in a March 1979 report titled *Draft Report on Hazardous Waste Disposal in Erie and Niagara County, New York*. The Site was used from 1968 to 1976 to dispose of wastes generated at the adjacent Carborundum - Abrasives Division plant (currently occupied by SGA). The wastes were described in the report as "partially solidified and solidified resins, floor sweepings, waste fillers including calcium carbonate, clays and animal glue (estimated 400 tons total) with free phenols (resins) (estimated 800 to 1,600 pounds total)." The wastes were disposed by excavation of a long, narrow trench estimated to be approximately 450 feet long, 20 feet wide, and 12 feet deep. As the wastes were deposited into the trench, a soil cover comprised of the excavated soil (glacio-lacustrine clays) was placed over the waste.

The Carborundum - Abrasives Division ceased operations in 2003. A hydrogeological investigation of the Site was conducted in 1981. Monitoring wells confirmed the presence of phenols in Site groundwater. In late summer of 1982, a remedial program was implemented which consisted of the installation of an improved clay cap over the landfill area.

2.3 Site Geology

The area in the immediate vicinity of the Site is underlain by approximately 10 to 15 feet of clayey to sandy silt, glacio-lacustrine deposits, and glacial till. These deposits thicken southward across the Site. The hydraulic conductivity of these materials is low, estimated to be in the range of 10^{-5} to 10^{-8} meter per second. Figure 4 illustrates a typical surficial geologic cross-section for the Site and surrounding area. Layers of silt and clay fill and silty clay fill that support grass cover are present beneath the ground surface. It is suspected that these fill materials were graded and compacted prior to installation of the concrete area adjacent to the Site. Beneath the silty clay fill is reddish-brown, medium to stiff silty clay, which overlies till comprised of reddish-brown silt to clayey silt. Fill materials encountered in OW1-81 completed within the waste materials included wood, silt, sand, screen materials, paper, and backing cloth used for sandpaper manufacturing. Based on this, it is suspected that most of the materials disposed of in the landfill consisted of general plant trash and off-spec materials and damaged goods from the manufacturing process.

The bedrock underlying the Site consists of approximately 160 feet of dolomite belonging to the Lockport Formation. The upper zone of the Lockport Formation is generally characterized as a highly weathered, medium gray dolomite with extensive vertical fractures. It is generally striated on the surface and has extensive partings which are argillaceous or gypsum-coated. Water produced from this upper zone in the Bergholtz area of Wheatfield is generally of very poor quality, with a characteristic odor. The bedrock surface is generally encountered at elevations between approximately 560 and 570 feet above mean sea level (AMSL) proximate to the Site and dips gently to the south.

The area surrounding the Site is served by a municipal water supply system. Wells that were historically used along Walmore Road to the east were closed as part of a groundwater remediation effort conducted by the former Bell Aerospace-Textron in the late 1980s and early 1990s. The groundwater withdrawal and treatment system on the nearby Bell-Aerospace Textron property is still in operation.

2.4 Site Hydrogeology

Groundwater is encountered at the Site and in the surrounding area in a silty till material immediately overlying bedrock. At the time of the initial investigation in 1981, perched groundwater was observed in landfill monitoring well OW1-81. Installation of the sloped landfill cap coupled with the low permeability of the soils surrounding the landfill resulted in the water within the landfill being contained to the landfill. The source of the water in the landfill is precipitation infiltration. The terrain outside of the capped landfill is relatively flat. Soils remain moist throughout most of the summer west of the Site due to runoff from the airport runways and taxiways and the low permeability of the underlying soils. Groundwater at the Site has generally been observed to flow to the east-southeast throughout the time period monitored.

3. Site Management and Monitoring

SM requirements for the Site currently consist of an annual Site inspection, biennial groundwater monitoring, and cap maintenance. Details regarding the SM requirements are provided in the NYSDEC-approved SMP dated July 2020. A summary of the SM and monitoring activities performed at the Site during the reporting period is included below.

3.1 Annual Site Inspection

As per the SMP, the physical attributes of the Site are to be inspected annually in July by an experienced field technician working under the supervision of a Qualified Environmental Professional (QEP), as defined in Section 1.3 of DER-10. This annual Site inspection consists of a cap inspection and inspections of the four perimeter monitoring wells.

The annual Site inspection was conducted on July 16, 2021. The completed Site inspection form is included in Appendix B, and a photographic log of the Site inspection is included as Appendix C.

3.1.1 Cap Inspection

The cap is intended to prevent contact between Site visitors and personnel and buried wastes in the landfilled area, and consists of low-permeability clay and vegetation (grass). During the annual Site inspection, the cap is inspected visually through a walkover for conditions that could potentially compromise the integrity of the clay cap.

The annual cap inspection was completed during the annual Site inspection. Based on the results of the cap inspection, the cap appears to be in very good condition. No conditions were identified through the visual inspection that would suggest that the integrity of the cap has been compromised. During the annual inspection, the initial growth of woody vegetation was observed on the south end of the cap (refer to Appendix C, photo 15). Site personnel removed this vegetative growth non-intrusively with a brush hog and will continue to monitor the area for new growth.

3.1.2 Monitoring Well Inspection

As per the SMP, the four perimeter monitoring wells OW2-81 through OW5-81 are to be inspected visually during the Site inspection, and water levels and well depths measured. If a well depth measurement indicates at least 0.50 foot of sediment/sand infilling relative to the post-redevelopment depths measured in 1998 and 2018 (refer to Table 2), the well(s) will be redeveloped following the inspection to prevent further accumulation/compaction of sediment.

The annual well inspections were completed during the annual Site inspection. All four perimeter wells were inspected. No conditions requiring immediate repair or maintenance were observed. Although conditions requiring immediate repair were not identified, new stick-up risers and steel protective outer casings were installed on wells OW3-81, OW4-81, and OW5-81 on October 8, 2021. The existing corroded well risers were cut beneath the ground surface and new stick-up risers were compression-coupled on. New concrete pads were also installed at each of these three wells. All four perimeter monitoring wells were resurveyed on October 15, 2021. As the well depths and water levels presented in Tables 1 and 2 were measured prior to completion of the well repairs, the groundwater elevations in Table 2 were calculated using the pre-repair reference elevations. The reference elevations (top of riser) presented in Tables 1 and 2 will be updated in the 2022 Periodic Review Report.

Table 1 displays the well depths measured by FTA and GHD following redevelopment activities in 1998 and 2018 and the well depths measured during the annual Site inspection, along with the corresponding well bottom elevations. Based on a comparison of the well bottom elevations measured during the annual Site inspection to the installed well bottom elevations and post-redevelopment well bottom elevations, and given that the well screens are each two feet long, sediment buildup requiring well redevelopment was present in OW2-81, OW4-81, and OW5-81 at the time of the annual Site inspection. All four wells will be redeveloped prior to the next groundwater sampling event, which is scheduled for March 2023. However, if the results of the 2022 annual Site inspection indicate a significant increase in the amount of sediment present in these wells, the wells will be redeveloped following the inspection. An attempt will be made to redevelop these wells using more aggressive redevelopment techniques than previously utilized.

No major deficiencies relative to the ability of the wells to produce groundwater were observed in the wells during the annual Site inspection. As such, replacement of the wells is not necessary or warranted.

3.2 Biennial Groundwater Monitoring

As per the SMP, groundwater monitoring is performed on a biennial basis (every 2 years) to assess groundwater flow direction and chemistry and determine the nature and extent of contaminant migration from the Site (if any). Wells downgradient of the Site (OW4-81 and OW5-81) are monitored to evaluate the effectiveness of the clay cap, and wells upgradient of the Site (OW2-81 and OW3-81) are monitored to assess if upgradient groundwater, rather than the Site, might be a source of any downgradient impacts.

The biennial monitoring activities consist of hydraulic gauging, groundwater sampling, and well inspections. As indicated in Section 1.1, the biennial groundwater monitoring event was completed in March 2021. The field sampling notes are provided as Appendix D.

3.2.1 Hydraulic Gauging and Well Inspections

Table 2 displays the well depths and static water levels measured on March 23, 2021 at the beginning of the groundwater monitoring event and the resulting overburden groundwater elevations. Figure 5 displays an overburden potentiometric surface contour map for the groundwater elevations measured during the hydraulic gauging event. Based on the groundwater elevations, groundwater at the Site was flowing to the east-southeast at the time of measurement.

Well inspections were completed at the time of the hydraulic gauging event. The completed well inspection form is included in Appendix B. It was observed that wells OW4-81 and OW5-81 were constricted and that the riser was bent and concrete pad broken at OW3-81. These minor deficiencies are related to the age of the wells and have not impacted the ability of the wells to produce groundwater for sampling purposes. The constrictions in the risers of OW4-81 and OW5-81 are minor and do not prevent access to the well bottoms. As indicated in Section 3.1.2, new stick-up risers and concrete pads were installed at wells OW3-81, OW4-81, and OW5-81 in October 2021.

3.2.2 Groundwater Sampling

As per the SMP, the four perimeter monitoring wells and catch basin MH A-9 are to be sampled on a biennial basis, on odd-numbered years, and analyzed for phenolic compounds via United States Environmental Protection Agency

(USEPA) SW-846 Method 8270. In addition, temperature, pH, specific conductivity, and turbidity of the samples are to be measured in the field. Groundwater samples were collected in March 2021.

3.2.2.1 Redevelopment and Purging Activities

As the wells were redeveloped on October 26, 2020, the wells were not redeveloped prior to the March 2021 sampling event. Following completion of the hydraulic gauging and well inspections, all four wells were purged dry utilizing clean, dedicated 1/4-inch Teflon-lined tubing on March 23, 2021. Purge water was containerized in a 55-gallon drum and transported to the SGA facility for storage pending off-Site disposal by SGA.

3.2.2.2 Groundwater Sample Collection and Data Validation

Following completion of the purging activities, the wells were allowed to recharge. Water levels in the recovering wells were checked on March 25, 2021. As the wells contained sufficient recharge volume, groundwater samples were collected from all four wells and catch basin MH A-9 using a peristaltic pump and clean, dedicated Teflon-lined tubing. All tubing was removed following sampling. One field duplicate sample was collected from OW4-81 and one matrix spike/matrix spike duplicate (MS/MSD) sample was collected from OW2-81.

Following the filling of the sample bottles, field water quality parameters were collected from the groundwater sampled at OW2-81 and OW4-81, and from the water present in catch basin A-9. Insufficient volume remained in wells OW3-81 and OW5-81 following sampling to collect measurements for field water quality parameters in the groundwater sampled; however, field water quality parameters were measured in all four wells during purging activities in preparation for this potential scenario (wells dry following sampling). The final set of field parameters collected for each well and catch basin are included in Table 2. It should be noted that field quality parameters measured in purge water are not necessarily representative of the formation water actually sampled. Field water quality parameters measured prior to 2020 (by the previous consultant) were on stagnant water purged prior to well recharge and sampling, and were, thus, not representative of the formation water actually sampled.

