2023 Periodic Review Report

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

Saint Gobain Abrasives, Inc.

May 08, 2024

→ **The Power of Commitment**

Project name		SGC Wheatfield - Environmental Serv 2023					
Document title		2023 Periodic Review Report | Carborundum – Abrasive Division Site, NYSDEC Site No. 932007, 6600 Walmore Road, Wheatfield, New York					
Project number		12604429					
File name		12604429-RPT-2023 PRR.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	0	G. Harlach	K. Galanti		R. Snyder		3/22/2024
S4	1	G. Harlach	K. Galanti		R. Snyder		5/8/2024
[Status code]							
[Status code]							
[Status code]							

GHD 337
Contact: Katherine Galanti, Project Manager | GHD
285 Delaware Avenue, Suite 500
Buffalo, New York 14202, United States
T +1 716 856 2142 | **F** +1 716 856 2160 | **E** info-northamerica@ghd.com | **ghd.com**

[Compliance statement]

Contents

Table index

Figure index

Appendices

1. Introduction

1.1 Purpose of this report

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) and on behalf of Saint Gobain Abrasives, Inc. (SGA), GHD Consulting Services, Inc. (GHD) has prepared this Periodic Review Report (PRR) documenting activities completed at the Carborundum Abrasive Division Site (Site) during the reporting period March 1, 2023 to March 1, 2024.

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 2023 reporting period. The Site inspection was conducted on November 8 and 29, 2023. 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.

Biennial groundwater monitoring was conducted on December 19, 2023. The next biennial event is due in 2025.

1.2 Scope and limitations

This report: has been prepared by GHD for Saint Gobain Abrasives, Inc. and the New York State Department of Environmental Conservation and may only be used and relied on by Saint Gobain Abrasives, Inc. and the New York State Department of Environmental Conservation for the purpose agreed between GHD and Saint Gobain Abrasives, Inc. as set out in this report.

GHD otherwise disclaims responsibility to any person other than Saint Gobain Abrasives, Inc. and the New York State Department of Environmental Conservation arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions, and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

Accessibility of documents

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

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 January 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 OW1-81 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. In addition, the monitoring wells were resurveyed in October 2021 after completion of well riser and protective casing repair/replacement. Table 1 reflects the current reference elevations.

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.

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.

The Carborundum - Abrasives Division ceased operations in 2003.

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 centimeter 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. A groundwater withdrawal and treatment system formerly operated on the nearby Bell Aerospace-Textron property has been shut down since 2017 to enable a bioremediation amendment injection pilot study.

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. The potentiometric surface was observed to flow southeast across the Site with a gradient of 0.013 foot per foot during the hydraulic gauging event conducted in December 2023.

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 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 November 8, 2023, with a follow up visit on November 29, 2023 due to the inability to access the wells on the NFIA property. 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 good condition. No conditions were identified through the visual inspection that would suggest that the integrity of the cap has been compromised.

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 1), 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. Other than accumulated sediments, no conditions requiring immediate repair or maintenance were observed.

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. Elevations have been updated based on the October 2021 survey completed after the 2021 well riser and protective casing repair/replacement. Based on a comparison of the well depths measured during the annual Site inspection to the post-redevelopment well depths, appreciable sediment buildup requiring well redevelopment was present. Redevelopment of the wells was completed prior to the December 2023 sampling, but was moderately successful in removing sediment due to constrictions along the inside of the well riser which limited using anything larger than 5/8” tubing in the well. All well screens were open at the time of sampling, although less than the optimal 75%.

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 December 2023. 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 November 29, 2023 during the site inspection/hydraulic gauging event. 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 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 OW2-81 and OW2-81 were constricted. 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 OW2-81 and OW3-81 are minor and do not prevent access to the well bottoms.

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 December 2023.

3.2.2.1 Redevelopment and Purging Activities

Following completion of the hydraulic gauging and well inspections, all four wells were redeveloped on December 18, 2023. Due to insufficient water volume in each of the wells to sufficiently remove solids, potable water (City of Niagara Falls public utility) was brought to the Site and introduced to the wells to aid in development. All development water was removed and the wells were purged dry utilizing clean, dedicated 5/8-inch tubing and Waterra® inertial foot valves. Development/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 December 19, 2023. As the wells contained sufficient recharge volume, groundwater samples were collected from all four wells using a peristaltic pump and clean, dedicated Teflon-lined tubing. All tubing was removed following sampling. One matrix spike/matrix spike duplicate (MS/MSD) sample was collected from OW2-81. Catch basin MH A-9 was not sampled as it was dry at the time of the sampling event. A field duplicate was intended to be collected from OW4-81, however there was insufficient volume at both OW4-81 and OW5-81. Consequently, no field duplicate was collected for this event.

Following the filling of the sample bottles, field water quality parameters were collected from the groundwater sampled at all wells. The field parameters are included in Table 3. 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 December 2023 sampling event as well as the results from historical sampling events conducted at the Site. During the 2023 sampling event, the concentrations of total phenolic compounds detected slightly exceeded the NYSDEC Class GA Groundwater Standard of 1 ppb in OW3-81 (3.7 ppb, estimated). This well is located on the NFIA property, which is upgradient of the Site. This slight exceedance does not

suggest that the integrity of the cap has been compromised and is 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.

