November 3, 2020

Brian Jankauskas, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation (DER), Remedial Bureau A
625 Broadway, 12th Floor
Albany, NY 12233-7015

Subject: **Annual Groundwater and Surface Water Monitoring Report**
Pretreatment Plant Area
Former Ciba-Geigy Facility, Glens Falls, New York
EPA ID NYD002069748 / NYSDEC Site No.: 557011

Dear Mr. Jankauskas:

On behalf of Hercules Incorporated (previously acquired by Ashland LLC) and Ciba-Geigy Corporation ("CIBA") (previously acquired by BASF Corporation) (the "Parties"), EHS Support LLC ("EHS Support") is submitting this *Groundwater and Surface Water Monitoring Report* (GSMR) for the Pretreatment Plant Area property ("PTP Area" or "property") at the former Ciba-Geigy pigments manufacturing facility located at 89 Lower Warren Street in Queensbury Township, near Glens Falls, New York (the "Site").

Groundwater and surface water sampling have been conducted at the PTP Area since the mid-1990s (approximatey 25 years). Approximately 35 rounds of sampling have been performed at the property. Historically, sampling was performed as often as semi-annually; the frequency of sampling and reporting has been annual since 2010. The last remaining aboveground historical wastewater treatment structures (i.e., the former Pretreatment Plant Building and tank T-110) were demolished and removed from the PTP Area in March 2018. Post-demolition soil and groundwater sampling was performed in May 2019, with the results provided to the New York State Department of Environmental Conservation (NYSDEC) in the *Soil and Groundwater Sampling Report for the Pretreatment Plant Area* by EHS Support (October 11, 2019). The soil and groundwater samples collected at the PTP Area in May 2019 showed no evidence of a release of constituents of potential concern from former tank T-110 or from the sumps in the former PTP building.

Groundwater and surface water monitoring was conducted at focused locations in June 2020 pursuant to the following communications:

- *Response to Comments on October 2019 Reports for the Pretreatment Plant Area*, submitted to NYSDEC by EHS Support on December 19, 2019 – In two reports dated October 11, 2019 (i.e., the *Soil and Groundwater Sampling Report for the Pretreatment Plant Area* and the *2019 Annual Groundwater and Surface Water Monitoring Report for the Pretreatment Plant Area*) the Parties proposed no further groundwater sampling at the PTP Area property. However, the NYSDEC responded with a comment letter requiring continued groundwater sampling. In a comment response letter, the Parties proposed to sample monitoring wells MW-OB19 and MW-OB23 and temporary well PTP-SB01 for cyanide in 2020. The NYSDEC approved this focused groundwater sampling approach for 2020.

- E-mail communication from the NYSDEC to EHS Support on January 15, 2020 – In the October 11, 2019 reports for the PTP Area property and the response to comments submitted on December 19, 2019, the Parties proposed no further surface water sampling based on historical sampling results, which show free cyanide concentrations in surface water below or near detection limits since 2015 when surface water samples first began being analyzed for free cyanide as part of the monitoring program.[1] In an e-mail dated January 15, 2020, the NYSDEC indicated it would require surface water sampling at the PTP Area for free cyanide in 2020.

Sampling was performed at the locations illustrated on **Figure 1**, following the sampling program presented in **Table 1**. A summary of the sampling activities, laboratory analysis, and results from the groundwater and surface water monitoring event is presented below.

Water Level Gauging

On June 15, 2020, water levels were measured at the three monitoring wells identified in **Table 1** (PTP-SB01, MW-OB19, and MW-OB23). Depth-to-water measurements and groundwater elevation data are provided in **Table 2**.

The groundwater elevation data is consistent with historical data. Previous monitoring events included collection of data from a property-wide well network and demonstrated that groundwater generally flows to the east across the PTP Area property, with localized southerly flow in the southwest corner of the property. Shallow groundwater (overburden) is perched, occurring in the thin saturated zone above the lacustrine clay, and lateral groundwater flow is influenced by the configuration and undulations of the surface of the lacustrine clay beneath the property.

Staff gauges are no longer in-place near the PTP property. Surface water depths were recorded in the approximate locations of former staff gauges SG-7 and SG-11 (**Figure 1**). The surface water depth was recorded as 0.13 feet at both locations on June 15, 2020.

Groundwater and Surface Water Sampling and Analysis

Groundwater and surface water sampling were conducted on June 15 and June 16, 2020. Well MW-OB23 and PTP-SB01 were purged and sampled using low-flow sampling methods (i.e., a peristaltic pump) on June 15, following procedures detailed in the *Groundwater and Surface Water Monitoring Plan* (GSMP).[2] Groundwater samples were collected for laboratory analysis using a peristaltic pump and pumped directly into sampling containers provided by the laboratory. Well MW-OB19 purged dry on

[1] The most conservative surface water criterion for free cyanide in surface water is 5.2 micrograms per liter (µg/L) (A[C], chronic), and is based on the protection of fish propagation (6 New York Codes, Rules, and Regulations [NYCRR] 703.5, Table 1, Water Quality Standards Surface Waters and Groundwaters). All free cyanide data for annual surface water samples collected at surface water gauging stations SG-7 and SG-11 since 2015 has been non-detect for free cyanide (reported analytical detection less than 2 µg/L), except one sample in 2019 where free cyanide was detected at 2.1 µg/L, which had a duplicate sample analysis that showed less than 2 µg/L.
[2] The current GSMP for the Site was submitted in an appendix to the *Remedy Optimization Plan* dated November 2016.

June 15 and was allowed to recharge overnight. A grab sample was collected from this well the next morning.

Purge flow rates and volumes removed are summarized in **Table 2**. Water quality parameters, including temperature, pH, conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential were monitored during purging and recorded on field log forms. Copies of the field logs are included in **Enclosure 1**. Final field parameter readings (prior to sampling) are summarized in **Table 3**.

Surface water samples were collected as grab samples using clean, laboratory-supplied bottles. Sample water quality parameters were measured in the field (same parameters as those measured for groundwater) and recorded on the field logs (**Enclosure 1**). Field parameter readings (prior to sampling) are summarized in **Table 3**.

Laboratory analysis was conducted by Eurofins TestAmerica and ALS Holland laboratories for total cyanide and free cyanide, respectively, with applicable New York State Department of Health Environmental Laboratory Approval Program certification for the analyses performed. Clean sample bottles were supplied by the laboratories with preservative. The sample preservation and analysis included:

- Total cyanide by EPA Method 9012B on unfiltered groundwater samples collected in plastic sample bottles containing sodium hydroxide preservative.
- Free cyanide by EPA Method OIA-1677 on surface water samples. Sample collection and preservation procedures included:
- Testing sample for presence of sulfide by pouring sample water into a glass vial with a lead acetate test strip. No change in test strip color indicated no excess sulfide was present, thus the sample was collected in a 40-milliliter (mL) vial with sodium hydroxide preservative and subject to a 14-day hold time.

Upon collection, samples were placed in coolers with ice and transported to the laboratories under chain-of-custody documentation. A list of the laboratory analytical methods and sample containers is included in **Table 4**. The analytical results for the surface water samples are summarized in **Table 5**, and the analytical results for the groundwater samples are summarized in **Table 6**. The laboratory analytical reports (in Level 2 deliverable formats) are included in **Enclosure 2**.

Quality Control Sampling and Analysis

Quality control (QC) samples collected during the monitoring event included the following:

- One duplicate groundwater sample (from PTP-SB01)
- One duplicate surface water sample (from SG-11)
- Two matrix spike/matrix spike duplicate (MS/MSD) samples, one for groundwater (from PTP-SB01) and one for surface water (from SG-11)
- Two equipment blanks (one for groundwater and one for surface water)

QC samples were collected using the same methods employed to collect original samples. Analytical results for the duplicate and equipment blank samples are included in **Table 5** and **Table 6**. Results for field duplicate samples showed acceptable levels of precision and accuracy, and the blank samples had

no detections of cyanide or free cyanide. Results for all QC samples, including MS/MSD and other laboratory method QC samples, are provided in the laboratory reports in **Enclosure 2**.