The groundwater samples were submitted to Alpha Analytical in Westborough, Massachusetts for analysis of phenolic compounds via USEPA SW-846 Method 8270. The laboratory reports are included as Appendix E. A GHD chemist performed a data validation on the laboratory analytical results and concluded that the data are acceptable without qualification. The data validation memorandum is included as Appendix F.

3.2.2.3 Analytical Results

Table 3 presents the analytical results from the March 2021 sampling event as well as the results from historical sampling events conducted at the Site. During the 2021 sampling event, the concentrations of total phenolic compounds detected slightly exceeded the NYSDEC Class GA Groundwater Standard of 1 ppb in OW2-81 (2.08 ppb, estimated) and in OW3-81 (3.6 ppb, estimated). These two wells are located on the NFTA property, which is upgradient of the Site. These slight exceedances do not suggest that the integrity of the cap has been compromised and are not evidence of chemical migration from the Site. Phenolic compounds were not detected at concentrations above the laboratory's reporting limits (RLs) in any of the groundwater samples collected from 1995 through 2017; however, the previous laboratory's RLs (used from 1991 through 2017) were higher than the current laboratory's RLs.

3.3 Cap Maintenance and Repair

The Site is maintained as part of the routine landscaping schedule associated with the adjoining SGA facility. No maintenance activities other than routine landscaping and the removal of woody vegetative growth discussed in Section 3.1.1 was performed at the Site during the monitoring period. In addition, no ground-intrusive activities were performed at the Site during the reporting period.

4. Conclusions

GHD performed the SM requirements on behalf of SGA during the 2021 reporting period. The annual Site inspection was conducted on July 16, 2021. No conditions were identified through a visual inspection that would suggest that the integrity of the cap has been compromised. Based on the well depths measured during the inspection, sediment buildup requiring redevelopment was identified. All four wells will be redeveloped prior to the next groundwater sampling event, unless the results of the 2022 annual Site inspection indicate a significant increase in the amount of sediment present.

The biennial groundwater monitoring event was completed in March 2021. The concentrations of total phenolic compounds detected during the sampling event slightly exceeded the NYSDEC Class GA Groundwater Standard of 1 ppb in OW2-81 (2.08 ppb, estimated) and in OW3-81 (3.6 ppb, estimated). Both of these wells are located on NFTA property, which is upgradient of the Site. These slight exceedances do not suggest that the integrity of the cap has been compromised and are not evidence of chemical migration from the Site. The next biennial groundwater monitoring event is scheduled for March 2023. SGA does not recommend any modifications to the Site monitoring and O&M plans at this time.

Table 1

Sounded Well Depths - 2021 Annual Site Inspection
Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Well Number	Current Top of Riser Elevation[1] ft. AMSL	Installed Well Bottom Elevation ft. AMSL	Sounded Well Depth ft. BTOR			Sounded Well Bottom Elevation ft. AMSL		
			10/22/98*	12/17/18*	07/16/21	10/22/98*	12/17/18*	07/16/21
OW2-81	588.16	569.2	18.20	NA	16.40	570.30	NA	571.76
OW3-81	587.92	567.8	19.66	NA	19.68	567.93	NA	568.24
OW4-81	587.86	567.9	19.38	19.06	18.92	568.36	568.68	568.94
OW5-81	588.25	569.5	18.23	17.53	17.38	569.29	569.99	570.87

Notes:

Wells were constructed with two-foot long screens

[1] - Per well survey conducted on November 4, 2020

* - Wells were sounded following redevelopment in 1998 and 2018

NA - Not applicable

ft. AMSL - Feet Above Mean Sea Level

ft. BTOR - Feet Below Top of Riser

Table 2

Groundwater Elevations - 2021 Groundwater Monitoring Event
Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Well Number	Top of Riser Elevation ft. AMSL	Water Level (ft. BTOR) 03/23/21	Well Depth (ft. BTOR) 03/23/21	Groundwater Elevation (ft. AMSL) 03/23/21
OW2-81	588.16	7.39	16.39	580.77
OW3-81	587.92	6.63	19.60	581.29
OW4-81	587.86	10.52	18.94	577.34
OW5-81	588.25	13.95	17.44	574.30

Notes:

ft. AMSL - Feet Above Mean Sea Level
ft. BTOR - Feet Below Top of Riser

Table 3

Historical Groundwater Sampling Results
Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Parameter	Groundwater Standard	OW2-81 6/2/1989	9/13/1990	4/30/1991	4/15/1993	4/21/1995	4/4/1996	8/7/2001	11/21/2003	7/19/2005	7/18/2007	9/16/2009	7/20/2011	8/16/2013	7/10/2015	8/7/2017	10/27/2020	3/25/2021
pH (SU)		7.00	6.88	6.52	7.19	7.57	7.57	7.11	7.12	7.26	7.23	8.01	7.84	7.11	11.13	7.89	---	10.15
Conductivity (µmhos/cm)		---	---	2900	2128	2557	4115	2370	3828	3279	2970	3497	3852	3760	1565	3520	---	3.06
Turbidity (NTU)		---	---	---	---	420	60	9	42	45	67	29	157	31.9	297	21.8	---	13.2
Total Phenolics (4AAP) (µg/l)	1*	40	160	70	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.2	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	1.4 J	2.0 J
2-Chlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<5.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.48	<0.48
2-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.49	<0.49
4-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	0.82 J	<0.48
2-Nitrophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.85	<0.85
2,4-Dimethylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<3.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<1.8	<1.8
2,4-Dichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<10	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.41	<0.41
4-Chloro-3-methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.35	<0.35
2,4,6-Trichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.61	<0.61
2,4,5-Trichlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<10	<1.6	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.77	<0.77
2,4-Dinitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<9.6	<50	<50	<47	<47	<47	<47	<50	<6.6	<6.6
4-Nitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<2.8	<50	<50	<47	<47	<47	<47	<50	<0.67	<0.67
4,6-Dinitro-2-methylphenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<3.0	<50	<50	<47	<47	<47	<47	<50	<1.8	<1.8
Pentachlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<50	<2.2	<50	<50	<47	<47	<47	<47	<50	<0.01	0.08 J

Parameter	Groundwater Standard	OW3-81 6/2/1989	9/13/1990	4/30/1991	4/15/1993	4/21/1995	4/4/1996	8/7/2001	11/21/2003	7/19/2005	7/18/2007	9/16/2009	7/20/2011	8/16/2013	7/10/2015	8/7/2017	11/2/2020	3/25/2021
pH (SU)		7.05	7.05	7.07	6.89	7.76	7.18	7.32	7.02	6.83	6.78	9.91	6.92	7.00	7.23	6.81	---	11.08
Conductivity (µmhos/cm)		---	---	2069	1490	3547	2705	2540	2950	2754	3397	2296	3160	3150	1839	1212	---	2.74
Turbidity (NTU)		---	---	---	---	270	400	24	25	50	29	366	1064	250	332	139	---	46.5
Total Phenolics (4AAP) (µg/l)	1*	<5	50	<6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol (µg/l)	1*	---	---	<10	32	<10	<5	<10	<2.2	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	2.5 J	3.6 J
2-Chlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<5.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.48	<0.48
2-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.49	<0.49
4-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.48	<0.48
2-Nitrophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.85	<0.85
2,4-Dimethylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<3.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<1.8	<1.8
2,4-Dichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<10	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.41	<0.41
4-Chloro-3-methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.35	<0.35
2,4,6-Trichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.61	<0.61
2,4,5-Trichlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<10	<1.6	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.77	<0.77
2,4-Dinitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<9.6	<50	<50	<47	<47	<47	<47	<50	<6.6	<6.6
4-Nitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<2.8	<50	<50	<47	<47	<47	<47	<50	<0.67	<0.67
4,6-Dinitro-2-methylphenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<3.0	<50	<50	<47	<47	<47	<47	<50	<1.8	<1.8
Pentachlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<50	<2.2	<50	<50	<47	<47	<47	<47	<50	<0.01	<0.01

Table 3

Historical Groundwater Sampling Results
Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Parameter	Groundwater Standard	OW4-81 6/2/1989	9/13/1990	4/30/1991	4/15/1993	4/21/1995	4/4/1996	8/7/2001	11/21/2003	7/19/2005	7/18/2007	9/16/2009	7/20/2011	8/16/2013	7/10/2015	8/7/2017	10/27/2020	3/25/2021
pH (SU)		7.29	6.83	7.03	7.08	7.63	8.67	7.64	7.36	11.87	11.26	8.69	11.2	10.88	10.97	9.97	---	7.58
Conductivity (µmhos/cm)		---	---	2153	1495	2458	2232	3023	2698	2566	3612	2500	2360	1946	1333	2280	---	3.62
Turbidity (NTU)		---	---	---	---	130	90	22	13.5	85	57	10.7	47	over range	145	109	---	2.78
Total Phenolics (4AAP) (µg/l)	1*	70	65	20	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.2	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.57 / <0.57	<0.57 / <0.57
2-Chlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<5.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.48 / <0.48	<0.48 / <0.48
2-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.49 / <0.49	<0.49 / <0.49
4-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.48 / <0.48	<0.48 / <0.48
2-Nitrophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.85 / <0.85	<0.85 / <0.85
2,4-Dimethylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<3.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<1.8 / <1.8	<1.8 / <1.8
2,4-Dichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<10	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.41 / <0.41	<0.41 / <0.41
4-Chloro-3-methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.35 / <0.35	<0.35 / <0.35
2,4,6-Trichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.61 / <0.61	<0.61 / <0.61
2,4,5-Trichlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<10	<1.6	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.77 / <0.77	<0.77 / <0.77
2,4-Dinitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<9.6	<50	<50	<47	<47	<47	<47	<50	<6.6 / <6.6	<6.6 / <6.6
4-Nitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<2.8	<50	<50	<47	<47	<47	<47	<50	<0.67 / <0.67	<0.67 / <0.67
4,6-Dinitro-2-methylphenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<3.0	<50	<50	<47	<47	<47	<47	<50	<1.8 / <1.8	<1.8 / <1.8
Pentachlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<50	<2.2	<50	<50	<47	<47	<47	<47	<50	<0.01 / <0.01	0.08 J / <0.01