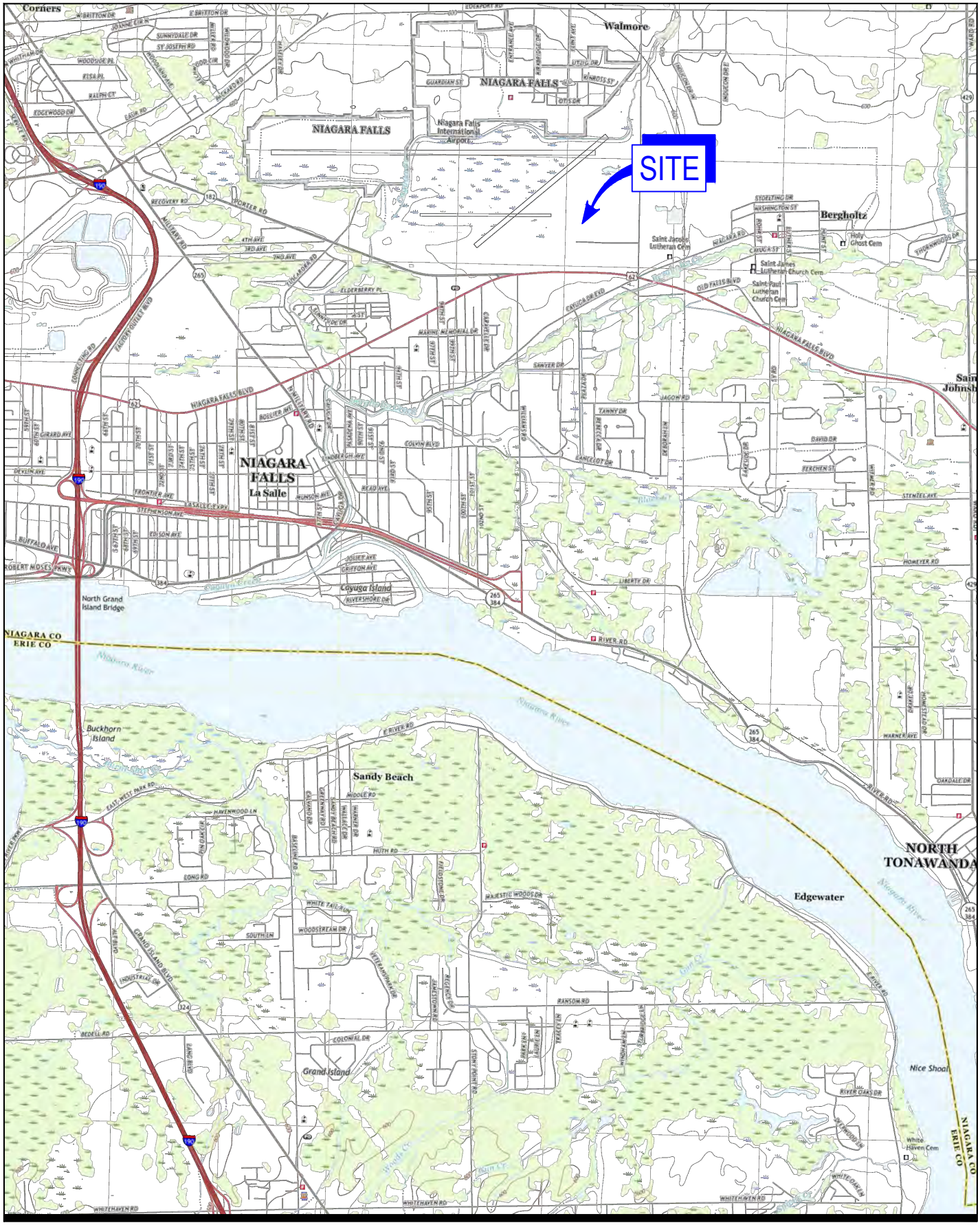
3.3 Cap Maintenance and Repair

The Site is maintained as part of the routine landscaping schedule associated with the adjoining SGA facility. No maintenance activities other than routine landscaping were 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 2023 reporting period. The annual Site inspection was conducted on November 8 and 29, 2023. No conditions were identified through a visual inspection that would suggest that the integrity of the cap has been compromised. In addition, based on the well depths measured during the 2023 inspection, appreciable sediment buildup requiring well purging/redevelopment was identified. The monitoring wells were redeveloped prior to the 2023 sampling to the extent practicable and are expected to require development again prior to the 2025 monitoring event.

The biennial groundwater monitoring event was completed in December 2023. The concentrations of total phenolic compounds detected during the sampling event slightly exceeded the NYSDEC Class GA Groundwater Standard of 1 ppb in OW3-81 (3.7 ppb, estimated). This well is located on NFIA property, which is upgradient of the Site. The slight exceedance does not suggest that the integrity of the cap has been compromised and is not evidence of chemical migration from the Site. The next biennial groundwater monitoring event is scheduled for 2025. SGA does not recommend any modifications to the Site monitoring and O&M plans at this time.



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

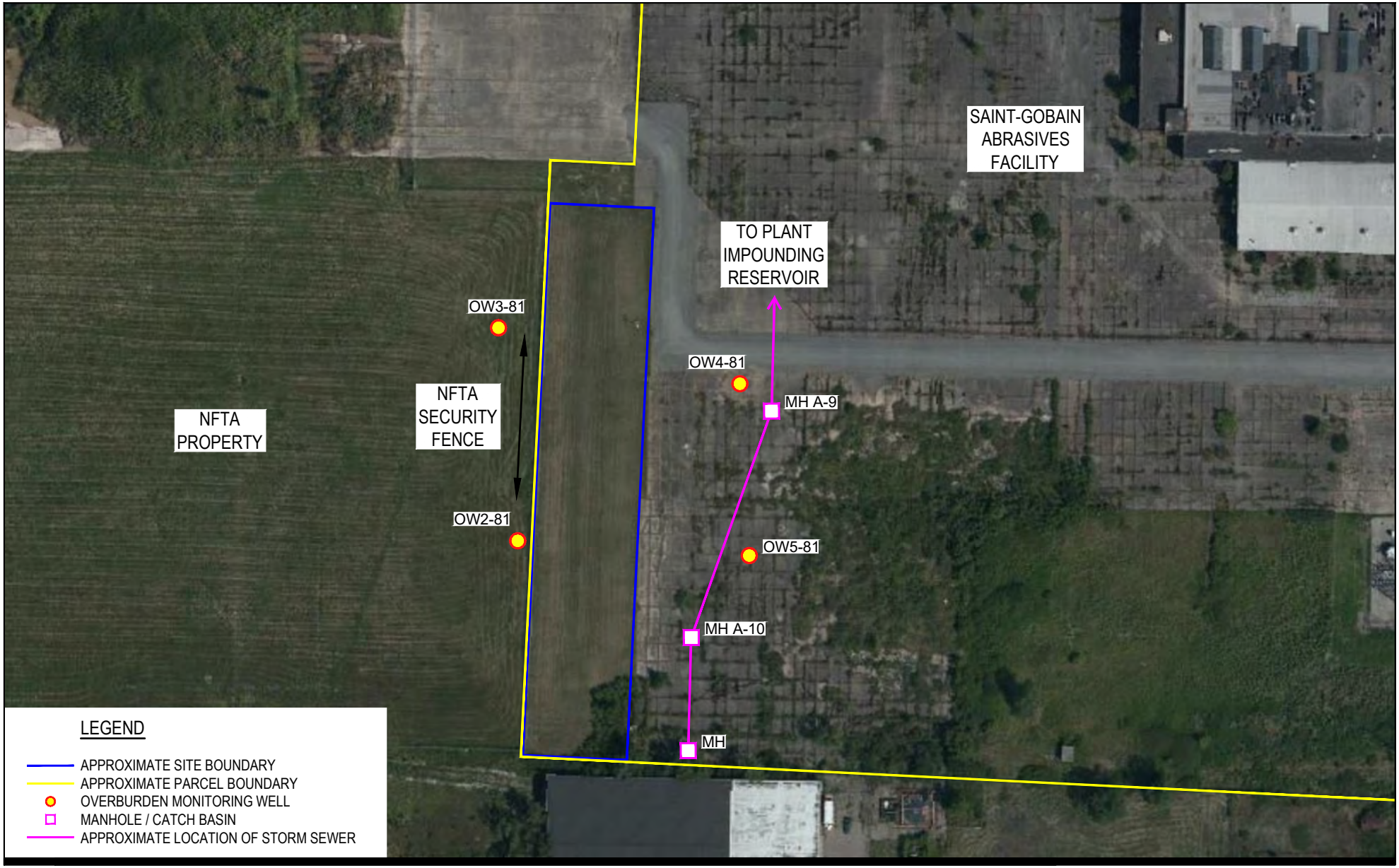
Project No. **12604429**
Date **March 2024**

SITE LOCATION MAP

FIGURE 1

Filename: \\ghdnet\ghd\US\Buffalo\Projects\564\12604429\Digital_Design\ACAD\Figures\RPT001\12604429-GHD-00-00-RPT-EN-D101_WA-001.dwg
Plot Date: 11 March 2024 8:15 AM

Data Source: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, TONAWANDA WEST, NY 2019



0 60 120 ft

1" = 120 ft

Coordinate System: NY83-WF

N

GHD

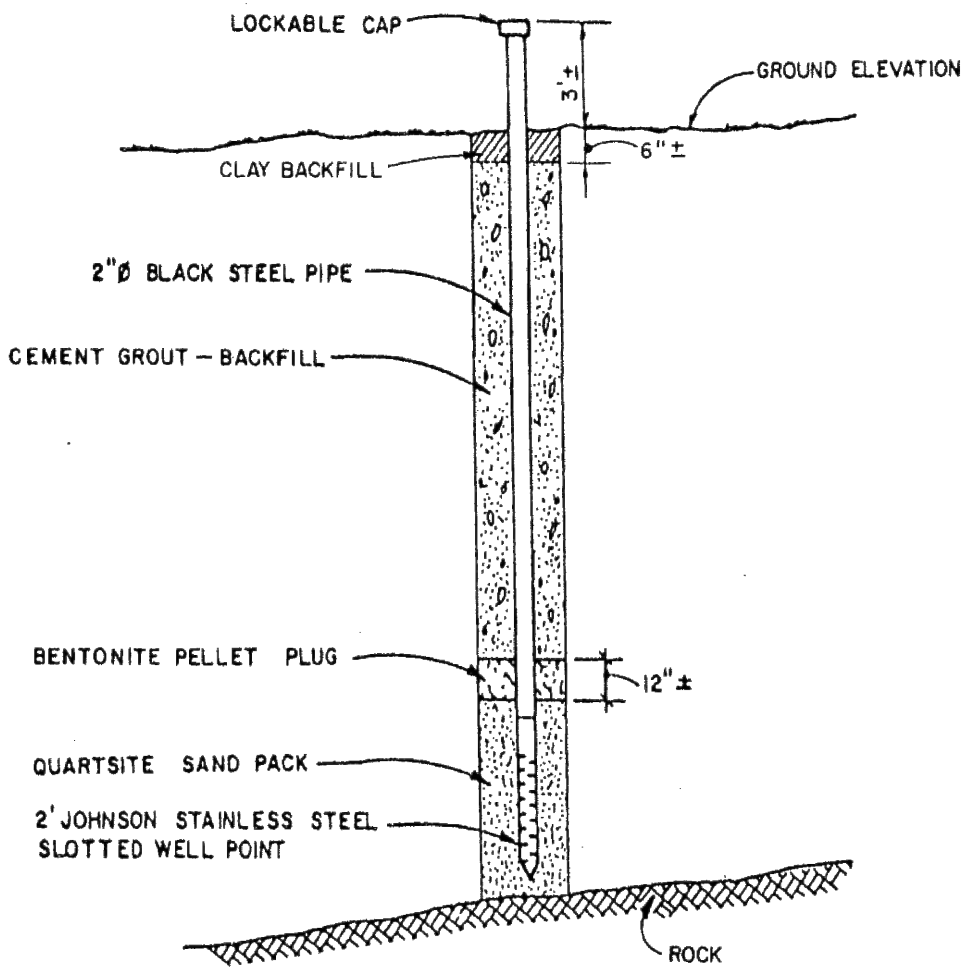
CARBORUNDUM - ABRASIVE DIVISION SITE
NYSDEC SITE No. 932007 - 6600 WALMORE ROAD
WHEATFIELD, NEW YORK