Data Quality Review

Data review and validation were performed by EHS Support in accordance with DER-10 guidelines.[3] The laboratory data was evaluated according to the quality assurance (QA) and QC requirements of the NYSDEC Analytical Services Protocols. Based on the results of the QA/QC review, all analytical data were deemed usable and technically defensible. Copies of the Tier II Validation Reports are included in **Enclosure 3**.

Sample Results

The surface water and groundwater analytical results for samples collected in June 2020 are included in **Table 5** and **Table 6,** respectively.

Consistent with recent annual events, the free cyanide concentrations in the surface water samples were below the laboratory analytical detection limit of 2 micrograms per liter (µg/L). Free cyanide has been near or below the laboratory analytical detection limit of 2 µg/L in all annual surface water samples collected since 2015 when free cyanide analysis of these samples began (**Table 5**).

The groundwater sample results were similar to recent annual sampling events, with the highest concentration of total cyanide measured at the central area at well MW-OB23 (1,000 µg/L) and lower concentrations at wells MW-OB19 and PTP-SB01 (300 µg/L and 310 µg/L, respectively) (**Table 6**).

Previous groundwater sampling events demonstrated that cyanide concentrations detected in groundwater at the PTP Area property boundary and downgradient of the property have been below the GA standard of 200 µg/L for at least a decade (**Table 7**). These wells include:

- MW-OB18 since 2002 (eastern property line)
- MW-OB21 since 2010 (off-Property, south of Glens Falls Feeder Canal)
- MW-OB22 since 2006 (off-Property, south of Glens Falls Feeder Canal)

On the Property, concentrations of cyanide in groundwater declined following cessation of the historical operations and have been stable to declining for more than a decade (**Figures 2A & 2B**). Mann-Kendall calculations were performed for the central area well MW-OB23. The calculations confirm a declining trend in cyanide concentrations over the past 20 years (**Table 8**).

It is noted that comparison of groundwater data to the GA standard is for reference, per DER-10 Guidelines. The GA standard was established for the protection of fresh groundwater use as a drinking water source. However, groundwater on-site is not in use, and the use of groundwater for any purpose is precluded (pursuant to the Deed Notice filed with Warren County).

[3] DER-10/Technical Guidance for Site Investigation and Remediation. New York State Department of Environmental Conservation. May 3, 2010.

Conclusions

The results of the groundwater samples collected during the annual sampling event conducted in June 2020 demonstrate that cyanide concentrations in groundwater at the PTP Area continue to be on a declining trend; this trend is supported by the Mann-Kendall statistical analysis for MW-OB23 (**Table 8**). Furthermore, free cyanide concentrations in surface water are below surface water standards; and a Deed Notice is in place precluding the use of groundwater on the Site. On this basis, the residual cyanide in groundwater at the PTP Area does not present a risk to human health or the environment.

A revised plan for future groundwater and surface water sampling at the former Ciba-Geigy Facility Site, including the Main Plant Site and the PTP Area, is currently in preparation as part of the Site Management Plan and will be submitted to the NYSDEC for review and approval prior to the performance of additional sampling.

Certification

I, Cassie R. Reuter, P.E., certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this *Groundwater and Surface Water Monitoring Report* was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the *DER Technical Guidance for Site Investigation and Remediation* (DER-10).

If you have questions or comments regarding this report, please contact Cassie Reuter at 608-558-6795 for discussion.

Sincerely,

Cassie R. Johnson Reuter
EHS Support LLC
Wisconsin Professional Engineer No. E-39526

List of Tables:

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Jeff Caputi, Brown and Caldwell
Jim Breza, EHS Support LLC

Tables

Table 1
Sampling Event Analysis Schedule
Pretreatment Plant Area - Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

Sampling Location	Total Cyanide	Free Cyanide
Groundwater		
PTP-SB01	1	
MW-OB19	1	
MW-OB23	1	
Surface Water		
SG-7		1
SG-11		1

Table 2
Gauging and Purge Data Summary
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

Well Name	Well Diam. (in)	Screen Interval (ft bgs)	6/15/20 Total Well Depth (ft btoc)	6/15/20 DTW (ft btoc)	TOC Elev (ft amsl)	6/15/20 GW Elevation (ft amsl)	6/15/20 Water Column (ft)	Pump Intake Depth (ft btoc)	Pump Rate (mL/min)	Pre-Purge WL (ft btoc)	Post Purge WL (ft btoc)	Post Purge draw down (ft)	Purged Vol (gal)	Pump Type
OVERBURDEN MONITORING WELLS														
PTP-SB01	1	5 - 15	16.93	10.13	ns	ns	6.80	16.00	100	10.13	15.71	5.58	4.5	P
MW-OB19*	2	5 - 10	9.64	8.48	287.82	279.34	1.16	9.06	100	8.5	dry	1.16	1.5	P
MW-OB23	2	3 - 6.5	8.45	6.33	287.05	280.72	2.12	7.39	100	6.3	7.75	1.45	3.75	P
SURFACE WATER LOCATIONS														
SG-7		n/a		0.13	n/a	n/a		grab						
SG-11		n/a		0.13	n/a	n/a		grab						

Notes:
* Well purged dry; grab sample collected next day after sufficient water recharge

Diam. - diameter
DTW - depth to water
Elev - elevation
ft amsl - feet above mean sea level
ft bgs - feet below ground surface
ft btoc - feet below top of casing
gal - gallons
GW - groundwater
in - inches
min - minute
mL - milliliters
n/a - not applicable
ns - not surveyed
P - peristaltic pump
TOC - top of casing
vol - volume
WL - water level

Table 3
Field Parameter Results
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

Location	Date	Temp (degC)	pH (s.u.)	Conductivity (mS/cm)	DO (mg/l)	Turbidity (NTU)	ORP (mV)
PTP-SB01	05/21/19	11.48	6.92	0.398	5.51	4.9	288
PTP-SB01	06/15/20	11.8	7.04	0.613	4.61	6.7	368.2
MW-OB19*	06/12/18	15.48	9.37	0.349	5.71	0.3	269
MW-OB19*	06/18/19	20.45	7.31	0.294	2.82	4.1	225
MW-OB19*	06/15/20	16.83	6.69	0.457	4.75	2.3	73.7
MW-OB23	06/13/18	15.15	6.23	0.674	0.68	0.6	23
MW-OB23	06/17/19	17.5	6.67	0.597	2.22	0.0	-78
MW-OB23	06/15/20	14.4	6.84	0.647	3.40	3.3	-7.7
SG-7	06/11/18	22.77	8.82	0.136	7.62	0.3	95
SG-7	06/24/19	22.22	7.28	1.390	6.01	1.8	150
SG-7	06/15/20	22.82	7.67	2.13	8.63	202.9	213.7
SG-11	06/11/18	22.9	9.05	0.100	8.57	0.2	100
SG-11	06/24/19	26.07	6.36	0.327	5.93	0.5	177
SG-11	06/15/20	26.9	7.87	1.999	7.14	302.1	235.8

Notes:
* Well purged dry; grab sample collected next day after sufficient water recharge
DO (mg/l) - dissolved oxygen (milligrams per liter)
mS/cm -milliseimens per centimeter
NTU - nephelometric turbidity units
ORP (mV) - oxidation reduction potential (millivolts)
s.u. - standard units
Temp (degC) - Temperature (degrees Celsius)

Table 4
Laboratory Analytical Methods
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

Analyte	Method Number	Media	Anticipated Reporting Limit (µg/L)	Sample Container Type	Container Volume (each in ml)	No. Containers per sample	Preservation	Holding Time
Test America								
Total Cyanide	SW846 9012B	Water	10	Plastic bottle	250	1	NaOH to pH>12, Cool, < 6 deg. C.	14 Days
ALS Holland								
Free Cyanide	OIA-1677	Water	2	Glass VOA vial	40	1	lead-acetate strip field test for sulfide: 40 mL VOA with NaOH or if sulfide detected 40 mL VOA no preservative	14 Days or 24 hrs