Parameter	Groundwater Standard	OW5-81 6/2/1989	9/13/1990	4/30/1991	4/15/1993	4/21/1995	4/4/1996	8/7/2001	11/21/2003	7/19/2005	7/18/2007	9/16/2009	7/20/2011	8/16/2013	7/10/2015	8/7/2017	11/2/2020	3/25/2021
pH (SU)		7.25	6.47	6.32	6.74	7.67	7.20	6.83	6.53	5.83	6.27	4.58	6.13	6.01	6.67	6.97	---	7.32
Conductivity (µmhos/cm)		---	---	2841	1854	3134	3188	2915	4415	3196	4225	4949	5632	6270	2000	8410	---	5.54
Turbidity (NTU)		---	---	---	---	340	60	12	21	6	2	250	over range	over range	137	664	---	210
Total Phenolics (4AAP) (µg/l)	1*	50	35	<6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.2	<10	<5	<9.4	<9.4	<9.4	<9.4	---	<0.78	<0.57
2-Chlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<5.4	<10	<5	<9.4	<9.4	<9.4	<9.4	---	<0.66	<0.48
2-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	---	<0.68	<0.49
4-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	---	<0.66	<0.48
2-Nitrophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	---	<1.2	<0.85
2,4-Dimethylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<3.4	<10	<5	<9.4	<9.4	<9.4	<9.4	---	<2.4	<1.8
2,4-Dichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<10	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	---	<0.56	<0.41
4-Chloro-3-methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	---	<0.48	<0.35
2,4,6-Trichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	---	<0.84	<0.61
2,4,5-Trichlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<10	<1.6	<10	<10	<9.4	<9.4	<9.4	<9.4	---	<1.1	<0.77
2,4-Dinitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<9.6	<50	<50	<47	<47	<47	<47	---	<9.2	<6.6
4-Nitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<2.8	<50	<50	<47	<47	<47	<47	---	<0.92	<0.67
4,6-Dinitro-2-methylphenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<3.0	<50	<50	<47	<47	<47	<47	---	<2.5	<1.8
Pentachlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<50	<2.2	<50	<50	<47	<47	<47	<47	---	<0.02	0.06 J

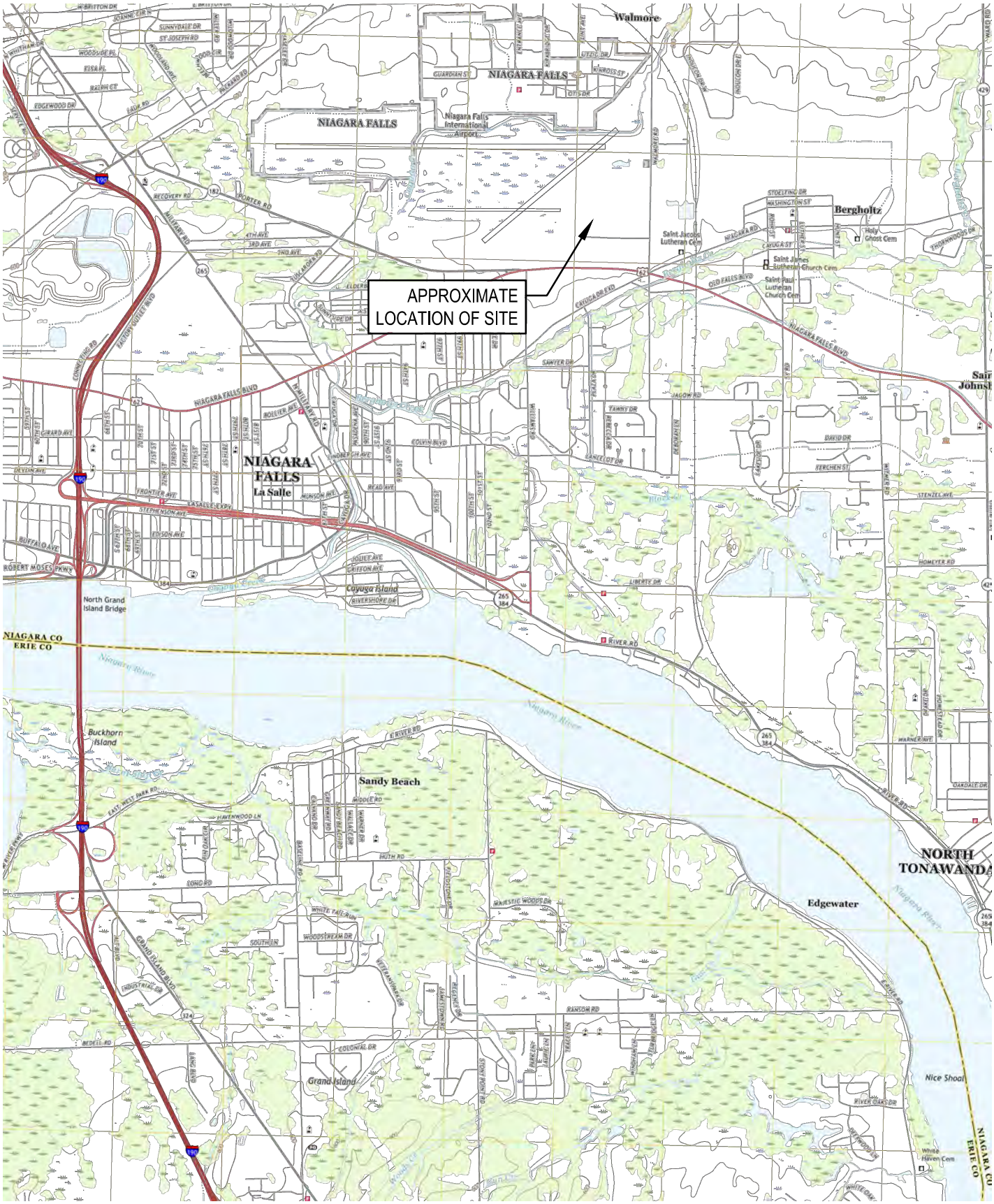
Table 3

Historical Groundwater Sampling Results
Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Parameter	Groundwater Standard	MH A-9 6/2/1989	9/13/1990	4/30/1991	4/15/1993	4/21/1995	4/4/1996	8/7/2001	11/21/2003	7/19/2005	7/18/2007	9/16/2009	7/20/2011	8/16/2013	7/10/2015	8/7/2017	10/27/2020	3/25/2021
pH (SU)		7.58	7.08	7.31	7.37	7.79	7.28	8.13	7.03	7.35	7.88	6.97	8.10	6.87	8.25	6.63	---	7.76
Conductivity (µmhos/cm)		---	---	453	313	346	676	84	606	779	990	476	622	664	498	614	---	0.697
Turbidity (NTU)		---	---	---	---	280	60	35	3	17	12	4.7	2.11	2.79	8.00	1.59	---	1.01
Total Phenolics (4AAP) (µg/l)	1*	10	70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.2	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.57	<0.57
2-Chlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<5.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.48	<0.48
2-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.49	<0.49
4-Methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	--	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.48	<0.48
2-Nitrophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.85	<0.85
2,4-Dimethylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<3.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<1.8	<1.8
2,4-Dichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<10	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.41	<0.41
4-Chloro-3-methylphenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.8	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.35	<0.35
2,4,6-Trichlorophenol (µg/l)	1*	---	---	<10	<10	<10	<5	<10	<2.4	<10	<5	<9.4	<9.4	<9.4	<9.4	<10	<0.61	<0.61
2,4,5-Trichlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<10	<1.6	<10	<10	<9.4	<9.4	<9.4	<9.4	<10	<0.77	<0.77
2,4-Dinitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<9.6	<50	<50	<47	<47	<47	<47	<50	<6.6	<6.6
4-Nitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<2.8	<50	<50	<47	<47	<47	<47	<50	<0.67	<0.67
4,6-Dinitro-2-methylphenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<3.0	<50	<50	<47	<47	<47	<47	<50	<1.8	<1.8
Pentachlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<50	<2.2	<50	<50	<47	<47	<47	<47	<50	<0.01	<0.01

Notes:

---	- Not provided/not analyzed
SU	- Standard unit
µmhos/cm	- Micro ohms per centimeter
NTU	- Nephelometric turbidity unit
µg/L	- Micrograms per liter
*	- Applies to the sum of phenolic compounds (total phenols)
	- Exceeds NYSDEC Class GA Groundwater Standard
NYSDEC	- New York State Department of Environmental Conservation



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, TONAWANDA WEST, NY 2019

N

0 4000'

GHD

CARBORUNDUM - ABRASIVE DIVISION SITE
NYSDEC SITE No. 932007 - 6600 WALMORE ROAD
WHEATFIELD, NEW YORK

SITE LOCATION MAP

Project No. **11212053**
Report No. **004**
Date **FEB 2022**

FIGURE 1

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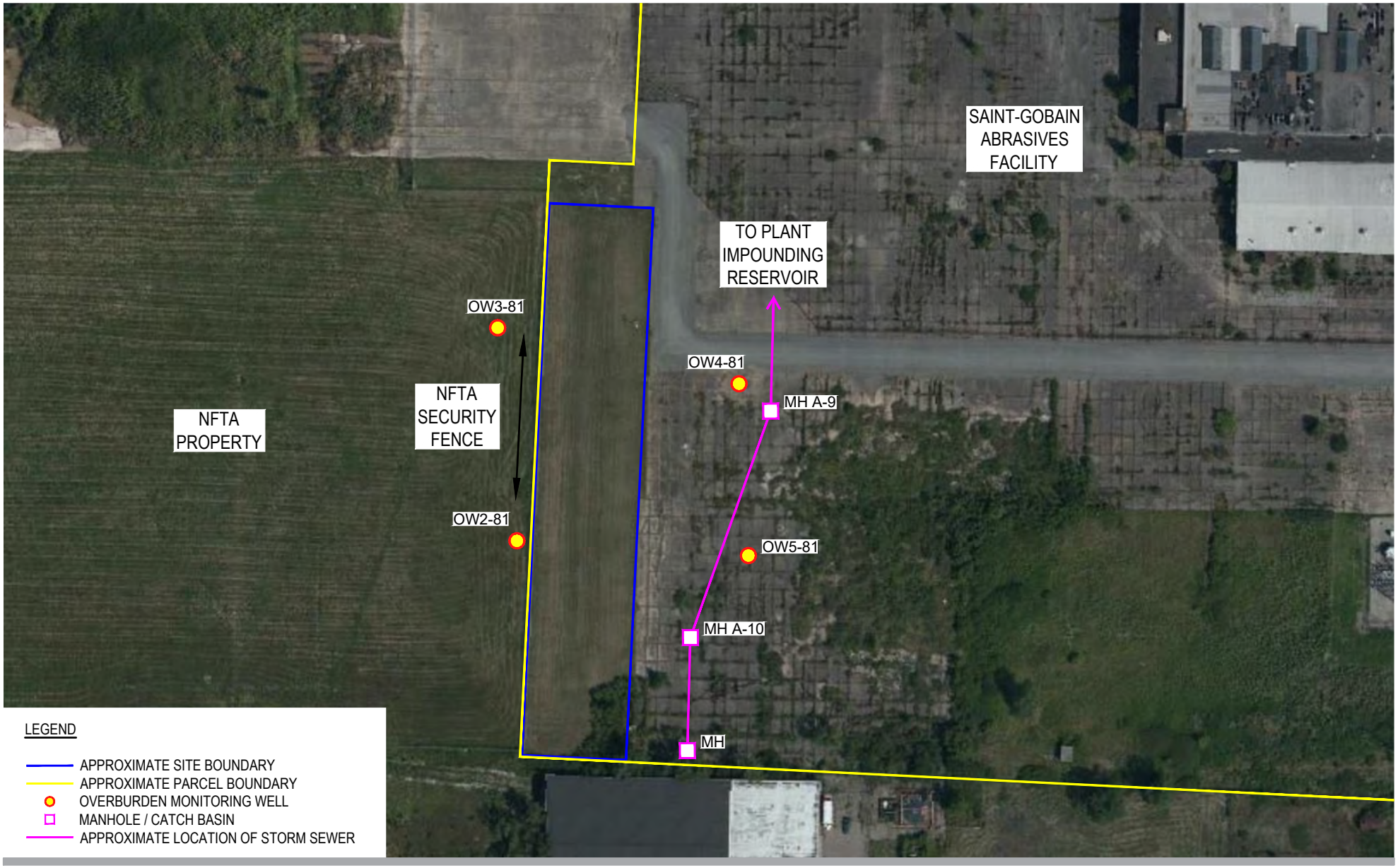
Plot Date: 15 February 2022 - 9:06 AM