Project No. **12604429**
Date **March 2024**

SITE PLAN

FIGURE 2

Filename: \\ghdnet\ghd\US\Buffalo\Projects\564\12604429\Digital_Design\ACAD\Figures\RPT001\12604429-GHD-00-00-RPT-EN-D102_WA-001.dwg
Plot Date: 11 March 2024 8:15 AM



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

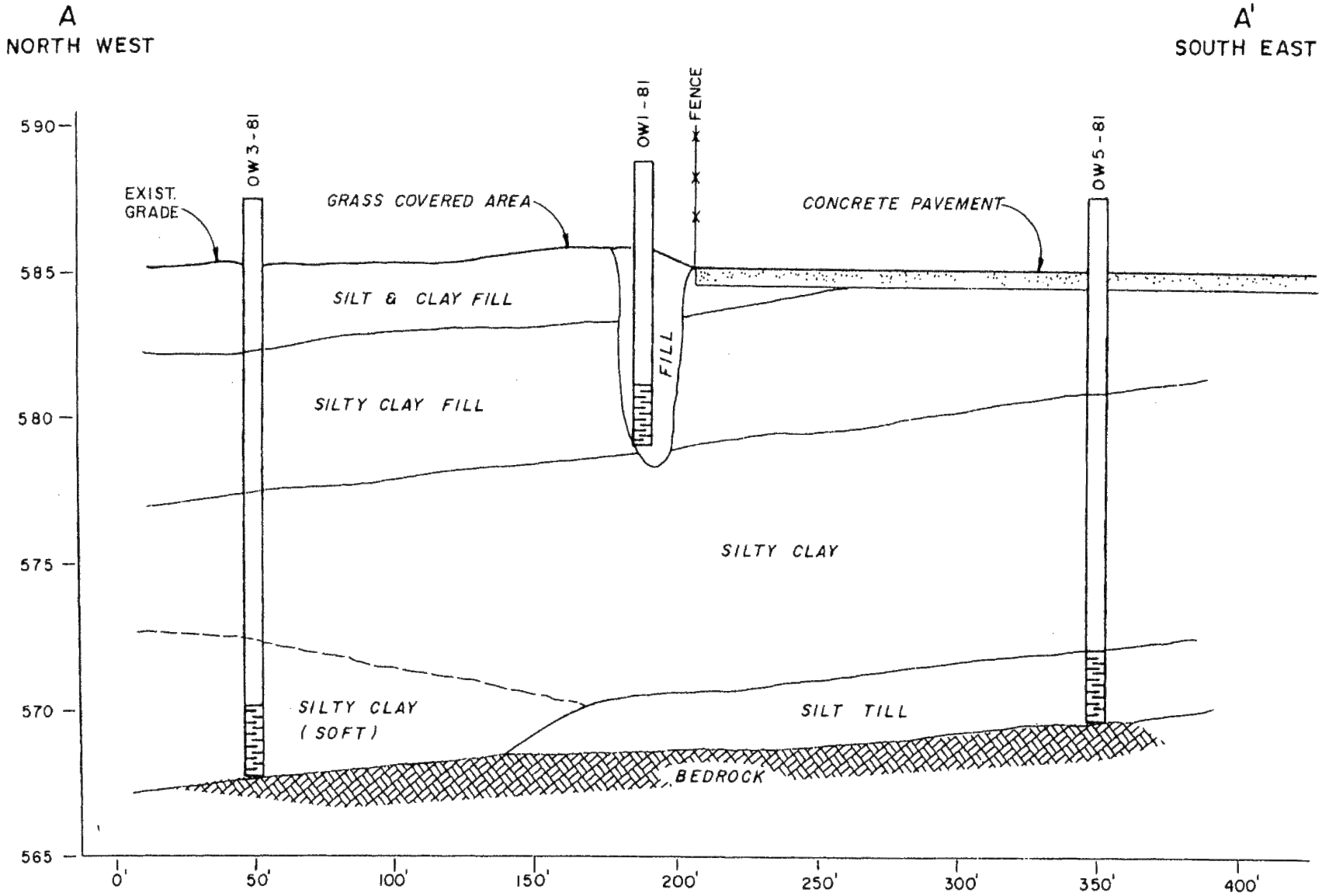
Project No. **12604429**
Date **March 2024**

TYPICAL MONITORING WELL INSTALLATION

FIGURE 3

Filename: \\ghdnet\ghd\US\Buffalo\Projects\564\12604429\Digital_Design\ACAD\Figures\RPT001\12604429-GHD-00-00-RPT-EN-D103_WA-001.dwg
Plot Date: 11 March 2024 8:15 AM

Data Source: "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

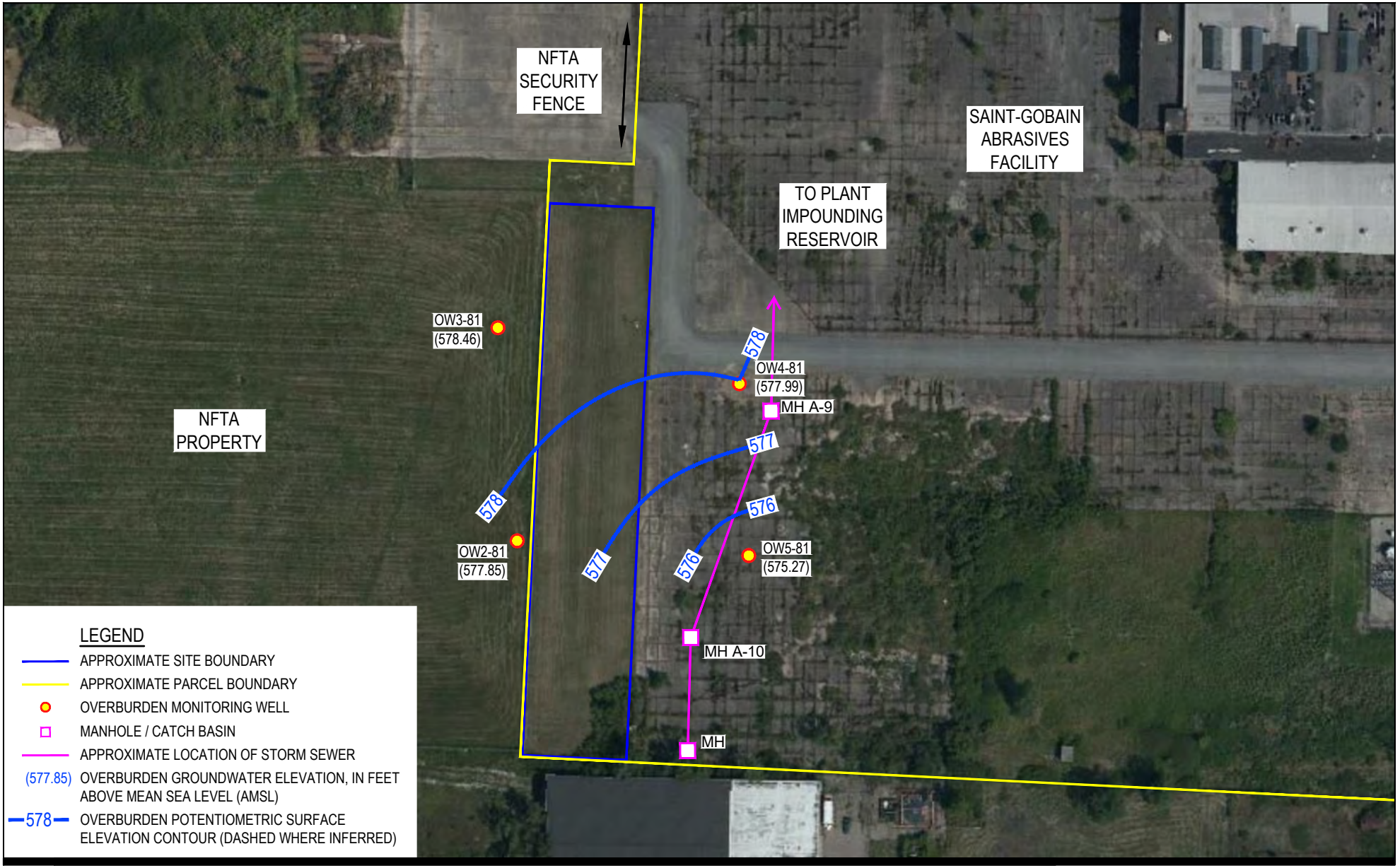
Project No. **12604429**
Date **March 2024**