Notes:
µg/L - micrograms per liter
deg C = degrees Celsius
ml = milliliter
NaOH = sodium hydroxide
VOA = volatile organic analysis

Table 5
Surface Water Sample Results - 2015 to 2020
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

Chemical Name		Cyanide (Free)
Unit		µg/L
NYSDEC Surface Water Quality Standard A(C)		5.2
Location ID	Sample Date	
SG-7	7/29/2015	2 UJ
SG-7	6/20/2017	2 U
SG-7	6/11/2018	2 U
SG-7	6/24/2019	2 U
SG-7	6/15/2020	2 U
SG-11	7/29/2015	2 UJ
SG-11 DUP	7/29/2015	2 UJ
SG-11	7/25/2016	2 UJ
SG-11 DUP	7/25/2016	2 U
SG-11	6/20/2017	2 U
SG-11 DUP	6/20/2017	2 U
SG-11 DUP	6/11/2018	2 U
SG-11	6/11/2018	2 U
SG-11 DUP	6/24/2019	2 U
SG-11	6/24/2019	2.1
SG-11 DUP	6/15/2020	2 U
SG-11	6/15/2020	2 U
EB_20160725	7/25/2016	2 U
EB_20170619	6/19/2017	2 U
EB_20180611	6/11/2018	2 U
EB_20190624	6/24/2019	2 U
EB01_20200615	6/15/2020	2 U

Notes:
1) 6 NYCCR 703.5, Table 1 Water Quality Standards Surface Waters and Groundwaters.
A(C) = Fish Propagation (chronic).
2) In June 2016, the location of SG-7 was dry; therefore, a surface water sample was not collected for analys
3) In 2015, no equipment blank was collected at the PTP Area for free cyanide analysis.
µg/L - micrograms per liter
NYDSEC - New York State Department of Environmental Conservation
U - indicates not detected above laboratory reporting limits
J - indicates result is estimated
DUP - duplicate

Table 6
Groundwater Sample Results - 2018 to 2020
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

Chemical Name		Cyanide
Unit		µg/L
NYSDEC Class GA Groundwater Quality Standards		200
Location ID	**Sample Date**	
MW-OB17	6/11/2018	87 J
MW-OB17	6/17/2019	10 UJ
MW-OB18	6/12/2018	110 J
MW-OB18	6/17/2019	100 J
MW-OB19	6/12/2018	180 J
MW-OB19	6/18/2019	57 UJ
MW-OB19	6/16/2020	**300**
MW-OB20	6/17/2019	28 J
MW-OB21 DUP	6/11/2018	110 J
MW-OB21	6/11/2018	140 J
MW-OB21 DUP	6/17/2019	98 J
MW-OB21	6/17/2019	62 J
MW-OB23	6/13/2018	**2000**
MW-OB23	6/17/2019	**670 J**
MW-OB23	6/15/2020	**1000**
PTP-SB01 DUP	5/21/2019	**330**
PTP-SB01	5/21/2019	**420**
PTP-SB01 DUP	6/15/2020	**300**
PTP-SB01	6/15/2020	**310**
EB_20180611	6/11/2018	10 UJ
EB_20190617	6/17/2019	10 U
EB_20190624	6/24/2019	3.4 J
EB02_20200615	6/15/2020	10 U

Notes:
1) 6 NYCCR 703.5, Table 1 Water Quality Standards Surface Waters and Groundwaters
GA = protective of fresh groundwaters for drinking water source.
* Well purged dry; samples collected next day after sufficient water recharge
Bold value indicates concentration above water quality standard
µg/L - micrograms per liter
NYDSEC - New York State Department of Environmental Conservation
U - indicates not detected above laboratory reporting limits
J - indicates result is estimated
DUP - duplicate

Table 7
Historical Groundwater Sample Results - 1993 to 2017
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

SAMPLE	GROUNDWATER - TOTAL CYANIDE CONCENTRATIONS (mg/L)							
DATE	MW-OB17	MW-OB18	MW-OB19	MW-OB20	MW-OB21	MW-OB22	MW-OB23	P-1
Jun-93	0.083	0.237	2	-	-	-	-	-
Sep-93	0.928	0.387	1.08	-	-	-	-	-
Sep-96	0.67	0.33	-	-	-	-	-	0.66
Mar-97	0.12	0.34	-	0.062	0.49	0.46	3.1	0.35
Sep-97	0.49	ND	-	0.06	0.48	0.088	2.4	0.51
Mar-98	0.12	0.35	-	0.049	0.51	0.046	1.6	0.26
Sep-98	0.52	0.39	-	0.058	0.72	0.14	1.9	0.54
Mar-99	0.12	0.28	-	0.027	0.57	0.061	2	0.24
Sep-99	0.419	0.3	-	0.145	0.87	0.12	5	0.36
Mar-00	0.1	0.29	-	0.019	0.69	0.07	7.2	0.3
Sep-00	0.28	0.19	-	0.098	0.47	0.12	2.5	0.2
Apr-01	0.19	0.24	-	0.021	0.42	0.19	1	0.28
Aug-02	0.14	0.18	0.9	0.1	0.54	0.3	4.5	0.22
May-04	0.11	0.14	0.63	0.046	0.36	0.077	2.2	0.14
Jan-05	0.15	0.14	0.47	0.094	0.48	0.046	1.5	0.11
Jul-05	0.34	0.15	0.69	0.073	0.41	0.34	2.9	0.14
Jan-06	0.16	0.18	0.096	0.062	0.33		1.1	0.096
Jul-06	0.084	0.086	0.38	0.33	0.36	0.084	0.04	0.12
Dec-06	0.16	0.16	0.089	-	0.36	0.036	1.6	0.077
Sep-07	0.34	0.2	-	0.056	0.29	0.04	2.1	0.18
Sep-08	0.63	-	0.28	0.04	0.28	0.01	4	0.14
Dec-08	0.14	-	0.17	0.05	0.3	ND		0.06
Dec-09	0.09	-	0.17	0.05	0.26	0.03	0.98	0.06
Jun-10	0.066	-	0.25	0.03	0.21	0.017	1.7	0.089
Dec-10	0.21	-	0.041	-	0.19	0.024	2.3	0.073
Dec-11	0.075	0.054	0.054	0.16	0.18	0.019	0.91	0.036
Dec-12	0.2	0.059	0.059	0.17	0.076	0.021	1.9	0.11
Dec-13	0.19	0.083	0.18	-	0.14	0.017	1.1	0.078
Dec-14	0.2	0.035	0.096	0.087	0.100	0.016	0.69	0.051
Jul-15	0.182	0.102	0.182	DRY	0.119	-	1.8	-
Jul-16	0.370	0.057	0.140	-	0.097	-	2.5	-
Jun-17	0.070 J	0.093	0.250 J	0.051 J	0.110 J	-	1.4 J	-

Notes:
1) Available data obtained from historical monitoring reports; majority of samples analyzed were not field-filtered.
2) Prior to July 2015, samples were collected using 3-volume purge and sample methods.
3) Low flow sampling methods were employed beginning July 2015.
mg/L - milligrams per liter
ND - indicates not detected above laboratory reporting limits
J - indicates result is estimated
"-" - not sampled

Table 8 - Mann-Kendall Calculations – Well MW-OB23
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	10-Aug-20	Job ID:	C16262_2020-400
Facility Name:	Glens Falls - Pretreatment Plant Area	Constituent:	Total Cyanide
Conducted By:	Leah Krause	Concentration Units:	mg/L