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CARBORUNDUM - ABRASIVE DIVISION SITE
NYSDEC SITE No. 932007 - 6600 WALMORE ROAD
WHEATFIELD, NEW YORK

SITE PLAN

Project No. **11212053**
Report No. **004**
Date **FEB 2022**

FIGURE 2

Filename: N:\US\Philadelphia\Projects\564\11212053\Digital_Design\ACAD 2018\Figures\11212053 - Report 4\11212053 - Figure 2.dwg
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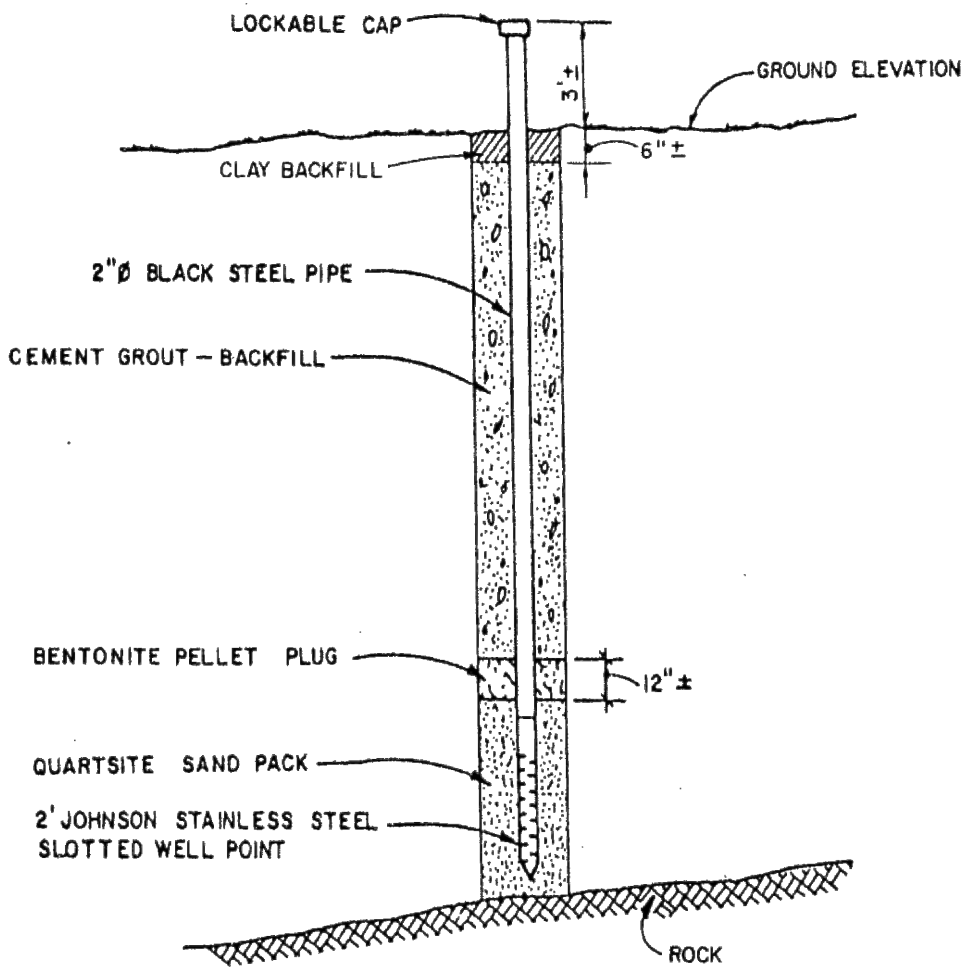

TAKEN FROM "PERIODIC REVIEW REPORT, INACTIVE LANDFILL AREA, SAINT-GOBAIN ABRASIVES, INC," FRONTIER TECHNICAL ASSOCIATES REPORT ET-19-703PRR, DATED MARCH 19, 2019.

CARBORUNDUM - ABRASIVE DIVISION SITE
NYSDEC SITE No. 932007 - 6600 WALMORE ROAD
WHEATFIELD, NEW YORK

TYPICAL MONITORING WELL INSTALLATION

Project No. **11212053**
Report No. **004**
Date **FEB 2022**

FIGURE 3

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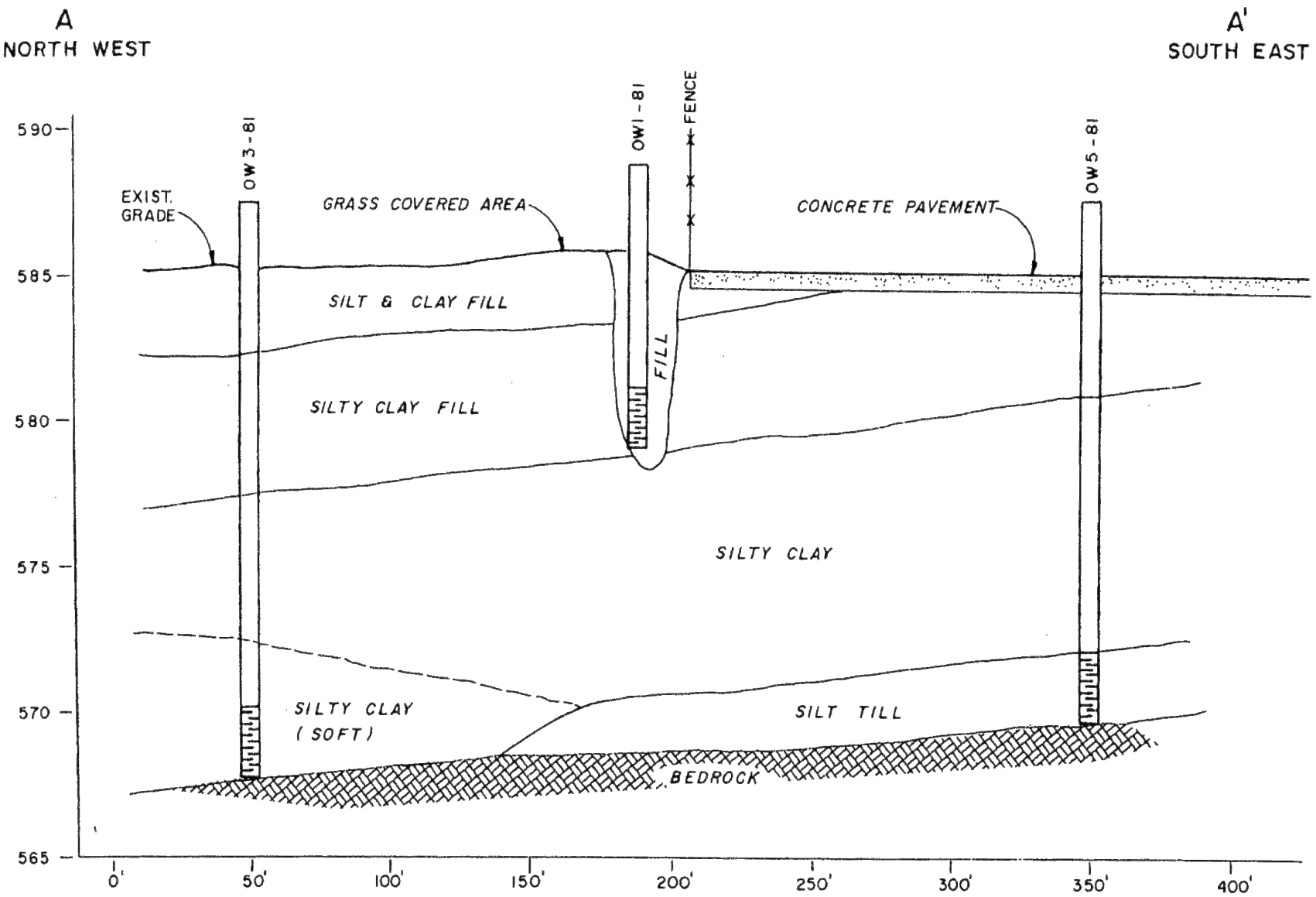

TAKEN FROM "PERIODIC REVIEW REPORT, INACTIVE LANDFILL AREA, SAINT-GOBAIN ABRASIVES, INC," FRONTIER TECHNICAL ASSOCIATES REPORT ET-19-703PRR, DATED MARCH 19, 2019.

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CARBORUNDUM - ABRASIVE DIVISION SITE
NYSDEC SITE No. 932007 - 6600 WALMORE ROAD
WHEATFIELD, NEW YORK