TYPICAL SURFICIAL GEOLOGIC CROSS-SECTION

FIGURE 4

Filename: \\ghdnet\ghd\US\Buffalo\Projects\564\12604429\Digital_Design\ACAD\Figures\RPT001\12604429-GHD-00-00-RPT-EN-D104_WA-001.dwg
Plot Date: 11 March 2024 8:14 AM

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



0 60 120 ft

1" = 120 ft

Coordinate System: NY83-WF

N

GHD

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

OVERBURDEN POTENTIOMETRIC SURFACE MAP - DECEMBER 19, 2023

Project No. **12604429**
Date **March 2024**

FIGURE 5

Filename: \\ghdnet\ghd\US\Buffalo\Projects\564\12604429\Digital_Design\ACAD\Figures\RPT001\12604429-GHD-00-00-RPT-EN-D105_WA-001.dwg
Plot Date: 11 March 2024 8:21 AM

Table 1

Sounded Well Depths - 2023 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				Pre-Development Sediment Thickness	Post-Development Sediment Thickness
			10/22/98*	12/17/18*	11/29/23	12/18/23*	10/22/98*	12/17/18*	11/29/23	12/18/23*	11/29/2023	12/18/2023
OW2-81	588.24	569.2	18.20	NA	16.40	17.15	570.30	NA	571.84	571.09	2.6	1.89
OW3-81	588.06	567.8	19.66	NA	19.60	19.90	567.93	NA	568.46	568.16	0.7	0.36
OW4-81	587.95	567.9	19.38	19.06	18.66	19.15	568.36	568.68	569.29	568.80	1.4	0.90
OW5-81	587.78	569.5	18.23	17.53	16.61	17.24	569.29	569.99	571.17	570.54	1.7	1.04

Notes:

Wells were constructed with two-foot long screens

[1] - Per well survey conducted on October 15, 2021

* - Wells were sounded following redevelopment in 1998, 2018, and 2023

NA - Not applicable

ft. AMSL - Feet Above Mean Sea Level

ft. BTOR - Feet Below Top of Riser

Table 2

Groundwater Elevations - 2023 Annual Site Inspection
Carborundum - Abrasive Division Site
NYSDEC Site No. 932007
Wheatfield, New York

Well Number	Top of Riser Elevation ft. AMSL	Water Level (ft. BTOR) 11/29/23	Well Depth (ft. BTOR) 11/29/23	Groundwater Elevation (ft. AMSL) 11/29/23
OW2-81	588.24	10.39	16.40	577.85
OW3-81	588.06	9.60	19.60	578.46
OW4-81	587.95	9.96	18.66	577.99
OW5-81	587.78	12.51	16.61	575.27

Notes:

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

Table 3

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	12/19/2023
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	10.45
Conductivity (µmhos/cm)		---	---	2900	2128	2557	4115	2370	3828	3279	2970	3497	3852	3760	1565	3520	---	3.06	0.346
Turbidity (NTU)		---	---	---	---	420	60	9	42	45	67	29	157	31.9	297	21.8	---	13.2	28.2
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	<0.61
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
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
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	<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
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
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
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
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
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
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
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
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
Pentachlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<50	<2.2	<50	<50	<47	<47	<47	<47	<50	<0.01	0.08 J	<1.8

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	12/19/2023
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	10.08
Conductivity (µmhos/cm)		---	---	2069	1490	3547	2705	2540	2950	2754	3397	2296	3160	3150	1839	1212	---	2.74	0.329
Turbidity (NTU)		---	---	---	---	270	400	24	25	50	29	366	1064	250	332	139	---	46.5	45.4
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	3.7 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	<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
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
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
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
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
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
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
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
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
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
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
Pentachlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<50	<2.2	<50	<50	<47	<47	<47	<47	<50	<0.01	<0.01	<1.8

Table 3

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	12/19/2023
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	7.75
Conductivity (µmhos/cm)		---	---	2153	1495	2458	2232	3023	2698	2566	3612	2500	2360	1946	1333	2280	---	3.62	0.434
Turbidity (NTU)		---	---	---	---	130	90	22	13.5	85	57	10.7	47	over range	145	109	---	2.78	217
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	<0.61
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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<1.8

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	12/19/2023
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	6.71
Conductivity (µmhos/cm)		---	---	2841	1854	3134	3188	2915	4415	3196	4225	4949	5632	6270	2000	8410	---	5.54	0.557
Turbidity (NTU)		---	---	---	---	340	60	12	21	6	2	250	over range	over range	137	664	---	210	186
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	<0.61
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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<6.6
4-Nitrophenol (µg/l)	1*	---	---	<50	<50	<50	<10	<50	<2.8	<50	<50	<47	<47	<47	<47	---	<0.92	<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	---	<2.5	<1.8	<1.8
Pentachlorophenol (µg/l)	1*	---	---	<50	<50	<50	<5	<50	<2.2	<50	<50	<47	<47	<47	<47	---	<0.02	0.06 J	<1.8

Table 3

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	12/19/2023
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

Appendices

Appendix A

Institutional and Engineering Controls Certification 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, 2023 to March 01, 2024

	YES	NO
1. Is the information above correct?	☒	☐
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?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
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?	☐	☒

Box 2

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

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
☒	☐

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
☒	☐

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 Andrew D. Caloway (print name) at 20 Moores Road, Malvern, PA 19355 (print business address),

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

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

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

3/24/24
Date

EC CERTIFICATIONS

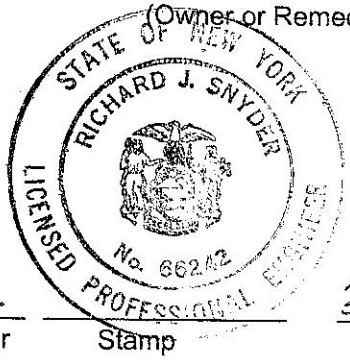
Box 7

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, P.E. (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)

3/22/24
Date

Appendix B

Site and Well Inspection Forms - 2023

Site Inspection Form

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

Inspector's Name: Rich Snyder
Date: ~~11-8-23~~ / 11-29-23
Weather: ~~Cloudy / 51°F~~ / light snow 29°F

1. Cap Inspection

Engineering Control	Condition	Maintenance Required or Comments
Clay Landfill Cap	good	vegetative cover in good condition - No differential settlement or erosion
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)	10.39	9.60	9.96	12.51
Well Depth (ft. BTOR)	16.40	19.60	18.66	16.61
Well Locked	Y	Y	Y	Y
Lock Functioning	Y	Y	Y	Y
Bailer and Rope OK	N	N	N	N
Tubing OK	N	N	N	N
Protective Casing OK	Y	Y	Y	Y
Concrete Pad OK	Y	Y	Y	Y
Heaving of Well or Casing	Y N	Y N	Y N	Y N
Well Constricted	minor	minor	N	N
Debris In Well	N	N	N	N
Insects in Well	N	N	N	N
Overall Condition	Good	Good	Good	Good
Maintenance Needed	None	None	None	None

Inspector's Signature:

Notes:

ft. BTOR = Feet Below Top of Riser

Appendix C

Site Inspection Photographic Log – November 8 and 29, 2023

Photo 1 View of south side of cap

Photo 2 View of east side of cap facing north

Photo 3 View of west side of cap facing north

Photo 4 View of south side of cap

Photo 5 View of top of cap facing south

Photo 6 View of west side of cap facing south

Photo 7 View of west side of cap

Photo 8 View of top of cap facing south

Photo 9 View of west side of cap

Photo 10 View of north side of cap

Photo 11 View of north side of cap

Photo 12 View of east side of cap facing south

Photo 13 View of east side of cap

Photo 14 View of east side of cap facing north

Photo 15 View of OMW4-81 east of Site

Photo 16 View of OMW5-81 east of Site

Photo 17 View of un-numbered manhole/catch basin

Photo 18 View of MH A-9 east of Site

Photo 19 View of MH A-10 east of Site

Photo 20 View of paved/concrete area east of Site with monitoring wells

Photo 21 View of paved/concrete area east of Site with monitoring wells

Photo 22 View of concrete area east of Site with monitoring wells

Photo 23 View of OMW3-81 west of Site on NFTA property

Photo 24 View of OMW2-81 west of Site on NFTA property

Photo 25 View of west side of cap viewed from NFTA property

Photo 26 View of west side of cap viewed from NFTA property

Appendix D

Field Sampling Notes

Well Development, Purging, and Sampling Form
(Form SP-06)

PROJECT #: 12604429 PROJECT NAME: SAINT GOBAIN/CARBORUNDUM ABRASIVES, WHEATFIELD, NY DATE: 12/18/23

WELL ID: OW2-81 FIELD PERSONNEL: GHARLACH / KAWECKI

WELL DIAMETER 2 in
WELL DEPTH 16.5 ft
STATIC DEPTH TO WATER 8.80 ft
WATER COLUMN HEIGHT 7.70 ft
CASING VOLUME 1.232 gal
MEASURING REFERENCE POINT TOP OF RISER

Well Diameter (in)	Casing Volume (L/m)	Casing Volume (US gallon/foot)
1.5	1.14	0.09
2	2.03	0.16
4	8.11	0.65
6	18.24	1.47

PURGING INFORMATION

PURGE DATE/TIME: 12/18/23 09:15
WEATHER CONDITIONS AT TIME OF PURGING: CLOUDY 30's WINDY

INITIAL PURGE VOLUME 1.4 gal
ADDED VOLUME 14.0 gal
TOTAL PURGE VOLUME 15.4 gal
FINAL WELL DEPTH 17.15 ft

NOTES

INSTALLED DEPTH: 19.24 FT.
ACCUMULATED SEDIMENT (STARTING): 2.74 FT
ACCUMULATED SEDIMENT (FINISH): 1.89 FT

TUBING KEPTING HUNG UP
~~HANGING~~ CHECK BALL LEAKS

PURGING EQUIPMENT

DEDICATED PURGING EQUIPMENT? (YES) NO

PURGING DEVICE	A	A - INERTIAL PUMP (WATERRA®)	B - BAILER	C - PERISTALTIC PUMP	D - SUBMERSIBLE PUMP	X - OTHER (SPECIFY)
		E - BLADDER PUMP	F - PURGE PUMP	G - DIPPER BOTTLE	H - GAS LIFT PUMP	
PURGING MATERIAL	A	A - POLYETHYLENE	B - TEFLON	C - PVC	D - POLYPROPYLENE	X - OTHER (SPECIFY)
		E - STAINLESS STEEL				
TUBING PURGING	A	A - POLYETHYLENE 5/8"	B - TEFLON	C - TYGON	D - POLYPROPYLENE	X - OTHER (SPECIFY)
		E - SILICONE	F - ROPE	G - COMBINATION TEFLON/POLYPROPYLENE		
FILTERING DEVICES	NA	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	PORE SIZE :	

Well Development, Purging, and Sampling Form
(Form SP-06)

PROJECT #: 12604429 PROJECT NAME: SAINT GOBAIN/CARBORUNDUM ABRASIVES, WHEATFIELD, NY DATE: 12/18/23

WELL ID: OW3-81 FIELD PERSONNEL: GHALLAGH / JKAWECKI

WELL DIAMETER 2 in
WELL DEPTH 19.78 ft
STATIC DEPTH TO WATER 4.00 ft
WATER COLUMN HEIGHT 15.78 ft
CASING VOLUME 2.52 gal
MEASURING REFERENCE POINT TOP OF RISER

Well Diameter (in)	Casing Volume (L/m)	Casing Volume (US gallon/foot)
1.5	1.14	0.09
2	2.03	0.16
4	8.11	0.65
6	18.24	1.47

PURGING INFORMATION

PURGE DATE/TIME: 12/18/23 08:15

WEATHER CONDITIONS AT TIME OF PURGING: CLOUDY 30's WINDY

INITIAL PURGE VOLUME 2.5 gal
ADDED VOLUME 4.5 gal
TOTAL PURGE VOLUME 7.0 gal
FINAL WELL DEPTH 19.9 ft

NOTES

INSTALLED DEPTH: ~~20~~ 20.36 FT

ACCUMULATED SEDIMENT (STARTING): 0.58 FT

ACCUMULATED SEDIMENT (FINISH): 0.36 FT.

DIFFICULT GETTING TUBING DOWN WELL. HANGING ON SIDES

PURGING EQUIPMENT

DEDICATED PURGING EQUIPMENT? (YES) NO

PURGING DEVICE	A	A - INERTIAL PUMP (WATERRA®)	B - BAILER	C - PERISTALTIC PUMP	D - SUBMERSIBLE PUMP	X - OTHER (SPECIFY)
		E - BLADDER PUMP	F - PURGE PUMP	G - DIPPER BOTTLE	H - GAS LIFT PUMP	
PURGING MATERIAL	A	A - POLYETHYLENE	B - TEFLON	C - PVC	D - POLYPROPYLENE	X - OTHER (SPECIFY)
		E - STAINLESS STEEL				
TUBING PURGING	A	A - POLYETHYLENE 5/8"	B - TEFLON	C - TYGON	D - POLYPROPYLENE	X - OTHER (SPECIFY)
		E - SILICONE	F - ROPE	G - COMBINATION TEFLON/POLYPROPYLENE		
FILTERING DEVICES	N/A	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	PORE SIZE :	

Well Development, Purging, and Sampling Form
(Form SP-06)

PROJECT #: 12604429 PROJECT NAME: SAINT GOBAIN/CARBORUNDUM ABRASIVES, WHEATFIELD, NY DATE: 12/18/23

WELL ID: OW4-01 FIELD PERSONNEL: GHARLICH / JKAWECKI

WELL DIAMETER 2 in
WELL DEPTH 18.9 ft
STATIC DEPTH TO WATER 9.47 ft
WATER COLUMN HEIGHT 9.43 ft
CASING VOLUME 1.50 gal
MEASURING REFERENCE POINT TOP OF RISER

Well Diameter (in)	Casing Volume (L/m)	Casing Volume (US gallon/foot)
1.5	1.14	0.09
2	2.03	0.16
4	8.11	0.65
6	18.24	1.47

PURGING INFORMATION

PURGE DATE/TIME: 12/18/23 15:00
WEATHER CONDITIONS AT TIME OF PURGING: CLOUDY 30'S WINDY

INITIAL PURGE VOLUME 1.5 gal
ADDED VOLUME 11.5 gal
TOTAL PURGE VOLUME 13.0 gal
FINAL WELL DEPTH 19.15 ft

NOTES

INSTALLED DEPTH: 20.05 FT.
ACCUMULATED SEDIMENT (STARTING): 1.15 FT.
ACCUMULATED SEDIMENT (FINISH): 0.9 FT

TUBING HANGING UPON SIDES OF WELL

PURGING EQUIPMENT

DEDICATED PURGING EQUIPMENT? (YES) NO

PURGING DEVICE	A	A - INERTIAL PUMP (WATERRA®)	B - BAILER	C - PERISTALTIC PUMP	D - SUBMERSIBLE PUMP	X - OTHER (SPECIFY)
		E - BLADDER PUMP	F - PURGE PUMP	G - DIPPER BOTTLE	H - GAS LIFT PUMP	
PURGING MATERIAL	A	A - POLYETHYLENE 5/8"	B - TEFLON	C - PVC	D - POLYPROPYLENE	X - OTHER (SPECIFY)
		E - STAINLESS STEEL				
TUBING PURGING	A	A - POLYETHYLENE	B - TEFLON	C - TYGON	D - POLYPROPYLENE	X - OTHER (SPECIFY)
		E - SILICONE	F - ROPE	G - COMBINATION TEFLON/POLYPROPYLENE		
FILTERING DEVICES	NA	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	PORE SIZE :	