Sampling Point ID: MW-OB23

Sampling Event	Sampling Date	TOTAL CYANIDE CONCENTRATION (mg/L)
1	21-Mar-97	3.1
2	26-Sep-97	2.4
3	25-Mar-98	1.6
4	17-Sep-98	1.9
5	18-Mar-99	2
6	24-Sep-99	5
7	16-Mar-00	7.2
8	21-Sep-00	2.5
9	3-Apr-01	1
10	2-Aug-02	4.5
11	17-May-04	2.2
12	14-Jan-05	1.5
13	5-Jul-05	2.9
14	23-Jan-06	1.1
15	14-Dec-06	1.6
16	20-Sep-07	2.1
17	17-Sep-08	4
18	4-Dec-09	0.98
19	2-Jun-10	1.7
20	7-Dec-10	2.3
21	21-Dec-11	0.91
22	18-Dec-12	1.9
23	16-Dec-13	1.1
24	17-Dec-14	0.69
25	23-Jul-15	1.8
26	1-Jul-16	2.5
27	20-Jun-17	1.4
28	13-Jun-18	2
29	17-Jun-19	0.67
30	15-Jun-20	1
31		
32		
33		
34		
35		
Coefficient of Variation:		0.68
Mann-Kendall Statistic (S):		-110
Confidence Factor:		98.5%
Concentration Trend:		Decreasing

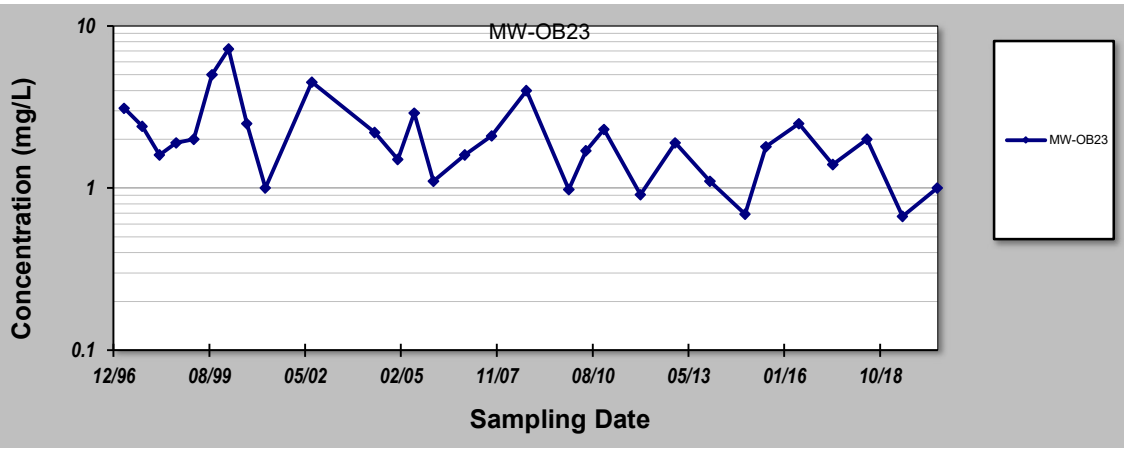

Table 8 - Mann-Kendall Calculations – Well MW-OB23
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY

Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Figures

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PRETREATMENT PLANT SWMU

P-1

MW-OB23

P-6

P-3

MW-OB18

P-10

SG-7

IG-1

MW-OB17

P-8

P-7

FORMER TANK

MW-OB19

PTP-SB01

SG-11

MW-OB22

BRUSH

P-14

MW-OB21

IG-2

P-11

P-12

SG-2

GLENS FALLS FEEDER CANAL

FLOW

IG-3R

MW-OB20

IG-4

RIVER STREET

BRUSH

B R U S H

FEEDER CANAL

BRUSH

Edge Of Woods

Legend

- Temporary Well Location
- Monitoring Well/Piezometer
- Staff Gauge
- Sampling and Gauging Location
- Pretreatment Plant Area Boundary
- Fence

Note:
SWMU = solid waste management unit

N

50 25 0 50

Scale In Feet

EHS Support

FORMER CIBA-GEIGY FACILITY
GLENS FALLS, NY

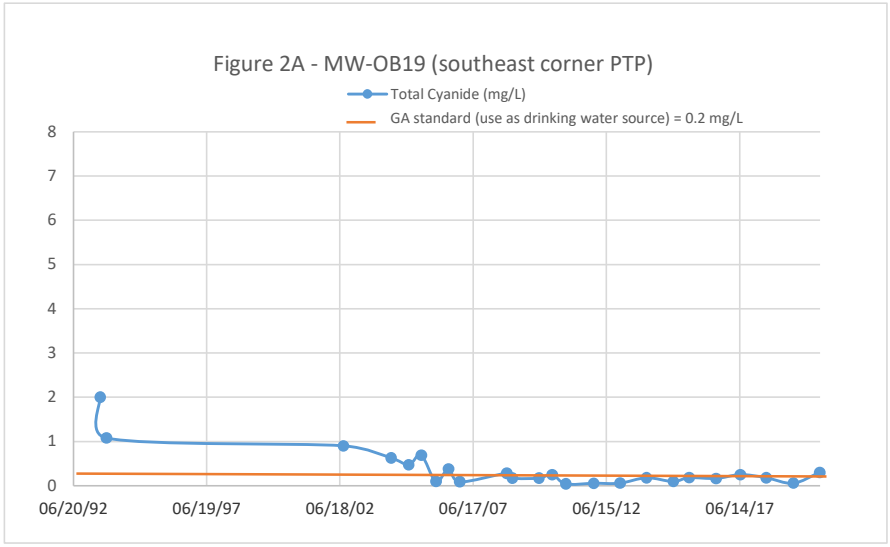
PRETREATMENT PLANT AREA SAMPLING

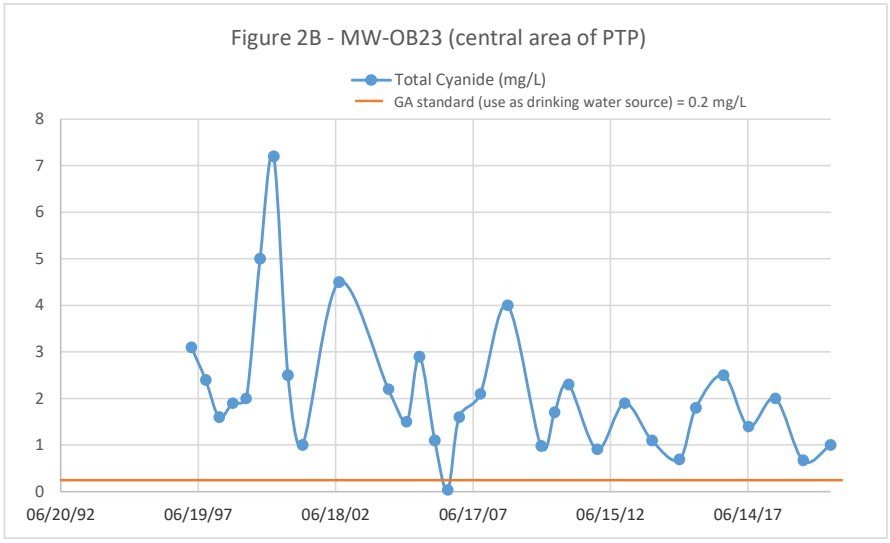
FIGURE 1

J:\EHSS_GIS\C16262_GlensFallsHudsonRiver\01_ANALYSIS\20150526_PTPBase.mxd

Printed 8/10/2020 4:07:12 PM by Alex.Smith

Figures 2A - 2B
Cyanide Concentrations in Groundwater versus Time
Pretreatment Plant Area Groundwater and Surface Water Sampling - June 2020
Former Ciba-Geigy Facility, Glens Falls, NY





Note: Values indicated on each graph represent historical maximum detections.