TYPICAL SURFICIAL GEOLOGIC CROSS-SECTION

Project No. **11212053**
Report No. **004**
Date **FEB 2022**

FIGURE 4

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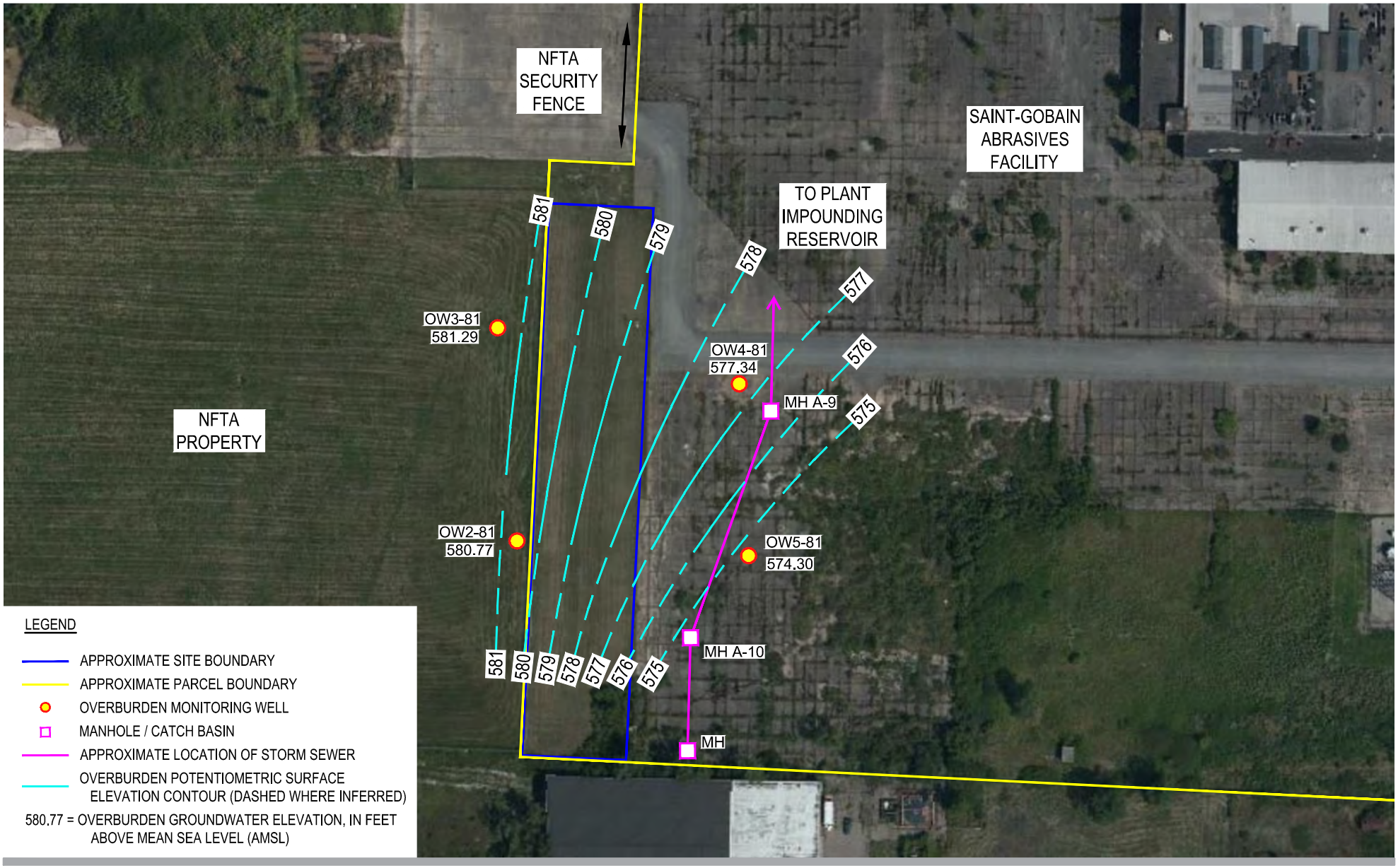

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CARBORUNDUM - ABRASIVE DIVISION SITE
NYSDEC SITE No. 932007 - 6600 WALMORE ROAD
WHEATFIELD, NEW YORK

OVERBURDEN POTENTIOMETRIC SURFACE MAP - MARCH 23, 2021

Project No. **11212053**
Report No. **004**
Date **FEB 2022**

FIGURE 5

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Plot Date: 15 February 2022 - 9:09 AM

Appendices

Appendix A

Institutional and Engineering Controls Certification Form

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
625 Broadway, 11th Floor, Albany, NY 12233-7020
P: (518)402-9543 | F: (518)402-9547
www.dec.ny.gov

1/11/2022

James J. Smith
Manager, Environmental Programs
Saint-Gobain Corporation
20 Moores Road
Malvern, PA 19355
James.J.Smith@saint-gobain.com

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal
Site Name: Carborundum-Abrasive Division
Site No.: 932007
Site Address: 6600 WALMORE ROAD
Wheatfield, NY 14304

Dear James J. Smith:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site-specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at http://www.dec.ny.gov/regulations/67386.html) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **March 31, 2022**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls ("IC/EC Plan"); a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"); and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. The Engineering Controls (ECs) portion of the form (Box 7) must be signed by a Qualified Environmental Professional (QEP). If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, must be submitted in electronic format to the Department of Environmental Conservation. The required format for documents is an Adobe PDF file with optical character recognition and no password protection. Data must be submitted as an electronic data deliverable (EDD) according to the instructions on the following webpage:

https://www.dec.ny.gov/chemical/62440.html

Documents may be submitted to the project manager either through electronic mail or by using the Department's file transfer service at the following webpage:

https://fts.dec.state.ny.us/fts/

The Department will not approve the PRR unless all documents and data generated in support of the PRR have been submitted using the required formats and protocols.

You may contact Steven Moeller, the Project Manager, at 716-851-7289 or steven.moeller@dec.ny.gov with any questions or concerns about the site. Please notify the project manager before conducting inspections or field work. You may also write to the project manager at the following address:

New York State Department of Environmental Conservation
270 Michigan Ave

Buffalo, NY 14203-2915

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

ec: w/ enclosures
Patriot Wheatfield Assoc, Lp C/O P.Equit - James.J.Smith@saint-gobain.com

ec: w/ enclosures
Steven Moeller, Project Manager
Stanley Radon, Hazardous Waste Remediation Supervisor, Region 9

GHD - Margaret Popek - margaret.popek@ghd.com

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7**):**

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 932007

Site Name Carborundum-Abrasive Division

Site Address: 6600 WALMORE ROAD Zip Code: 14304
City/Town: Wheatfield
County: Niagara
Site Acreage: 1.000

Reporting Period: March 01, 2021 to March 01, 2022

	YES	NO
1. Is the information above correct?	X	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	X
4. 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. Is the site currently undergoing development?	☐	X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Industrial	X	☐
7. Are all ICs in place and functioning as designed?	X	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 932007 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
146.00-1-9.2	Patriot Wheatfield Assoc, LP c/o P.Equit	Monitoring Plan O&M Plan Site Management Plan

Operations and Maintenance Plan; 10/4/99. Revised: 11/19/2012.

Groundwater Sampling and Analysis Plan; 11/24/99. Revised: 11/19/2012.

Site Management Plan; 7/2/20.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
146.00-1-9.2	Cover System Monitoring Wells

Clay landfill cap: 1982.

Monitoring Wells.

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 Engineering Control certification;

   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. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The 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) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
X	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. 932007

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 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 Kelsey Hillegass (print name) at 20 Moores Road, Malvern, PA 19355 (print business address),

am certifying as Saint-Gobain Corporation (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Kelsey L Hillegass

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

03/15/2022
Date

EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 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 Richard J. Snyder (print name) at 2055 Niagara Falls Blvd., Niagara Falls, NY 14304 (print business address),

am certifying as a Qualified Environmental Professional for the Remedial Party (Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

March 25, 2022
Date

Enclosure 3
Periodic Review Report (PRR) General Guidance

I. Executive Summary: (1/2-page or less)
   A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
   B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
      1. progress made during the reporting period toward meeting the remedial objectives for the site
      2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
   C. Compliance
      1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
      2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
   D. Recommendations
      1. recommend whether any changes to the SMP are needed
      2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
      3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)
   A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
   B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness
   Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)
   A. IC/EC Requirements and Compliance
      1. Describe each control, its objective, and how performance of the control is evaluated.
      2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
      3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
      4. Conclusions and recommendations for changes.
   B. IC/EC Certification
      1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. Monitoring Plan Compliance Report (if applicable)
   A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
   B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
   C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
   D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
   E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
   A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
   B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
   C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated

the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.

D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.

E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations

A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
   1. whether all requirements of each plan were met during the reporting period
   2. any requirements not met
   3. proposed plans and a schedule for coming into full compliance.

B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.

C. Future PRR Submittals
   1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
   2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.

Appendix B

Site and Well Inspection Forms - 2021

Site Inspection Form

Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Inspector's Name: David Tyran
Date: 3/23/2021
Weather: Sunny 40°F

1. Cap Inspection

Engineering Control	Condition	Maintenance Required or Comments
Clay Landfill Cap		
Monitoring Wells	See below.	See below.

2. Well Inspection

	Well			
Inspection Items	**OW2-81**	**OW3-81**	**OW4-81**	**OW5-81**
Depth to Water (ft. BTOR)	7.39	6.63	10.52	13.95
Well Depth (ft. BTOR)	16.39	19.60	18.94	17.44
Well Locked	Yes	Yes	Yes	Yes
Lock Functioning	Yes	Yes	Yes	Yes
Bailer and Rope OK	NA	NA	NA	NA
Tubing OK	Yes	Yes	Yes	Yes
Protective Casing OK	Yes	NA	NA	NA
Concrete Pad OK	Yes	No	NA	NA
Heaving of Well or Casing	No	Yes	No	No
Well Constricted	No	Yes	Yes	Yes
Debris In Well	No	No	No	No
Insects in Well	No	No	No	No
Overall Condition	Good	Poor	Poor	Poor
Maintenance Needed	None	Riser Bent Concrete Pad Broken	Well Constricted	Well Constricted

Inspector's Signature: David J Tyran

Notes:

ft. BTOR = Feet Below Top of Riser

Site Inspection Form

Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Inspector's Name: Richard Snyder
Date: July 16, 2021
Weather: partly cloudy/light wind/75-80°F

1. Cap Inspection

Engineering Control	Condition	Maintenance Required or Comments
Clay Landfill Cap	good - Very good	Vegetative cover being mowed intermittently. Initial growth of woody vegetation present at south end. Monitor and address this condition if required.
Monitoring Wells	See below.	See below.

2. Well Inspection

	Well			
Inspection Items	**OW2-81**	**OW3-81**	**OW4-81**	**OW5-81**
Depth to Water (ft. BTOR)	8.25	9.05	9.04	14.14
Well Depth (ft. BTOR)	16.4	19.68	18.92	17.38
Well Locked	Y	Y	Y	Y
Lock Functioning	Y	Y	Y	Y
Bailer and Rope OK	none	none	none	none
Tubing OK	none	none	none	none
Protective Casing OK	Y	none*	none*	none*
Concrete Pad OK	Y	**	Y	Y
Heaving of Well or Casing	N	N	N	N
Well Constricted	N	N	N	N
Debris In Well	N	N	N	N
Insects in Well	N	N	N	N
Overall Condition	very good	good	very good	very good
Maintenance Needed	N	- fill soil depressions around/under slab	N	N

Inspector's Signature:

Notes:

ft. BTOR = Feet Below Top of Riser

* well casing extends above grade with no protective casing.