Well Development, Purging, and Sampling Form
(Form SP-06)

PROJECT #: 12604429 PROJECT NAME: SAINT GOBAIN/CARBORUNDUM ABRASIVES, WHEATFIELD, NY DATE: 12/18/23

WELL ID: OW-5-81 FIELD PERSONNEL: JKAWECKI / GHARLACH

WELL DIAMETER 2 in
WELL DEPTH 16.96 ft
STATIC DEPTH TO WATER 6.87 ft
WATER COLUMN HEIGHT 10.09 ft
CASING VOLUME 1.61 gal
MEASURING REFERENCE POINT TOP OF RISER

Well Diameter (in)	Casing Volume (L/m)	Casing Volume (US gallon/foot)
1.5	1.14	0.09
2	2.03	0.16
4	8.11	0.65
6	18.24	1.47

PURGING INFORMATION

PURGE DATE/TIME: 12/18/23 13:05
WEATHER CONDITIONS AT TIME OF PURGING: CLOUDY 30'S WINDY

INITIAL PURGE VOLUME 1.6 gal
ADDED VOLUME 13.0 gal
TOTAL PURGE VOLUME 14.6 gal
FINAL WELL DEPTH 17.24 ft

NOTES

INSTALLED DEPTH: 18.28 FT
ACCUMULATED SEDIMENT (STARTING): 1.32 FT
ACCUMULATED SEDIMENT (FINISH): 1.04 FT

DIFFICULTY GETTING TUBING DOWN WELL. HANGING UP ON SIDES.

PURGING EQUIPMENT

DEDICATED PURGING EQUIPMENT? (YES) NO

PURGING DEVICE	A	A - INERTIAL PUMP (WATERRA®)	B - BAILER	C - PERISTALTIC PUMP	D - SUBMERSIBLE PUMP	X - _____ OTHER (SPECIFY)
		E - BLADDER PUMP	F - PURGE PUMP	G - DIPPER BOTTLE	H - GAS LIFT PUMP	
PURGING MATERIAL	A	A - POLYETHYLENE	B - TEFLON	C - PVC	D - POLYPROPYLENE	X - _____ OTHER (SPECIFY)
		E - STAINLESS STEEL				
TUBING PURGING	A	A - POLYETHYLENE 5/8"	B - TEFLON	C - TYGON	D - POLYPROPYLENE	X - _____ OTHER (SPECIFY)
		E - SILICONE	F - ROPE	G - COMBINATION TEFLON/POLYPROPYLENE		
FILTERING DEVICES	NA	A - IN-LINE DISPOSABLE	B - PRESSURE	C - VACUUM	PORE SIZE :	

Field Data Record Form
Turbidity Meter–Hach

Control number: NF07613
Date (mm/dd/yyyy): 12/19/23
User (print name): G. HARLACH

Project number: 12604429
Project name: SAINT-GOBAIN WHEATFIELDS

Location: WHEATFIELDS, NY

Additional equipment control numbers and descriptions:

10 NTU Lot A1202 Exp 8/24
100 NTU Lot A1205 Exp 8/24
800 NTU Lot A1207 Exp 8/24

Field procedure before use:

Do not calibrate in the field.

	Check when completed
Check kit contents:	
• Meter	☒
• STABLCAL standards (2100Q)	☒
• Low 0-10, medium 0-100, high standards (2100P)	☒
• Extra AA batteries	☒
• Sample vials	☒
Test and record standards:	☒

Gelex (2100P)/STABLCAL (2100Q) Standard	*Meter Reading*
10 NTU	9.99 NTU
100 NTU	95.7 NTU
800 NTU	802 NTU

Note: Condensation on outside of sample bottles affects meter readings.

Filing: Field file

Signature: Gerald Harlach

Field Data Record Form
Water Quality Meter-YSI

Control number: NF 06214
Date (mm/dd/yyyy): 12/19/23
User (print name): G. HARLACH

Project number: 12604429
Project name: SAINT-GOBAIN WHEATFIELD

Location: WHEATFIELD, NY

Additional equipment control numbers and descriptions: 4.00 pH / 4.49 mS/cm LOT #2400724 Exp 02/2025
pH before: 3.98 after: 4.00
Sp Conc before: 4.48, after: 4.48

Field procedure before use:

	Check when completed
Dissolved Oxygen	
• Quick DOCal can be enabled or disabled by using the up or down arrow keys to highlight Quick DOCal and pressing enter. An 'X' in the box next to Quick DOCal indicates it is enabled.	☑
• Ensure the DOsensor has a good membrane with electrolyte installed. A good membrane is free of wrinkles, tears, fouling, and air bubbles. Install the sensor guard onto the probe.	☑
• Moisten the sponge in the grey calibration/storage sleeve with a small amount of clean water and install it over the sensor guard. The sponge should only be moistened and the calibration/storage sleeve should not have excess water in it that could cause water droplets to get on the membrane.	☑
• Power the instrument on and, if using a Polarographic sensor, wait approximately 5 to 15 minutes for the storage chamber to become completely saturated and for the sensor to stabilize. If using a Galvanic sensor, wait approximately 5 to 10 minutes for the chamber to become completely saturated. Auto Shutoff should be disabled or set to at least 20 minutes.	☑
• Ensure the barometer is reading accurately. If necessary, perform a barometer calibration.	☑
• Press and hold the Calibrate key for 3 seconds. Using the up or down arrow key, highlight Dissolved Oxygen and press enter. The Pro2030 will indicate 'Calibrating %DO' on the display. The instrument will automatically calibrate the sensor to the current barometric pressure. If DOLocal% is enabled, the sensor will calibrate to 100 percent. This may take up to 2 minutes depending on the age of the sensor and membrane.	☑
• 'Calibration Successful' will display for a few seconds to indicate a successful calibration and then the instrument will return to the Run screen.	☑
Barometer	
• If the barometer requires an adjustment, use the up or down arrow keys to highlight the barometer box along the bottom of the Run screen, then press enter.	☐ NA
• Next, use the up or down arrow keys to adjust the barometer reading to the local, true barometric pressure. Continually depress the up or down arrow key to change the barometer value more rapidly.	☐ NA
• Press enter to confirm and save the barometer adjustment.	☐ NA
Conductivity or Specific (Sp.) Conductance	
• Fill a clean container (i.e., plastic cup or glass beaker) with fresh, traceable conductivity calibration solution and place the sensor into the solution. The solution must cover the holes of the conductivity sensor that are closest to the cable. Ensure the entire conductivity sensor is submerged in the solution or the instrument will read approximately half the expected value. Gently move the probe up and down to remove any air bubbles from the conductivity sensor.	☑
• Turn the instrument on and allow the conductivity and temperature readings to stabilize. Press the Cal key. Highlight Conductivity and press enter. Next, highlight the desired calibration method, Sp. Conductance or Conductivity, and press enter.	☑
• Highlight the units you wish to calibrate, either uS/cm or mS/cm, and press enter. 1 mS = 1,000 uS. Next, use the up or down arrow key to adjust the value on the display to match the value of the conductivity calibration solution. If calibrating conductivity, it is necessary to look up the value of the solution at the current temperature and enter that value into the Pro2030. Most conductivity solutions are labeled with a value at 25°C. If calibrating specific conductance, enter the value listed for 25°C. Depressing either the up or down arrow key for 5 seconds will move the changing digit one place to the left. The Pro2030 will remember the entered calibration value and display it the next time a conductivity calibration is performed.	☑
• Press enter to complete the calibration. Or, press Cal to cancel the calibration and return to the Run screen.	☑
• Calibration Successful' will display for a few seconds to indicate a successful calibration and then the instrument will return to the Run screen.	☑
Salinity	
• Fill a clean container (i.e., plastic cup or glass beaker) with fresh, traceable salinity calibration solution and place the sensor into the solution. The solution must cover the holes of the conductivity sensor that are closest to the cable. Ensure the entire conductivity sensor is submerged in the solution or the instrument will read approximately half the expected value. Gently move the probe up and down to remove any air bubbles from the conductivity sensor.	☐ NA
• Turn the instrument on and allow the conductivity and temperature readings to stabilize. Press the Cal key. Highlight Conductivity and press enter. Next, highlight Salinity and press enter.	☐ NA
• Use the up or down arrow key to adjust the value on the display to match the value of the salinity solution. Depressing either the up or down arrow key for 5 seconds will move the changing digit one place to the left. The Pro2030 will remember the entered calibration value and display it the next time a salinity calibration is performed.	☐ NA
• Press enter to complete the calibration. Or, press Cal to cancel the calibration and return to the Run screen.	☐ NA
• 'Calibration Successful' will display for a few seconds to indicate a successful calibration and then the instrument will return to the Run screen.	☐ NA