Enclosure 1 Purge and Sample Logs

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 224371

ALS Project Manager:		ALS Work Order #:	

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Glens Falls, NY	A	Cyanide, Free (OIA-1677)
Work Order		Project Number		B	
Company Name	EHS Support LLC	Bill To Company	EHS Support LLC	C	
Send Report To	Cassie Reuter	Invoice Attn	Accounts Payable	D	
Address	316 Grandview Ave	Address	316 Grandview Ave	E	
				F	
City/State/Zip	Argyle, WI 53504	City/State/Zip	Argyle, WI 53504	G	
Phone	(608) 861-0626	Phone	(608) 861-0626	H	
Fax		Fax		I	
e-Mail Address	cassie.reuter@ehssupport.com	e-Mail Address	accountspayable@ehssupport.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SG-7_20200615	6/15/2020	1730	Water	NaOH	1	X										
2	SG-11_20200615	6/15/2020	1720	Water	NaOH	2	X										
3	DUP02_20200615	6/15/2020	—	Water	NaOH	1	X										
4	EBDL_20200615	6/15/2020	1200	Water	NaOH	1	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign	Shipment Method	Required Turnaround Time: (Check Box)	Results Due Date:
Katelyn Fraker	FedEx	☒ Std 10 WK Days ☐ 5 WK Days ☐ Other 2 WK Days ☐ 24 Hour	STD

Relinquished by:	Date:	Time:	Received by:	Notes:
	6/17/2020	1215	FedEx	SED 20200615 MS/MSD
Relinquished by:	Date:	Time:	Received by (Laboratory):	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Katelyn Fobia	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No: 680-115613-44213.2
Client Contact: Mr. Jim Vondracek	Phone: (386) 984 6782	E-Mail: eddie.barnett@testamericainc.com		Page: Page 2 of 6 ~~2 of 6~~ 1/2
Company: Ashland LLC		Analysis Requested		Job #:
Address: 5200 Blazer Parkway DS-4	Due Date Requested:			Preservation Codes:
City: Dublin	TAT Requested (days): STD			A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify) Other:
State, Zip: OH, 43017				
Phone: 614-790-6146(Tel)	PO #: PO814392			
Email: jevondracek@ashland.com	WO #: Task 400			
Project Name: Hercules Glens Falls O&M 2020	Project #: 68000956			
Site: Glens Falls	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9012B - Cyanide, Total	6020A - Dissolved Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:				B	D		
PTP-SB01-20200615	6/15/20	1510	G	Water	N	Y	X		2	MS/MSD
MW-OB23-20200615	6/15/20	1600	G	Water	N	N	X		1	
MW-OB19-20200616	6/16/20	0930	G	Water	N	N	X		1	
MW-OB14-20200616	6/16/20	1325	G	Water	Y	N	X	X	2	
AW-C11-20200616	6/16/20	1522	G	Water	Y	Y	X	X	4	MS/MSD
AW-B4-20200616	6/16/20	1600	G	Water	Y	N	X	X	2	
MW-OB26-20200617	6/17/20	0950	G	Water	Y	N	X	X	2	
Sump-B-20200617	6/17/20	1031	G	Water	Y	N	X	X	2	
AW-A14-20200617	6/17/20	1058	G	Water	Y	N	X	X	2	
MW-OB25-20200617	6/17/20	1105	G	Water	Y	N	X	X	2	
EB02-20200615	6/15/20	1203	G	Water	N	N	X		1	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		6/17/2020 1652	Haley Group		6-17-20 1652	ETK
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Katelyn Fortin	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No: 680-115613-44213.1
Client Contact: Mr. Jim Vondracek	Phone: (386) 984 6782	E-Mail: eddie.barnett@testamericainc.com		Page: Page ~~1 of 6~~ 2/2
Company: Ashland LLC				Job #:
Address: 5200 Blazer Parkway DS-4	Due Date Requested:			
City: Dublin	TAT Requested (days): STD			
State, Zip: OH, 43017	PO #: PO814392			
Phone: 614-790-6146(Tel)	WO #: Task 400			
Email: jevondracek@ashland.com	Project #: 68000956			
Project Name: Hercules Glens Falls O&M 2020	SSOW#:			
Site: Glens Falls				

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9012B - Cyanide, Total	6020A - Dissolved Metals		Total Number of containers	Special Instructions/Note:
			Preservation Code:				B	D			
DUP01_20200615	6/15/20	—	G	Water	N	N	X			3	8 1 (10)
EB03_20200616	6/16/20	1120	G	Water	Y	N	X	X		3	2
EW-BS_20200617	6/17/20	1215	G	Water	Y	N	X	X		3	2
DUP03_20200617	6/17/20	—	G	Water	Y	N	X	X		3	2
EB04_20200617	6/17/20	1330	G	Water	Y	N	X	X		3	2
Sump A_~~20200617~~	6/17/20	1423	G	Water	Y	N	X	X			
				Water							
				Water							
				Water							
				Water							
				Water							

6-17-2020

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 6/17/2020 1652	Company: Antea Group	Received by:	Date/Time: 6-17-2020 1652	Company: FTA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Chain of Custody Record

eurofins | Environment Testing TestAmerica

TAL-8210

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Jim Vondracek	Site Contact:	Date: 6/17/2020	COC No:
Company Name: Ashland LLC	Tel/Email: jvondracek@ashland.com	Lab Contact: Bobbie Barnett	Carrier:	1 of 2 COCs
Address: 5200 Blazer Parkway DS-4	Analysis Turnaround Time			Sampler: Katelyn Foster
City/State/Zip: Dublin OH 43017	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: (614) 790 6416	TAT if different from Below _____			Walk-in Client:
Fax: —	☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day STD			Lab Sampling:
Project Name: Hercules Glens Falls Dim 2020				Job / SDG No.:
Site: Glens Falls, NY				
PO # PO814392				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	218.6 Hexavalent Chromium	Sample Specific Notes:
~~FRP-SB01-20200615~~	~~6/15/20~~	~~1510~~	G	GW					
MW-DB14-20200616	6/16/20	1325	G	W	1	Y	N	X	
AW-C11-20200616	6/16/20	1522	G	W	2	Y	Y	X	MS/MSD
AW-B4-20200616	6/16/20	1600	G	W	1	Y	N	X	
MW-DB26-20200617	6/17/20	0950	G	W	1	Y	N	X	
Sump-B-20200617	6/17/20	1031	G	W	1	Y	N	X	
AW-A14-20200617	6/17/20	1058	G	W	1	Y	N	X	
MW-DB25-20200617	6/17/20	1105	G	W	1	Y	N	X	
EB03-20200616	6/16/20	1120	G	W	1	Y	N	X	
EW-B5-20200617	6/17/20	1215	G	W	1	Y	N	X	
DUP03-20200617	6/17/20	—	G	W	1	Y	N	X	
EB04-20200617	6/17/20	1330	G	W	1	Y	N	X	

Preservation Used: 1= Ice, 2= HCl, 3= H_2SO_4, 4= HNO_3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____		Therm ID No.: _____
Relinquished by:	Company: Antea Group	Date/Time: 6/17/20 1652	Received by:	Company: EUROFINS TA	Date/Time: 6-17-2020 1652
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Katelyn Forbes	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No: 680-115613-44213.4
Client Contact: Mr. Jim Vondracek	Phone: (386) 984 6782	E-Mail: eddie.barnett@testamericainc.com		Page: Page ~~4 of 6~~ 2/2
Company: Ashland LLC				Job #:
Address: 5200 Blazer Parkway DS-4	Due Date Requested:			
City: Dublin	TAT Requested (days): STD			
State, Zip: OH, 43017				
Phone: 614-790-6146(Tel)	PO #: PO814392			
Email: jevondracek@ashland.com	WO #: Task 400			
Project Name: Hercules Glens Falls O&M 2020	Project #: 68000956			
Site: Glens Falls	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other: Ammonium Sulfate/ ammonium hydroxide

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9012B - Cyanide, Total	6020A - Dissolved Metals	218.6 Hexavalent Chromium	Total Number of containers	Special Instructions/Note:
			Preservation Code:				B	D	N		
Sump A-20200617	6/17/20	1423	G	Water	Y	N			X	1	
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