** cracked in Northwest corner - minor soil settlement beneath pad

Appendix C

Site Inspection Photographic Log – July 16, 2021

Photo 1 - View of OMW3-81 west of Site on NFTA property

Photo 2 - View of OMW2-81 west of Site on NFTA property

Annual Site Inspection Photographs – July 16, 2021

Photo 3 - View of west side of cap viewed from NFTA property

Photo 4 - View of west side of cap viewed from NFTA property

Annual Site Inspection Photographs – July 16, 2021

Photo 5 - View of west side of cap viewed from NFTA property

Photo 6 - View of west side of cap viewed from NFTA property

Annual Site Inspection Photographs – July 16, 2021

Photo 7 - View of west side of cap viewed from NFTA property

Photo 8 - View of west side of cap viewed from NFTA property

Annual Site Inspection Photographs – July 16, 2021

Photo 9 - View of north side of cap

Photo 10 - View of north side of cap

Annual Site Inspection Photographs – July 16, 2021

Photo 11 - View of west side of cap as viewed from the Site

Photo 12 - View of east side of cap

Photo 13 - View of west side of cap

Photo 14 - View of west side of cap

Photo 15 - View of west side of cap (southern end)

Photo 16 - View of south side of cap

Photo 17 - View of south side of cap

Photo 18 - View of south side of cap

Photo 19 - View of west side of cap

Photo 20 - View of east side of cap

Annual Site Inspection Photographs – July 16, 2021

Photo 21 - View of east side of cap

Photo 22 - View of east side of cap

Photo 23 - View of east side of cap

Photo 24 - View of OMW-5 east of Site

Annual Site Inspection Photographs – July 16, 2021

Photo 25 - View of OMW4-81 east of Site

Photo 26 - View of MH A-9 east of Site

Photo 27 - View of concrete area east of Site with monitoring wells

Photo 28 - View of concrete area east of Site with monitoring wells

Photo 29 - View of concrete area east of Site with monitoring wells

Photo 30 - View of concrete area east of Site with monitoring wells

Photo 31 - View of manhole MH A-10

Photo 32 - View of MH at south edge of Site

Annual Site Inspection Photographs – July 16, 2021

Appendix D

Field Sampling Notes

St. Gobain

DAILY LOG

3/23/21 Calibrate YSI control # 06214Z (DST)
with auto cal solution Lot # 20180085 exp 6/1/2021
and pH 7.00 buffer Lot # 20060040 exp 1/24/2022

	Before	After
Cond (4.49)	4.46	4.49
pH (4.00)	3.86	4.00
pH (7.00)	7.03	7.00

0855 Partly cloudy 48-60°F winds S 0-5mph waiting at gate #1 for escort onto airport property
0935 Escort arrived, drive out to OW3-81 setup to purge with 1/4" Ø teflon lined tubing using Masterflex peristaltic pump. Purge well dry take several field parameter readings during the purge
1028 Setup on OW2-81 purge dry Same as above
1115 off-site
1140 on-site @ St. Gobain, setup on well OW581 purge dry Same as above
1205 setup on OW4-81 purge dry same as above
1250 Head over to St. Gobain plant to dump purge water in drum.
1305 off-site

Dave Tyson

11212053-06

St. Gobain

DAILY LOG

3-25-21 Calibrate YSI control # 06214 with auto cal solution lot # 20180085 exp 6/1/2021 and pH 7.00 buffer Lot # 20060040 exp 1/24/2022

	Before	After
pH (4.00)	4.38	4.00
pH (7.00)	7.49	7.02
Cond pH (4.49)	4.98	4.50

0830 on-site @ Niagara Falls Airport to meet escort

0845 setup on OW3-81 check w/L 18.97 0.63 ft of water. Sample 2x250ml Amber for phenols well went dry no extra volume for field parameters.

0909 Setup on OW2-81 w/L 7.42 well is fully recovered will take MS/MSD here Final field parameters Cond 3.06 Temp 10.1 Turb. 13.2 pH 10.15

0945 set up on OW5-81 w/L 17.16 Sampled 3/4 of a 250ml amber. Will send that in for analysis. No final readings.

0955 Setup on OW4-81 w/L 11.26 will take Dup here Final Readings Cond 3.62 Temp 11.7 Turb 2.78 pH 7.58

1020 Setup on Catch basin A-9 Sample 2x250ml ambers Sample ID WG-11212053-032521-DT-06 Time 1025 Final Readings Cond 0.697 Temp 8.1 Turb 1.01 pH 7.76

1035 Sampling Complete off-site

11212053-06

Dan Tyran

Monitoring Well Record for Low-Flow Purging
(Form SP-09)

Well Volume 2.1 gallons

Project Data:

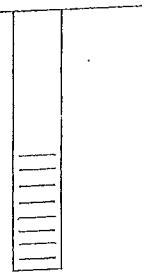
Project Name: St. Gobain
Ref. No.: 11212053-06

Date: 3/23/21
Personnel: D. Tyran

Monitoring Well Data:

Well No.: OW3-81
Vapour PID (ppm):
Measurement Point:
Constructed Well Depth (m/ft):
Measured Well Depth (m/ft): 19.60
Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)[1]:
Well Diameter, D (cm/in):
Well Screen Volume, V_s (L)[2]:
Initial Depth to Water (m/ft): 6.63



Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level[3] (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged[4]
Precision Required[5]:				±3 %	±0.005 or 0.01[6]	±10 %	±10 %	±0.1 Units	±10 mV		
0955	220	9.10	2.47	10.1	3.65	202	8.75	7.61	-400.2		
1000	332	11.69	5.06	10.1	3.67	91.1	5.46	8.29	-408.7		
1008		14.94	8.31	8.7	2.81	40.9		11.47			
1013		17.04	10.41	9.2	2.74	46.8		11.48			
1020				10.0	2.74	46.5		11.08			
			Well Dry @ one Volume								
			Final w/L	19.55							

Sample ID: WG-11212053-032521-DT-01

Sample Time: 0840

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm.
For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

Instr. Control #'s
w/L Heta NFO8807
YSI 06212
Turb. NFO8319

Start purge @ 0851

David J Tyran

Well Volume 1.4 gallons

Project Data:

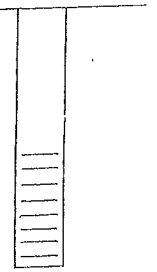
Project Name: St. Gobain
Ref. No.: 11212053-06

Date: 3/23/21
Personnel: DTyran

Monitoring Well Data:

Well No.: OWZ-81
Vapour PID (ppm):
Measurement Point:
Constructed Well Depth (m/ft):
Measured Well Depth (m/ft): 16.39
Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)[1]:
Well Diameter, D (cm/in):
Well Screen Volume, V_s (L)[2]:
Initial Depth to Water (m/ft): 7.39



Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level[3] (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged[4]
Precision Required[5]:				±3 %	±0.005 or 0.01[6]	±10 %	±10 %	±0.1 Units	±10 mV		
1038	420	9.37	1.98	9.0	6.71	27.0		12.28			
1043		11.69	4.30	9.1	5.17	28.2		12.51			
1051		13.59	6.20	9.8	2.80	28.0		12.14			
1058		14.82	7.43	10.1	2.40	30.1		11.58			
1105		15.67	8.28	10.4	2.57	28.2		11.29			
			Well Dry @		3.0 gallons						
			Final W/L		16.35						

Sample ID: WG-11212053-032521-DT-02 (MS/MSD)

Sample Time: 0855

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm.
For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

Inst. Control #'s
W/L Meter NFO 8807
YSI 06212
Turb NF08319

Start Purge 10.35

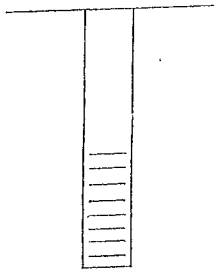
David J Tyran

Monitoring Well Record for Low-Flow Purging
(Form SP-09)

Well volume 0.7 gallons

Project Data:
Project Name: St. Gobain
Ref. No.: 11212053-06

Date: 3/23/21
Personnel: D. Tyran



Monitoring Well Data:
Well No.: OWS-81
Vapour PID (ppm):
Measurement Point:
Constructed Well Depth (m/ft):
Measured Well Depth (m/ft): 17.44
Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)[1]:
Well Diameter, D (cm/in):
Well Screen Volume, V_s (L)[2]:
Initial Depth to Water (m/ft): 13.95

Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level[3] (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged[4]
Precision Required[5]:				±3 %	±0.005 or 0.01[6]	±10 %	±10 %	±0.1 Units	±10 mV		
1152				13.1	7.42	809		7.14			
1156				12.3	5.54	210		7.32			
			Well Dry @ 0.5 gallons								
			Final W/L 17.35								

Sample ID: WG-11212053-032521-DT-03 1x 250ml Amber only
Sample Time: 0950

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm.
For imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

Inst. Control #'s
w/L Meter NF 08807
YSI 06212
Turb- NF 08319

Start Purge 1151

David Tyran

Blind Dup

Monitoring Well Record for Low-Flow Purging
(Form SP-09)

Well Volume 1.3 gallons

Project Data:

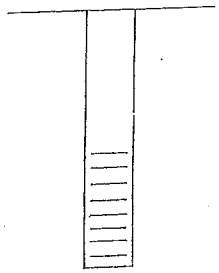
Project Name: St. Gobain
Ref. No.: 11212053-06

Date: 3/23/21
Personnel: D. Tyran

Monitoring Well Data:

Well No.: OW4-81
Vapour PID (ppm):
Measurement Point:
Constructed Well Depth (m/ft):
Measured Well Depth (m/ft): 18.94
Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)[1]:
Well Diameter, D (cm/in):
Well Screen Volume, V_s (L)[2]:
Initial Depth to Water (m/ft): 10.52



Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level[3] (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged[4]
Precision Required[5]:				±3 %	±0.005 or 0.01[6]	±10 %	±10 %	±0.1 Units	±10 mV		
1219		12.69	2.17	12.3	3.10	225		7.32			
1224				12.0	3.09	420		7.83			
1229		17.41	6.89	12.3	3.08	464		8.04			
1234				12.8	3.09	300		7.99			
			Well Dry @ 1.5 gallons								
			Final W/L	18.85							

Sample ID: WG-11212053-032521-DT-04
WG-11212053-032521-DT-05

Sample Time: 1005

Notes: Dup

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm.
For imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

Inst. Control #5
w/L Meter NFO8807
YSI 06212
Turb NFO8319

Start Purge 1216 David Tyran

CHAIN OF CUSTODY RECORD

COC NO.: 60251

PAGE 1 OF 1

Address: 2055 Niagara Falls Blvd NF NY 14304

Phone: 716-297-6150 **Fax:**

Project No/ Phase/Task Code: 11212053-06	**Laboratory Name:** Alpha	**Lab Location:** Westborough, MA	**SSOW ID:**
Project Name: Saint Gobain GW Sampling	**Lab Contact:**		**Cooler No:**
Project Location: Walmore Rd Niagara Falls			**Carrier:** Lab Courier
GHD Chemistry Contact: Kathy Willy			**Airbill No:**
Sampler(s): D. Tyran			**Total # of Containers:** 15

Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd/yy)	TIME (hh:mm)	SAMPLE TYPE: Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	ANALYSIS REQUESTED (See Back of COC for Definitions): NYTCL-8270												Total Containers/sample	MS/MSD Request	COMMENTS/ SPECIAL INSTRUCTIONS:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	WG-11212053-032521-DT-01	3/25/21	0840	WG	G	N	X												2		
2	WG-11212053-032521-DT-02	3/25/21	0855	WG	G	N	X												6	X	
3	WG-11212053-032521-DT-03	3/25/21	0950	WG	G	N	X												1		
4	WG-11212053-032521-DT-04	3/25/21	1005	WG	G	N	X												2		
5	WG-11212053-032521-DT-05	3/25/21	1005	WG	G	N	X												2		
6	WG-11212053-032521-DT-06	3/25/21	1025	WG	G	N	X												2		
7																					DUP
8																					
9																					
10																					
11																					
12																					