Filing: Field file

Signature: Gerald Harlach

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): G. HARLOCH
Date(s) of Sample Collection: 12/19/23
Weather: 28°F, CLOUDY, FLURRIES

Project No. ~~11212053~~ 12604429

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.)
12604429-OW2-121923	OW2-81	12/19/23 11:45	588.24 ~~588.31~~	8.80	17.15	14.56	10.45	0.346	28.2	clear, black sediment
12604429-OW3-121923	OW3-81	12/19/23 12:00	588.06 ~~587.91~~	8.97	19.78	14.35	10.08	0.329	45.4	clear, black sediment
12604429-OW4-121923	OW4-81	12/19/23 13:20	587.95 ~~587.71~~	9.70	19.15	13.79	7.75	0.434	217	light tan sediment
12604429-OW5-121923	OW5-81	12/19/23 13:10	587.78 ~~587.52~~	12.40	17.24	13.85	6.71	0.557	186	clear, slight tan color
	Catch Basin A-9	DRY	NA	NA	NA					

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:

Appendix E

Laboratory Report

ANALYTICAL REPORT

Lab Number:	L2374949
Client:	GHD, Inc. 285 Delaware Avenue Suite 500 Buffalo, NY 14202
ATTN:	Katherine Galanti
Phone:	(716) 362-8839
Project Name:	CARBORUNDUM ABRASIVE DIV. SITE
Project Number:	12604429
Report Date:	12/27/23

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

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

Project Name: CARBORUNDUM ABRASIVE DIV. SITE
Project Number: 12604429

Lab Number: L2374949
Report Date: 12/27/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2374949-01	12604429-OW2-81-121923	WATER	Not Specified	12/19/23 11:45	12/19/23
L2374949-02	12604429-OW3-81-121923	WATER	Not Specified	12/19/23 12:00	12/19/23
L2374949-03	12604429-OW4-81-121923	WATER	Not Specified	12/19/23 13:20	12/19/23
L2374949-04	12604429-OW5-81-121923	WATER	Not Specified	12/19/23 13:10	12/19/23

Project Name:	CARBORUNDUM ABRASIVE DIV. SITE	**Lab Number:**	L2374949
Project Number:	12604429	**Report Date:**	12/27/23

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:	CARBORUNDUM ABRASIVE DIV. SITE	**Lab Number:**	L2374949
Project Number:	12604429	**Report Date:**	12/27/23

Case Narrative (continued)

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

Title: Technical Director/Representative Date: 12/27/23

ORGANICS

SEMIVOLATILES

Project Name: CARBORUNDUM ABRASIVE DIV. SITE
Lab Number: L2374949
Project Number: 12604429
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2374949-01
Client ID: 12604429-OW2-81-121923
Sample Location: Not Specified

Date Collected: 12/19/23 11:45
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E
Analytical Date: 12/23/23 00:33
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 12/22/23 09:51

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
Pentachlorophenol	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	51		21-120
Phenol-d6	40		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	62		15-120
2,4,6-Tribromophenol	68		10-120
4-Terphenyl-d14	62		41-149

Project Name: CARBORUNDUM ABRASIVE DIV. SITE
Lab Number: L2374949
Project Number: 12604429
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2374949-02
Client ID: 12604429-OW3-81-121923
Sample Location: Not Specified

Date Collected: 12/19/23 12:00
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E
Analytical Date: 12/23/23 00:55
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 12/22/23 09:51

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
Pentachlorophenol	ND		ug/l	10	1.8	1
Phenol	3.7	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	55		21-120
Phenol-d6	46		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	74		41-149

Project Name: CARBORUNDUM ABRASIVE DIV. SITE
Lab Number: L2374949
Project Number: 12604429
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2374949-03
Client ID: 12604429-OW4-81-121923
Sample Location: Not Specified

Date Collected: 12/19/23 13:20
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E
Analytical Date: 12/23/23 01:17
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 12/22/23 09:51

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
Pentachlorophenol	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	58		21-120
Phenol-d6	45		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	67		15-120
2,4,6-Tribromophenol	72		10-120
4-Terphenyl-d14	68		41-149

Project Name: CARBORUNDUM ABRASIVE DIV. SITE
Lab Number: L2374949
Project Number: 12604429
Report Date: 12/27/23

SAMPLE RESULTS

Lab ID: L2374949-04
Client ID: 12604429-OW5-81-121923
Sample Location: Not Specified

Date Collected: 12/19/23 13:10
Date Received: 12/19/23
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270E
Analytical Date: 12/23/23 01:39
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 12/22/23 09:51

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
Pentachlorophenol	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	55		21-120
Phenol-d6	45		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	66		15-120
2,4,6-Tribromophenol	79		10-120
4-Terphenyl-d14	70		41-149

Project Name: CARBORUNDUM ABRASIVE DIV. SITE **Lab Number:** L2374949

Project Number: 12604429 **Report Date:** 12/27/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 12/22/23 09:10
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 12/21/23 16:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1867025-1					
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
Pentachlorophenol	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	37		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	50		23-120
2-Fluorobiphenyl	49		15-120
2,4,6-Tribromophenol	39		10-120
4-Terphenyl-d14	46		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: CARBORUNDUM ABRASIVE DIV. SITE

Project Number: 12604429

Lab Number: L2374949

Report Date: 12/27/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1867025-2 WG1867025-3								
2,4,6-Trichlorophenol	54		55		30-130	2		30
p-Chloro-m-cresol	53		55		23-97	4		30
2-Chlorophenol	51		54		27-123	6		30
2,4-Dichlorophenol	51		54		30-130	6		30
2,4-Dimethylphenol	43		34		30-130	23		30
2-Nitrophenol	53		57		30-130	7		30
4-Nitrophenol	44		45		10-80	2		30
2,4-Dinitrophenol	59		59		20-130	0		30
4,6-Dinitro-o-cresol	60		61		20-164	2		30
Pentachlorophenol	55		57		9-103	4		30
Phenol	41		41		12-110	0		30
2-Methylphenol	52		51		30-130	2		30
3-Methylphenol/4-Methylphenol	53		52		30-130	2		30
2,4,5-Trichlorophenol	54		56		30-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	48		51		21-120
Phenol-d6	41		42		10-120
Nitrobenzene-d5	56		60		23-120
2-Fluorobiphenyl	53		53		15-120
2,4,6-Tribromophenol	50		50		10-120
4-Terphenyl-d14	49		49		41-149

Matrix Spike Analysis

Batch Quality Control

Project Name: CARBORUNDUM ABRASIVE DIV. SITE
Project Number: 12604429
Lab Number: L2374949
Report Date: 12/27/23

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): 01-04 QC Batch ID: WG1867025-4 WG1867025-5 QC Sample: L2374949-01 Client ID: 12604429-OW2-81-121923												
2,4,6-Trichlorophenol	ND	18.2	16	88		14	77		30-130	13		30
p-Chloro-m-cresol	ND	18.2	14	77		14	77		23-97	0		30
2-Chlorophenol	ND	18.2	14	77		13	72		27-123	7		30
2,4-Dichlorophenol	ND	18.2	16	88		15	83		30-130	6		30
2,4-Dimethylphenol	ND	18.2	14	77		13	72		30-130	7		30
2-Nitrophenol	ND	18.2	17	94		16	88		30-130	6		30
4-Nitrophenol	ND	18.2	18	**99**	Q	16	**88**	Q	10-80	12		30
2,4-Dinitrophenol	ND	18.2	21	120		18.J	99		20-130	15		30
4,6-Dinitro-o-cresol	ND	18.2	21	120		20	110		20-164	5		30
Pentachlorophenol	ND	18.2	16	88		16	88		9-103	0		30
Phenol	ND	18.2	10	55		9.7	53		12-110	3		30
2-Methylphenol	ND	18.2	13	72		13	72		30-130	0		30
3-Methylphenol/4-Methylphenol	ND	18.2	13	72		13	72		30-130	0		30
2,4,5-Trichlorophenol	ND	18.2	16	88		15	83		30-130	6		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	100		91		10-120
2-Fluorobiphenyl	78		76		15-120
2-Fluorophenol	69		64		21-120
4-Terphenyl-d14	80		78		41-149
Nitrobenzene-d5	76		74		23-120
Phenol-d6	60		57		10-120