TDF

6-17-2020

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 6/17/2020 1652	Company: Antea Group	Received by:	Date/Time: 6-17-20 1652	Company: ETA
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Phone: 912-354-7858 Fax: 912-352-0165

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Katelyn Foster	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No: 680-115615-43650.1
Client Contact: Cody Hume	Phone: (386) 984 6782	E-Mail: eddie.barnett@testamericainc.com		Page: Page 1 of 1
Company: Antea USA Inc.				Job #:
Address: ~~5788 Wide Water Parkway 2nd Floor ANTEA~~ 500 Summit Lake Dr.	Due Date Requested:			
City: ~~Syracuse~~ Valhalla	TAT Requested (days): STD			
State, Zip: NY, ~~13214~~ 10595				
Phone: ~~614 700 6140(Tel)~~ (914) 495-9935	PO #: PO814392			
Email: Cody.Hume@anteagroup.com	WO #: Task 400			
Project Name: Glens Falls POTW Quarterly	Project #: 68000956			
Site:	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8_CWA, 245.1	420.1 - Phenolics, Total Recoverable	335.4 - Cyanide, Total	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	D	S	B	X	
POTW	6/17/20	1215	G	Water	N	N	X	X	X	3	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

6-17-2020

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	6/17/2020 1652	Antea Group		6-17-2020 1652	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Water Level Measurements
Ashland - Glens Falls, NY

Date 6/15/2020 Quarter/Year: 2Q2020
Personnel: Haley B., Cody M., Katelyn F.

Well Name	Install Depth (ft bgs)	Well Screen Length	Time	DTW (ft btoc)	Total Depth (ft btoc)	Comments
MAIN PLANT SITE						
AW-A14	34.5	10	1549	17.01	32.69	
AW-B4	47.5	10	1547	30.17	45.75	
AW-C11	158.0	10	1543	43.03	54.74	
MW-OB14	18.0	10	1600 1702	11.02	19.16	
MW-OB25	10.0	5	1545	9.01	11.37	
MW-OB26	14.0	5	1517	11.06	17.71	
REMEDIATION SYSTEM			1607	28.94		
Sump A	~31.5	N/A	1450	~~22.72~~	31.68	
Sump B	~29.2	N/A	1450	22.72	28.83	
EW-B5	51.8	15.8	1513	44.57	53.75	
PRE-TREATMENT PLANT						
MW-OB19	10.0	5.0	0911	8.48	9.64	
MW-OB23	6.5	4.0	0958	6.33	8.45	
Canal (SG-2)	NA	NA	0930	6.45	6.58	Gauged in place of SG-7 and SG-11
PTP-SB01			0907	10.13	16.93	

SG-7 and SG-11 Canal gauge no longer in place. Feeder Canal depth to water and total depth to be measured from canal wall by trail near former location of SG-2.

Ashland - Glens Falls, NY

QA/QC Tracking Sheet

Sample Team Members: Haley B., Cody M., Katelyn F.

Date	Time	Sample ID	Sample Type	Comments (i.e. Pump ID, or Parent Sample)
6/15/2020	1200	EBD1_20200615	EB	~~Peri pump 4052~~, after cyanide before SG-11, bailer
6/15/2020	1203	EBD2_20200615	EB	Perm pump 4057, total cyanide before MW-DB19
6/15/2020	1510	PTP-SBD1-20200615	MS/MSD	Perm pump 4D168, PTP-SBD1
6/15/2020	~~1510~~	DUPD1_20200615	DUP	Perm pump 4D168, PTP-SBD1
6/15/2020	1720	SG-11-20200615	MS/MSD	Bailer (grab), SG-11
6/15/2020	~~1720~~	DUPD2_20200615	DUP	Bailer (grab), SG-11
6/16/2020	1120	EBD3_20200616	EB	Bladder #14311, before MW-DB14
6/16/2020	1522	AW-C11_20200616	MS/MSD	Bladder pump #14312, AW-C11
6/17/2020	—	DUPD3_20200617	DUP	Bailer (grab), @ EW-BS 1215
6/17/2020	1330	EBD4_20200617	EB	Bladder #14310, after AW-A14

Sample Types:

EB - Equipment blank Record wells sampled directly before and after blank collection and equipment blank collected from

DUP - Duplicate sample. Record sample location where duplicate collected

MS/MSD - Matrix spike, Record sample location where collected

Other - record details of sample and where and why collected

609 712 6039
John

Ashland - Glens Falls, NY
Daily Calibrations

Date: 6/15/20 Quarter/Year: 2Q 20

Personnel: Haley Brown + Codey Murphy

Parameter	Horiba Calibration Standards
pH	4.0
Conductivity	4.51 ms/cm
Turbidity	0 ntu
Diss. Oxygen	Varies per Temp., mg/L

Calibrations are to be conducted daily. Unsuccessful calibrations will be followed with second and third attempts. If calibrations remain unsuccessful, equipment will be removed from service, and spare equipment used in it's place. Calibration considered successful if within 2% of Calibration standards (NTU must be under 5 for turbidity).

Time	1130	Staff: Cody Murphy
Model:	YSI 6920	Successful?
Meter Serial #:	27942	
pH	4.17/4.00 10.11/10.00	Y
Conductivitiy	1.236/1.413	Y
Turbiduty	-0.9/0.0 120.2/126	Y
DO	99.9% / 100%	Y
Temperature	21.85	N/A

Time	1130	Staff: Haley Brown
Model:	YSI 6920	Successful?
Meter Serial #:	97398	
pH	3.72/4.00 10.63/10.00	Y
Conductivitiy	1.232/1.413	Y
Turbiduty	-0.5/0.0 127.3/126	Y
DO	96.9%/100%	Y
Temperature	21.75	N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Ashland - Glens Falls, NY
Daily Calibrations

Date: 6/16/20 Quarter/Year: 2Q 2020

Personnel: Holly Brown + Cody Murphy

Parameter	Horiba Calibration Standards
pH	4.0
Conductivity	4.51 ms/cm
Turbidity	0 ntu
Diss. Oxygen	Varies per Temp., mg/L

Calibrations are to be conducted daily. Unsuccessful calibrations will be followed with second and third attempts. If calibrations remain unsuccessful, equipment will be removed from service, and spare equipment used in it's place. Calibration considered successful if within 2% of Calibration standards (NTU must be under 5 for turbidity).

Time	0830	Staff: Cody M.
Model:	YSI 6920	Successful?
Meter Serial #:	27942	
pH	3.91/4.00 10.05/10.00	Y
Conductivitiy	1.446/ 1.413	Y
Turbiduty	-1.6/0.0 125.9/126	Y
DO %	98.6/101.4%	Y
Temperature	17.81	N/A
ORP	248.7/240.0	

Time	0830	Staff: Holly B.
Model:	YSI 6920	Successful?
Meter Serial #:	4734	
pH	4.03/4.00	Y
Conductivitiy	1.453/1.413	Y
Turbiduty	0.9/0.0 120.6/126	Y
DO %	112.3/100%	Y
Temperature	17.81	N/A
ORP	245.5/240	

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Ashland - Glens Falls, NY
Daily Calibrations

Date: 6/17/20 Quarter/Year: 2Q2020

Personnel: Haley Brown + Cody Murphy

Parameter	Horiba Calibration Standards
pH	4.0
Conductivity	4.51 ms/cm
Turbidity	0 ntu
Diss. Oxygen	Varies per Temp., mg/L

Calibrations are to be conducted daily. Unsuccessful calibrations will be followed with second and third attempts. If calibrations remain unsuccessful, equipment will be removed from service, and spare equipment used in it's place. Calibration considered successful if within 2% of Calibration standards (NTU must be under 5 for turbidity).