TAT Required in business days (use separate COCs for different TATs):

☐ ☐1 Day ☑2 Days ☐3 Days ☐1 Week ☑2 Week

Notes/ Special Requirements:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
1. D. Tyran	GHD	3/25/21	1053	1.			
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CHAIN OF CUSTODY RECORD

COC NO.: 60251

Address: 2055 Niagara Falls Blvd NE NY 14304 PAGE 1 OF 1

Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11212053-06	**Laboratory Name:** Alpha	**Lab Location:** Westborough, MA	**SSOW ID:**
Project Name: Saint Gobain GW Sampling	**Lab Contact:**		**Cooler No:**
Project Location: Walmore Rd Niagara Falls			**Carrier:** Lab Courier
GHD Chemistry Contact: Kathy Willy			**Airbill No:**
Sampler(s): D. Tyran			**Total # of Containers:** 15

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Analysis Requested (See Back of COC for Definitions): NYTCL 8270											Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																			
1	WG-11212053-032521-DT-01	3/25/21	0940	WG	G	N	X											2		
2	WG-11212053-032521-DT-02	3/25/21	0855	WG	G	N	X											6	X	
3	WG-11212053-032521-DT-03	3/25/21	0950	WG	G	N	X											1		
4	WG-11212053-032521-DT-04	3/25/21	1005	WG	G	N	X											2		
5	WG-11212053-032521-DT-05	3/25/21	1005	WG	G	N	X											2		
6	WG-11212053-032521-DT-06	3/25/21	1025	WG	G	N	X											2		
7																				DUP
8																				
9																				
10																				
11																				
12																				

TAT Required in business days (use separate COCs for different TATs):

☐ ☐1 Day ☑2 Days ☐3 Days ☐1 Week ☑2 Week

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Tyran	GHD	3/25/21	1053	1.			
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

Site Inspection Form

Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Inspector's Name: David Tyran
Date: 3/23/2021
Weather: Sunny 40°F

1. Cap Inspection

Engineering Control	Condition	Maintenance Required or Comments
Clay Landfill Cap		
Monitoring Wells	See below.	See below.

2. Well Inspection

	Well			
Inspection Items	**OW2-81**	**OW3-81**	**OW4-81**	**OW5-81**
Depth to Water (ft. BTOR)	7.39	6.63	10.52	13.95
Well Depth (ft. BTOR)	16.39	19.60	18.94	17.44
Well Locked	Yes	Yes	Yes	Yes
Lock Functioning	Yes	Yes	Yes	Yes
Bailer and Rope OK	NA	NA	NA	NA
Tubing OK	Yes	Yes	Yes	Yes
Protective Casing OK	Yes	NA	NA	NA
Concrete Pad OK	Yes	No	NA	NA
Heaving of Well or Casing	No	Yes	No	No
Well Constricted	No	Yes	Yes	Yes
Debris In Well	No	No	No	No
Insects in Well	No	No	No	No
Overall Condition	Good	Poor	Poor	Poor
Maintenance Needed	None	Riser Bent Concrete Pad Broken	Well Constricted	Well Constricted

Inspector's Signature: David J Tyran

Notes:

ft. BTOR = Feet Below Top of Riser

Sample Collection Data Sheet
Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Project Address: 6600 Walmore Road, Wheatfield, New York
Sampling Crew Member(s): D. Tyran
Date(s) of Sample Collection: 3/25/2021
Weather: Sunny 47°F

Project No.: 11212053 -06

Sample I.D. Number	Well Number	Date and Time Sampled	Top of Riser Elevation (ft. AMSL)	Water Depth (ft. BTOR)	Well Bottom Depth (ft. BTOR)	Field Temperature (°C)	Field pH	Field Conductivity (µS/cm)	Field Turbidity (NTU)	Sample Description (Color, Odor, Sheen, etc.)
WG-11212053-032521-DT-02	OW2-81	3/25/21 0855	588.50	7.39	16.39	10.1	10.15	3.06	13.2	Clear, colorless
WG-11212053-DT-032521-DT-01	OW3-81	3/25/21 0840	587.59	6.63	19.60	NM	NM	NM	NM	Cloudy, Black Tint No odor
WG-11212053-032521-DT 04&05	OW4-81	3/25/21 1005	587.74	10.52	18.94	11.7	7.58	3.62	2.78	Clear, colorless
WG-11212053-032521-DT-03	OW5-81	3/25/21 0950	587.52	13.95	17.44	NM	NM	NM	NM	cloudy dark gray
WG-11212053-032521-DT-06	Catch Basin A-9	3/25/21 1025	NA	NA	NA	8.1	7.76	0.697	1.01	Clear, colorless

ft. AMSL = Feet Above Mean Sea Level
ft. BTOR = Feet Below Top of Riser
NA = Not Applicable
°C = Degrees Celsius
µS/cm = Microsiemens per centimeter
NTU = Nephelometric Turbidity Units

Additional Comments: Wells OW3-81 and OW5-81 had insufficent volume to get final readings after Sample bottles were filled.

Dave Tyran

Appendix E

Laboratory Report

ANALYTICAL REPORT

Lab Number:	L2114970
Client:	GHD Services, Inc. 2055 Niagara Falls Boulevard Niagara Falls, NY 14304
ATTN:	Kathleen Willy
Phone:	(716) 297-6150
Project Name:	SAINT GOBAIN GW SAMPLING
Project Number:	11212053-06
Report Date:	04/16/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06

Lab Number: L2114970
Report Date: 04/16/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2114970-01	WG-11212053-032521-DT-01	WATER	WALMORE RD NIAGARA FALLS	03/25/21 08:40	03/25/21
L2114970-02	WG-11212053-032521-DT-02	WATER	WALMORE RD NIAGARA FALLS	03/25/21 08:55	03/25/21
L2114970-03	WG-11212053-032521-DT-03	WATER	WALMORE RD NIAGARA FALLS	03/25/21 09:50	03/25/21
L2114970-04	WG-11212053-032521-DT-04	WATER	WALMORE RD NIAGARA FALLS	03/25/21 10:05	03/25/21
L2114970-05	WG-11212053-032521-DT-05	WATER	WALMORE RD NIAGARA FALLS	03/25/21 10:05	03/25/21
L2114970-06	WG-11212053-032521-DT-06	WATER	WALMORE RD NIAGARA FALLS	03/25/21 10:25	03/25/21

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2114970
Project Number:	11212053-06	**Report Date:**	04/16/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2114970
Project Number:	11212053-06	**Report Date:**	04/16/21

Case Narrative (continued)

Report Revision

April 16, 2021: The Semivolatile Organics analyte list has been amended on L2114970-01 through -06.

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 04/16/21

ORGANICS

SEMIVOLATILES

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-01
Client ID: WG-11212053-032521-DT-01
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 08:40
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 03/30/21 06:29
Analyst: JG

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	3.6	J	ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		21-120
Phenol-d6	50		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	79		15-120
2,4,6-Tribromophenol	95		10-120
4-Terphenyl-d14	100		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-01
Client ID: WG-11212053-032521-DT-01
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 08:40
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 03/30/21 19:30
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	ND		ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	38		10-120
Nitrobenzene-d5	49		23-120
2-Fluorobiphenyl	59		15-120
2,4,6-Tribromophenol	95		10-120
4-Terphenyl-d14	76		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-02
Client ID: WG-11212053-032521-DT-02
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 08:55
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 03/30/21 03:20
Analyst: JG

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	2.0	J	ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		21-120
Phenol-d6	49		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	79		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	84		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-02
Client ID: WG-11212053-032521-DT-02
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 08:55
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 03/30/21 19:50
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	0.08	J	ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	56		21-120
Phenol-d6	47		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	72		15-120
2,4,6-Tribromophenol	93		10-120
4-Terphenyl-d14	77		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-03
Client ID: WG-11212053-032521-DT-03
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 09:50
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 03/30/21 06:53
Analyst: JG

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	82		21-120
Phenol-d6	75		10-120
Nitrobenzene-d5	99		23-120
2-Fluorobiphenyl	99		15-120
2,4,6-Tribromophenol	95		10-120
4-Terphenyl-d14	105		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-03
Client ID: WG-11212053-032521-DT-03
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 09:50
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 03/30/21 20:09
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	0.06	J	ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		21-120
Phenol-d6	54		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	75		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-04
Client ID: WG-11212053-032521-DT-04
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 10:05
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 03/30/21 04:07
Analyst: JG

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	73		21-120
Phenol-d6	56		10-120
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	88		15-120
2,4,6-Tribromophenol	82		10-120
4-Terphenyl-d14	91		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-04
Client ID: WG-11212053-032521-DT-04
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 10:05
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 03/30/21 20:28
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	0.08	J	ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	56		21-120
Phenol-d6	48		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	80		41-149

Project Name: SAINT GOBAIN GW SAMPLING **Lab Number:** L2114970

Project Number: 11212053-06 **Report Date:** 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-05
Client ID: WG-11212053-032521-DT-05
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 10:05
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 03/30/21 05:18
Analyst: JG

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		21-120
Phenol-d6	35		10-120
Nitrobenzene-d5	58		23-120
2-Fluorobiphenyl	56		15-120
2,4,6-Tribromophenol	52		10-120
4-Terphenyl-d14	57		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-05
Client ID: WG-11212053-032521-DT-05
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 10:05
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 03/30/21 20:47
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	ND		ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	47		23-120
2-Fluorobiphenyl	49		15-120
2,4,6-Tribromophenol	55		10-120
4-Terphenyl-d14	49		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-06
Client ID: WG-11212053-032521-DT-06
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 10:25
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 03/30/21 04:55
Analyst: JG

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	68		21-120
Phenol-d6	55		10-120
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	95		15-120
2,4,6-Tribromophenol	69		10-120
4-Terphenyl-d14	94		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2114970-06
Client ID: WG-11212053-032521-DT-06
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 03/25/21 10:25
Date Received: 03/25/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 03/30/21 21:07
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 15:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	ND		ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	46		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	76		15-120
2,4,6-Tribromophenol	63		10-120
4-Terphenyl-d14	79		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 03/30/21 00:10
Analyst: JG

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 10:58

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1480023-1					
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61
p-Chloro-m-cresol	ND		ug/l	2.0	0.35
2-Chlorophenol	ND		ug/l	2.0	0.48
2,4-Dichlorophenol	ND		ug/l	5.0	0.41
2,4-Dimethylphenol	ND		ug/l	5.0	1.8
2-Nitrophenol	ND		ug/l	10	0.85
4-Nitrophenol	ND		ug/l	10	0.67
2,4-Dinitrophenol	ND		ug/l	20	6.6
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8
Phenol	ND		ug/l	5.0	0.57
2-Methylphenol	ND		ug/l	5.0	0.49
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	66		21-120
Phenol-d6	53		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	83		15-120
2,4,6-Tribromophenol	71		10-120
4-Terphenyl-d14	86		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 03/30/21 12:47
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 03/29/21 10:58