Project Name: CARBORUNDUM ABRASIVE DIV. SITE
Project Number: 12604429

Lab Number: L2374949
Report Date: 12/27/23

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(*)
L2374949-01A	Amber 250ml unpreserved	A	11	11	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-01A1	Amber 250ml unpreserved	A	11	11	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-01A2	Amber 250ml unpreserved	A	11	11	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-01B	Amber 250ml unpreserved	A	11	11	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-01B1	Amber 250ml unpreserved	A	11	11	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-01B2	Amber 250ml unpreserved	A	11	11	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-02A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-02B	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-03A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-LVI(7)
L2374949-04A	Amber 250ml unpreserved	A	7	7	4.1	Y	Absent		NYTCL-8270-LVI(7)

*Values in parentheses indicate holding time in days

Project Name:	CARBORUNDUM ABRASIVE DIV. SITE	**Lab Number:**	L2374949
Project Number:	12604429	**Report Date:**	12/27/23

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:	CARBORUNDUM ABRASIVE DIV. SITE	**Lab Number:**	L2374949
Project Number:	12604429	**Report Date:**	12/27/23

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.

Chlordane: 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.)

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'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	CARBORUNDUM ABRASIVE DIV. SITE	**Lab Number:**	L2374949
Project Number:	12604429	**Report Date:**	12/27/23

Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

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.

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.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	CARBORUNDUM ABRASIVE DIV. SITE	**Lab Number:**	L2374949
Project Number:	12604429	**Report Date:**	12/27/23

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 624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625.1: alpha-Terpineol
EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 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 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 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).
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.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page of

Date Rec'd in Lab: 12/20/23

ALPHA Job #: L2374949

Client Information
Client: GHD
Address:
Phone:
Fax:
Email:

Project Information
Project Name: Carborundum Abrasives Division site
Project Location:
Project #: 12604429
(Use Project name as Project #) ☐
Project Manager: Katherine Galanti
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information
☐ Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS
NYTCL-8270-Lvl Phenolic Compounds

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
74949 01	12604429-GW2-81-121923	12/19	1145	Water	CH	6
02	12604429-GW3-81-121923	12/19	1200	Water	CH	2
03	12604429-GW4-81-121923	12/19	1320	Water	CH	1
04	12604429-GW5-81-121923	12/19	1310	Water	CH	1

Container Type: Amber
Preservative: N/A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
	12/19/23 1511		12/19/23 1511
	12/19/23 1543		12/20/23 0130

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Bottle Order Request

Bottle Order # 422707

MAY-01-23 12:25:57

Page 1 of 1

Acctnum : *GHD-NYS* **Company :** *GHD*
Contact Name : *Kevin Miller* **Client PM :**
Projectnum : *12604429* **Projectname :** *Carborundum-Abrasive Division Site*

Request date : *05/01/23* **Status :** *NEED* **Sample delivery date :**
Order taken by : *Carl Janish* **Linked Call :** **Projected TAT :**

Completed by : **Delivery method :** *Courier*
Date Completed :

Matrix : *WATER* **# Samples :** *8* **Client IDs :** *1*
Analytes : *NYTCL Semivolatiles - EPA 8270E (LVI)*

Container	Quantity	Analyte Label
Amber 250ml unpreserved	2	*NYTCL-8270-LVI Phenolic Compounds*

Bottle Quantity Summary:

Amber 250ml unpreserved 16

Trip Blanks and Miscellaneous Field Blanks:

Special Shipping Requirements

Cooler X | Dangerous | Certified | NJ Courier Pickup Label | Return Shipping Labels

Pending Shipping Date(s)
05/02/23

If you have questions on this Bottle Order, need to order additional bottles or schedule a Sample Pickup, please call a member of our Alpha team at 716-783-9291.

275 Cooper Ave
Suite 105
Tonawanda
14150

PLEASE PUT SAMPLES ON ICE
EXCEPT CANISTER OR BAG SAMPLES

Link to Alpha Sampling Reference Guide

Appendix F

Data Validation Memo

Data Verification Report

March 14, 2024

To	Katherine Galanti	**Project No.**	12604429
Copy to	Kevin Miller	**DVR No.**	N/A
From	Christopher Arcuri/eew/1	**Contact No.**	717.585.6408
Project Name	Carborundum-Abrasive Division Site	**Email**	Christopher.Arcuri@ghd.com
Subject	Analytical Results and Data Verification Biennial Groundwater Sampling Saint-Gobain Abrasives, Inc. – Carborundum-Abrasive Division Site Wheatfield, New York December 2023		

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

1. Introduction

This document details a data verification of analytical results for samples collected in support of the Biennial Groundwater Sampling at the Carborundum-Abrasive Division site during December 2023. 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 form, finished report forms, method blank data, and recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS).

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the document entitled "National Functional Guidelines for Organic Superfund Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-20-005, November 2020.

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 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 one 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. 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.

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

5. Laboratory Control Sample Analyses

LCS or 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 one 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 samples were spiked with all compounds of interest. Most percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision. Where high MS/MSD recoveries were observed, no qualification was deemed necessary based on the source sample being non-detect for the analyte of interest.

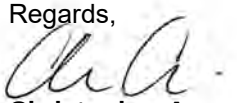
7. Analyte Reporting

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

8. Conclusion

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

Regards,



Christopher Arcuri
Data Intelligence – Data Validator

Table 1

Sample Collection and Analysis Summary
Biennial Groundwater Sampling
Saint-Gobain Abrasives, Inc. - Carborundum-Abrasive Division Site
Wheatfield, New York
December 2023

						Parameters	
Sample Delivery Group	**Sample Identification**	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**SVOCs**	**Comments**
L2374949	12604429-OW2-81-121923	OW2-81	Groundwater	12/19/2023	11:45	X	MS/MSD
L2374949	12604429-OW3-81-121923	OW3-81	Groundwater	12/19/2023	12:00	X	
L2374949	12604429-OW4-81-121923	OW4-81	Groundwater	12/19/2023	13:20	X	
L2374949	12604429-OW5-81-121923	OW5-81	Groundwater	12/19/2023	13:10	X	

Notes:

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

Table 2

Analytical Results Summary
Biennial Groundwater Sampling
Saint-Gobain Abrasives, Inc. - Carborundum-Abrasive Division Site
Wheatfield, New York
December 2023

Location ID:		**OW2-81**	**OW3-81**	**OW4-81**	**OW5-81**
Sample Name:		**12604429-OW2-81-121923**	**12604429-OW3-81-121923**	**12604429-OW4-81-121923**	**12604429-OW5-81-121923**
Sample Date:		**12/19/2023**	**12/19/2023**	**12/19/2023**	**12/19/2023**
Parameters	**Unit**				
Semi-volatile Organic Compounds					
2,4,5-Trichlorophenol	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2,4,6-Trichlorophenol	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dichlorophenol	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dimethylphenol	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2,4-Dinitrophenol	µg/L	20 U	20 U	20 U	20 U
2-Chlorophenol	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
2-Methylphenol	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Nitrophenol	µg/L	10 U	10 U	10 U	10 U
3&4-Methylphenol	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
4,6-Dinitro-2-methylphenol	µg/L	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	µg/L	2.0 U	2.0 U	2.0 U	2.0 U
4-Nitrophenol	µg/L	10 U	10 U	10 U	10 U
Pentachlorophenol	µg/L	10 U	10 U	10 U	10 U
Phenol	µg/L	5.0 U	3.7 J	5.0 U	5.0 U

Notes:

U - Not detected at the associated reporting limit

J - Estimated concentration

Table 3

Analytical Methods
Biennial Groundwater Sampling
Saint-Gobain Abrasives, Inc. - Carborundum-Abrasive Division Site
Wheatfield, New York
December 2023

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Extraction to Analysis (Days)
Semi-volatile Organic Compounds (SVOCs)	SW-846 8270E	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