Time	830	Staff: Haley Brown
Model:	YSI 6920	Successful?
Meter Serial #:	4734	
pH	4.06/4.00 9.97/10.00	Y
Conductivitiy	1.392/1.413	Y
Turbiduty	-0.1/0.0 127/126	Y
DO	103%/100%	Y
Temperature	19.89	N/A
ORP	234.7/240	Y

Time	830	Staff: Cody Murphy
Model:	YSI 6920	Successful?
Meter Serial #:	27942	
pH	4.06/4.00 9.99/10.00	Y
Conductivitiy	1.328/1.413	Y
Turbiduty	5.4/0.0 152/126	Y
DO	101 / 100	Y
Temperature	19.90	N/A
ORP	234.8/240	Y

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

Time		Staff:
Model:		Successful?
Meter Serial #:		
pH		
Conductivitiy		
Turbiduty		
DO		
Temperature		N/A

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel:	Holly B.	Well ID:	MW-0819		
Date:	6/15/20	Original Install Depth:	10.0	feet	
Weather:	Sunny 80s	Screen Length:		feet	
Time In:	1230 Time Out: 1330	Well Diameter:	2	inches	

		6/15
Depth to Water (from TOC):	(feet)	8.48
Depth to Water(From TOC) With Pump in place:	(feet)	8.50
Total Depth (from TOC):	(feet)	9.64
Length of Water Column :	(feet)	1.16

WELL INFORMATION

Well Type:	Flushmount ☐		Stick-Up ☒		
Well Locked:	Yes ☒		No ☐		
Measuring Point Marked:	Yes ☒		No ☐		
Well Condition:	Good ☒		Poor ☐		
Well Condition Comments:					

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	= 0.189
Pumping Rate of Pump:	(mL/min)	100
Total Volume Removed:	(mL or gal)	1.0 gal

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION 1/8" x 1/4"

Pump ID:	4052	Pump Size:	Geopump	Depth of Pump Intake:	9.06
Evacuation Method:	Bailer ☐	Peristaltic ☒	Bladder ☐	Other ☐	
Tubing Used:	Teflon ☐	Polyethylene ☒	N/A ☐		
Water Quality Meter (type/Serial Number):	YSI 6920 #47397				
Sampling Method:	Bailer ☐	Peristaltic ☒	Bladder ☐	Other ☐	
Did well go dry?	Yes ☒	No ☐			
Final Depth to Water (prior to turning off pump):	09.45				
Barometric Pressure (At time of sampling) in mm/Hg:	706.879				

FIELD PARAMETER READINGS:

Time	1240	1244	1244	1246	1248	1250	1255	1300	1305	1310	1315			
Rate (ml/min)	100	100	100	100	100	100	100	100	100	100	100			
Depth to Water (ft. TOC)	8.75	8.84	8.90	8.93	8.96	9.00	9.10	9.21	9.31	9.35	9.43			
Temperature (°C)	20.52	19.52	18.18	18.06	17.41	17.64	16.84	16.34	16.16	16.06	17.24			
pH	6.68	6.36	6.39	6.39	6.42	6.42	6.48	6.52	6.60	6.62	6.76			
Conductivity (mS/cm)	0.475	0.482	0.480	0.478	0.475	0.472	0.467	0.466	0.465	0.466	0.465			
Dissolved Oxygen (mg/L)	4.68	3.35	2.88	2.74	2.31	2.16	1.78	1.50	1.33	1.13	1.47			
Turbidity (NTU)	-4.6	-4.9	-3.1	3.5	3.2	3.0	3.2	2.6	4.8	4.0	4.9			
ORP (mV)	58.9	27.1	14.1	1.09	1.00	10.8	12.7	5.06	0.7	-4.3	-4.2			

SAMPLE INFORMATION

Sample List:

- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- NaOH Total Cyanide ☒
- Free Cyanide ☐
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID:	DUP	Duplicate ID:	
Start Time:		Sample Time:	
End Time:		Total Bottles:	
MS/MSD: Yes ☐	No ☒	Sampled By:	
Duplicate: Yes ☐	No ☒	MS/MSD ID:	
Total Bottles:		Sample Time:	
Sampled By:	DUP	Total Bottles:	
		Sampled By:	

Observations (water color, clarity, etc.):

@1253 Deploy pump to 09.50 after KF approves

Free Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change)

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel:	Holly Brown		Well ID:	MW-OB19	
Date:	6/16/20		Original Install Depth:	10.0	feet
Weather:	Sunny 70s		Screen Length:		feet
Time In:	0915	Time Out: 0945	Well Diameter:	2	inches

		6/15	6/16
Depth to Water (from TOC):	(feet)	8.48	8.50
Depth to Water(From TOC) With Pump in place:	(feet)		8.51
Total Depth (from TOC):	(feet)		9.64
Length of Water Column :	(feet)		1.14

WELL INFORMATION

Well Type:	Flushmount ☐		Stick-Up ☒	
Well Locked:	Yes ☒		No ☐	
Measuring Point Marked:	Yes ☒		No ☐	
Well Condition:	Good ☒		Poor ☐	
Well Condition Comments:				

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	= 0.186
Pumping Rate of Pump:	(mL/min)	100
Total Volume Removed:	(mL or gal)	0.591

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION

Pump ID:	4052	Pump Size:	Geo Pump 1/8" x 1/4"	Depth of Pump Intake:	9.04		
Evacuation Method:	Bailer ☐	Peristaltic ☒	Bladder ☐	Other ☐			
Tubing Used:	Teflon ☐	Polyethylene ☒	N/A ☐				
Water Quality Meter (type/Serial Number):	YSI 6920	#47439					
Sampling Method:	Bailer ☐	Peristaltic ☒	Bladder ☐	Other ☐			
Did well go dry?	Yes ☐	No ☒					
Final Depth to Water (prior to turning off pump):	9.03						
Barometric Pressure (At time of sampling) in mm/Hg:	767.282						

FIELD PARAMETER READINGS:

Time	0929														
Rate (ml/min)	100														
Depth to Water (ft. TOC)	8.86														
Temperature (°C)	16.83														
pH	6.69														
Conductivity (mS/cm)	0.457														
Dissolved Oxygen (mg/L)	4.75														
Turbidity (NTU)	23														
ORP (mV)	73.2														

SAMPLE INFORMATION

Sample List:

- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- NaOH Total Cyanide ☒
- Free Cyanide ☐
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID:	MWOB19-20200616
Start Time:	0930
End Time:	0935
MS/MSD: Yes ☐	No ☒
Duplicate: Yes ☐	No ☒
Total Bottles:	1
Sampled By:	HB

Duplicate ID:	
Sample Time:	
Total Bottles:	
Sampled By:	
MS/MSD ID:	
Sample Time:	
Total Bottles:	
Sampled By:	

Observations (water color, clarity, etc.):

GRAB

Free Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change) N/A

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel:	Hally Brown	Well ID:	MW-OB23		
Date:	6/15/20	Original Install Depth:	6.5	feet	
Weather:	Cloudy 70s	Screen Length:		feet	
Time In:	1400 Time Out: 1615	Well Diameter:	2	inches	

6/15

WELL INFORMATION

Depth to Water (from TOC):	(feet)	6.53	Well Type:	Flushmount ☐	Stick-Up ☒	
Depth to Water(From TOC) With Pump in place:	(feet)	6.30	Well Locked:	Yes ☒	No ☐	
Total Depth (from TOC):	(feet)	8.45	Measuring Point Marked:	Yes ☐	No ☒	
Length of Water Column :	(feet)	2.12	Well Condition:	Good ☒	Poor ☐	
			Well Condition Comments:			

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	—
Pumping Rate of Pump:	(mL/min)	100
Total Volume Removed:	(mL or gal)	3.75 gal