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-06 Batch: WG1480026-1					
Pentachlorophenol	ND		ug/l	0.80	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	57		21-120
Phenol-d6	52		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	71		10-120
4-Terphenyl-d14	88		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06

Lab Number: L2114970
Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1480023-2 WG1480023-3								
2,4,6-Trichlorophenol	88		94		30-130	7		30
p-Chloro-m-cresol	84		87		23-97	4		30
2-Chlorophenol	76		78		27-123	3		30
2,4-Dichlorophenol	82		85		30-130	4		30
2,4-Dimethylphenol	76		82		30-130	8		30
2-Nitrophenol	101		103		30-130	2		30
4-Nitrophenol	57		58		10-80	2		30
2,4-Dinitrophenol	104		106		20-130	2		30
4,6-Dinitro-o-cresol	99		100		20-164	1		30
Phenol	56		58		12-110	4		30
2-Methylphenol	72		77		30-130	7		30
3-Methylphenol/4-Methylphenol	77		78		30-130	1		30
2,4,5-Trichlorophenol	87		92		30-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	69		69		21-120
Phenol-d6	58		59		10-120
Nitrobenzene-d5	83		84		23-120
2-Fluorobiphenyl	81		83		15-120
2,4,6-Tribromophenol	80		83		10-120
4-Terphenyl-d14	77		78		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06

Lab Number: L2114970
Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-06 Batch: WG1480026-2 WG1480026-3								
Pentachlorophenol	93		81		40-140	14		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	36		53		21-120
Phenol-d6	33		46		10-120
Nitrobenzene-d5	41		60		23-120
2-Fluorobiphenyl	49		62		15-120
2,4,6-Tribromophenol	83		73		10-120
4-Terphenyl-d14	79		71		41-149

Matrix Spike Analysis

Batch Quality Control

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06
Lab Number: L2114970
Report Date: 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1480023-4 WG1480023-5 QC Sample: L2114970-02 Client ID: WG-11212053-032521-DT-02												
2,4,6-Trichlorophenol	ND	18.2	17	94		17	94		30-130	0		30
p-Chloro-m-cresol	ND	18.2	16	88		16	88		23-97	0		30
2-Chlorophenol	ND	18.2	14	77		13	72		27-123	7		30
2,4-Dichlorophenol	ND	18.2	15	83		15	83		30-130	0		30
2,4-Dimethylphenol	ND	18.2	15	83		15	83		30-130	0		30
2-Nitrophenol	ND	18.2	18	99		18	99		30-130	0		30
4-Nitrophenol	ND	18.2	12	66		11	61		10-80	9		30
2,4-Dinitrophenol	ND	18.2	22	120		21	120		20-130	5		30
4,6-Dinitro-o-cresol	ND	18.2	18	99		19	100		20-164	5		30
Phenol	2.0J	18.2	13	72		13	72		12-110	0		30
2-Methylphenol	ND	18.2	13	72		13	72		30-130	0		30
3-Methylphenol/4-Methylphenol	ND	18.2	14	77		15	83		30-130	7		30
2,4,5-Trichlorophenol	ND	18.2	17	94		17	94		30-130	0		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	84		81		10-120
2-Fluorobiphenyl	82		84		15-120
2-Fluorophenol	70		65		21-120
4-Terphenyl-d14	77		76		41-149
Nitrobenzene-d5	78		80		23-120
Phenol-d6	58		57		10-120

Matrix Spike Analysis

Batch Quality Control

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06

Lab Number: L2114970
Report Date: 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1480026-4 WG1480026-5 QC Sample: L2114970-02 Client ID: WG-11212053-032521-DT-02												
Pentachlorophenol	0.08J	18.2	20	110		18	99		40-140	11		40

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	99		97		10-120
2-Fluorobiphenyl	73		73		15-120
2-Fluorophenol	65		64		21-120
4-Terphenyl-d14	75		73		41-149
Nitrobenzene-d5	72		73		23-120
Phenol-d6	59		57		10-120

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-06

Lab Number: L2114970
Report Date: 04/16/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2114970-01A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-01B	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-02A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-02A1	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-02A2	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-02B	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-02B1	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-02B2	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-03A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-04A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-04B	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-05A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-05B	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-06A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2114970-06B	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)

*Values in parentheses indicate holding time in days

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2114970
Project Number:	11212053-06	**Report Date:**	04/16/21

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2114970
Project Number:	11212053-06	**Report Date:**	04/16/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2114970
Project Number:	11212053-06	**Report Date:**	04/16/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2114970
Project Number:	11212053-06	**Report Date:**	04/16/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY RECORD

L2114970

COC NO.: 60251

Address: 2055 Niagara Falls Blvd NE NY 14304
Phone: 716-297-6150 Fax:

PAGE 1 OF 1

Project No/ Phase/Task Code: 11212053-06	Laboratory Name: Alpha	Lab Location: Westborough, MA	SSOW ID:
Project Name: Saint Gobain GW Sampling	Lab Contact:		Cooler No:
Project Location: Walmore Rd Niagara Falls			Carrier: Lab Courier
GHD Chemistry Contact: Kathy Willy			Airbill No:
Sampler(s): D. Tyran			Total # of Containers: 15

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Analysis Requested (See Back of COC for Definitions): NYTCL 8270	Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)									
1	WG-11212053-032521-DT-01	3/25/21	0840	WG	G	N	X	2		
2	WG-11212053-032521-DT-02	3/25/21	0855	WG	G	N	X	6	X	
3	WG-11212053-032521-DT-03	3/25/21	0950	WG	G	N	X	1		
4	WG-11212053-032521-DT-04	3/25/21	1005	WG	G	N	X	2		
5	WG-11212053-032521-DT-05	3/25/21	1005	WG	G	N	X	2		
6	WG-11212053-032521-DT-06	3/25/21	1025	WG	G	N	X	2		
7										DST
8										
9										
10										
11										
12										

TAT Required in business days (use separate COCs for different TATs):

☐ ☐1 Day ☐2 Days ☐3 Days ☐1 Week ☑2 Week

Notes/ Special Requirements:

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	Dave Tyran	GHD	3/25/21	1053		AAL	3/25/21	1230
2.		AAL	3/25/21	1400		AAL	3/26/21	0805
3.								

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy

Appendix F

Data Validation Memo

Memorandum

April 14, 2021
Revised April 21, 2021

To:	Maggie Popek	Ref. No.:	11212053
From:	Kathy Willy/cs/2	Tel:	716-205-1942
CC:	Dennis Hoyt		

Subject: **Analytical Results and Reduced Validation**
Groundwater Sampling
Saint-Gobain Abrasives, Inc.
Wheatfield, New York
March 2021

1. Introduction

This document details a reduced validation of analytical results for water samples collected in support of the Groundwater Sampling Event at the Saint-Gobain Abrasives site in Wheatfield, New York on March 25, 2021. Samples were submitted to Alpha Analytical located in Westborough, Massachusetts. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS), and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled:

i) "National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-2016-002, September 2016

This item will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries - Organic Analyses

In accordance with the method employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for semi-volatile organic compound (SVOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample extraction and analysis.

According to the "Guidelines" for SVOC analyses, up to one outlying surrogate in the base/neutral or acid fractions is acceptable as long as the recovery is at least 10 percent.

Surrogate recoveries were assessed against laboratory control limits. All assessed surrogate recoveries met the laboratory criteria.

5. Laboratory Control Sample Analyses

LCS/laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1.

The MS/MSD sample was spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

7. Field QA/QC Samples

The field QA/QC consisted of one field duplicate sample set.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with this duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value for water samples.

All field duplicate results met the above criteria, demonstrating acceptable sampling and analytical precision.

8. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were reported as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

9. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

Sample Collection and Analysis Summary
Groundwater Sampling
Saint-Gobain Abrasives, Inc.
Wheatfield, New York
March 2021

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters: Select SVOCs	Comments
WG-11212053-032521-DT-06	MH-9	Groundwater	03/25/2021	10:25	x	
WG-11212053-032521-DT-02	OW2	Groundwater	03/25/2021	08:55	x	MS/MSD
WG-11212053-032521-DT-01	OW3	Groundwater	03/25/2021	08:40	x	
WG-11212053-032521-DT-04	OW4	Groundwater	03/25/2021	10:05	x	
WG-11212053-032521-DT-05	OW4	Groundwater	03/25/2021	10:05	x	Field duplicate of sample WG-11212053-032521-DT-04
WG-11212053-032521-DT-03	OW5	Groundwater	03/25/2021	09:50	x	

Notes:

MS/MSD - Matrix Spike/Matrix Spike Duplicate
SVOCs - Semi-volatile Organic Compounds

Table 2

Analytical Results Summary
Groundwater Sampling
Saint-Gobain Abrasives, Inc.
Wheatfield, New York
March 2021

Location ID:		MH-9	OW2	OW3	OW4	OW4	OW5
Sample Name:		WG-11212053-032521-DT-06	WG-11212053-032521-DT-02	WG-11212053-032521-DT-01	WG-11212053-032521-DT-04	WG-11212053-032521-DT-05	WG-11212053-032521-DT-03
Sample Date:		03/25/2021	03/25/2021	03/25/2021	03/25/2021	03/25/2021	03/25/2021
						Duplicate	
Parameters	**Unit**						
Semi-volatile Organic Compounds							
2,4,5-Trichlorophenol	µg/L	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
2,4,6-Trichlorophenol	µg/L	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
2,4-Dichlorophenol	µg/L	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
2,4-Dimethylphenol	µg/L	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
2,4-Dinitrophenol	µg/L	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
2-Chlorophenol	µg/L	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
2-Methylphenol	µg/L	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
2-Nitrophenol	µg/L	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U
3&4-Methylphenol	µg/L	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
4,6-Dinitro-2-methylphenol	µg/L	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
4-Chloro-3-methylphenol	µg/L	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
4-Nitrophenol	µg/L	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
Phenol	µg/L	0.57 U	2.0 J	3.6 J	0.57 U	0.57 U	0.57 U
Semi-volatile Organic Compounds, SIM							
Pentachlorophenol	µg/L	0.01 U	0.08 J	0.01 U	0.08 J	0.01 U	0.06 J

Notes:

J - Estimated concentration

SIM - Selective Ion Monitoring

U - Not detected at the associated reporting limit

Table 3

Analytical Methods
Groundwater Sampling
Saint-Gobain Abrasives, Inc.
Wheatfield, New York
March 2021

Parameters	Method	Matrix	Holding Time: Collection to Extraction (Days)	Holding Time: Collection or Extraction to Analysis (Days)
Select Semi-volatile Organic Compounds (SVOC)	SW-846 8270C, 8270C SIM	Water	7	40

Notes:

Method References:
SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
SIM - Selected Ion Monitoring


GHD