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION

Pump ID:	4052	Pump Size:	Geopump II	Depth of Pump Intake:	7.39
Evacuation Method:	Bailer ☐	Peristaltic ☒	Bladder ☐	Other ☐	
Tubing Used:	Teflon ☐	Polyethylene ☒	N/A ☐		
Water Quality Meter (type/Serial Number):	YSI 6920 / 4739				
Sampling Method:	Bailer ☐	Peristaltic ☒	Bladder ☐	Other ☐	
Did well go dry?	Yes ☐	No ☒			
Final Depth to Water (prior to turning off pump):	7.75				
Barometric Pressure (At time of sampling) in mm/Hg:	766.39				

FIELD PARAMETER READINGS:

Time	1417	1419	1421	1423	1425	1427	14.32	14.37	1442	1447	1452	1457	1502	1507
Rate (ml/min)	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Depth to Water (ft. TOC)	6.80	6.90	6.93	6.96	6.98	7.00	7.11	7.17	7.23	7.25	7.31	7.35	7.36	7.40
Temperature (°C)	15.31	14.81	14.86	14.92	14.96	14.86	14.82	14.69	14.66	14.54	14.32	14.40	14.4	14.41
pH	6.69	6.58	6.57	6.59	6.62	6.66	6.71	6.72	6.75	6.76	6.74	6.76	6.77	6.78
Conductivity (mS/cm)	0.724	0.728	0.729	0.725	0.727	0.721	0.705	0.692	0.681	0.671	0.666	0.657	0.655	0.647
Dissolved Oxygen (mg/L)	2.99	2.13	1.90	1.69	1.51	1.39	1.08	0.99	0.88	0.73	0.71	0.80	1.08	1.26
Turbidity (NTU)	3.8	3.4	6.0	6.7	5.2	4.2	1.9	1.9	1.7	1.3	1.6	1.8	2.2	3.0
ORP (mV)	-48.7	-63.8	-81.5	-86.1	-92.2	-98.1	-101.8	-96.2	-90.2	-83.1	-77.4	-71.6	-63.7	-57.6

SAMPLE INFORMATION

Sample List:

- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- NaOH Total Cyanide ☒
- Free Cyanide ☐
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID:	MW-OB23_20200615
Start Time:	1600
End Time:	— 1607
MS/MSD: Yes ☐ No ☒	
Duplicate: Yes ☐ No ☒	
Total Bottles:	1
Sampled By:	HB

Duplicate ID:	
Sample Time:	
Total Bottles:	
Sampled By:	
MS/MSD ID:	
Sample Time:	
Total Bottles:	
Sampled By:	

Observations (water color, clarity, etc.):

Drop pump intake to 8.00 @1455

Free Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change)

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel:	Haley Brown		Well ID:	MW-OB23	
Date:	6/15/22		Original Install Depth:	6.5	feet
Weather:	Cloudy 70s		Screen Length:		feet
Time In:	1400	Time Out: 1615	Well Diameter:	2	inches

		6/15
Depth to Water (from TOC):	(feet)	6.33
Depth to Water(From TOC) With Pump in place:	(feet)	6.30
Total Depth (from TOC):	(feet)	8.45
Length of Water Column :	(feet)	2.12

WELL INFORMATION

Well Type:	~~Flushmount~~		Stick-Up	☒	113
Well Locked:	Yes	☒	No	☐	
Measuring Point Marked:	Yes	☐	No	☒	
Well Condition:	Good	☒	Poor	☐	
Well Condition Comments:					

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	—
Pumping Rate of Pump:	(mL/min)	100
Total Volume Removed:	(mL or gal)	375 gal

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION

Pump ID:	4052	Pump Size:	600 Pump	Depth of Pump Intake:	7.39		
Evacuation Method:	Bailer	☐	Peristaltic	☒	Bladder	☐	Other ☐
Tubing Used:	Teflon	☐	Polyethylene	☒	N/A	☐	
Water Quality Meter (type/Serial Number):	YSI 6920 / 14739						
Sampling Method:	Bailer	☐	Peristaltic	☒	Bladder	☐	Other ☐
Did well go dry?	Yes	☐	No	☒			
Final Depth to Water (prior to turning off pump):	7.75						
Barometric Pressure (At time of sampling) in mm/Hg:	766.39						

FIELD PARAMETER READINGS:

Time	1512	1517	1522	1527	1532	1537	1542	1547	1552	1559
Rate (ml/min)	100	100	100	100	100	100	100	100	100	100
Depth to Water (ft. TOC)	7.42	7.45	7.47	7.50	7.52	7.57	7.60	7.63	7.67	7.71
Temperature (°C)	14.47	14.53	14.52	14.51	14.48	14.54	14.49	14.51	14.33	14.40
pH	6.81	6.84	6.86	6.88	6.78	6.87	6.84	6.84	6.85	6.84
Conductivity (mS/cm)	0.644	0.644	0.632	0.638	0.636	0.631	0.635	0.635	0.644	0.647
Dissolved Oxygen (mg/L)	1.47	1.56	1.82	2.01	2.70	2.88	3.13	3.27	3.23	3.40
Turbidity (NTU)	3.3	2.4	1.5	2.7	2.7	4.0	3.0	4.8	4.6	3.34
ORP (mV)	-51.2	-45.4	-40.4	-32.1	-21.3	-21.7	-15.0	-12.4	-11.3	-7.7

SAMPLE INFORMATION

Sample List:

- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- NaOH Total Cyanide ☒
- Free Cyanide ☐
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID:	MW-OB23-20220615	Duplicate ID:	
Start Time:	1600	Sample Time:	
End Time:	1604	Total Bottles:	
MS/MSD: Yes ☐	No ☒	Sampled By:	
Duplicate: Yes ☐	No ☒	MS/MSD ID:	
Total Bottles:	1	Sample Time:	
Sampled By:	HB	Total Bottles:	
		Sampled By:	

Observations (water color, clarity, etc.):

Drop pump intake to 8.00 @1455

Free Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change)

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel: Cody Murphy

Date: 6/15/20

Weather: 76°F Sunny

Time In: 1220 Time Out: 1545

Well ID:	PTP-SB01		
Original Install Depth:	16.6	feet	
Screen Length:	10	feet	
Well Diameter:	1	inches	

		6/15
Depth to Water (from TOC):	(feet)	10.13
Depth to Water (From TOC) With Pump in place:	(feet)	~~11.93~~
Total Depth (from TOC):	(feet)	16.93
Length of Water Column:	(feet)	6.80

WELL INFORMATION

Well Type:	Flushmount ☐		Stick-Up ☒	
Well Locked:	Yes ☐		No ☒	
Measuring Point Marked:	Yes ☐		No ☒	
Well Condition:	Good ☒		Poor ☐	
Well Condition Comments:	Temp. well			

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	0.28 gal
Pumping Rate of Pump:	(mL/min)	120 → 100
Total Volume Removed:	(mL or gal)	4.5 gal

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION

Pump ID:	4068		Pump Size: —		Depth of Pump Intake:	~~11.93~~ 13.53 → 14.50 → 16.00
Evacuation Method:	Bailer ☐		Peristaltic ☒		Bladder ☐	Other ☐
Tubing Used:	Teflon ☐		Polyethylene ☒		N/A ☐	
Water Quality Meter (type/Serial Number):	YSI 6920		27942			
Sampling Method:	Bailer ☐		Peristaltic ☒		Bladder ☐	Other ☐
Did well go dry?	Yes ☐		No ☒			
Final Depth to Water (prior to turning off pump):	15.71					
Barometric Pressure (At time of sampling) in mm/Hg:	Hdo.289					

FIELD PARAMETER READINGS:

Time	1241	1243	1245	1247	1249	1251	1256	1301	1306	1311	1316	1321	1326	1331
Rate (ml/min)	120	120	120	100	100	100	100	100	100	100	100	100	100	100
Depth to Water (ft. TOC)	12.32	12.91	13.35	13.37	13.39	13.39	13.37	13.38	13.42	13.45	13.47	13.52	13.57	13.65
Temperature (°C)	12.73	11.82	11.63	11.52	11.45	11.72	12.15	12.25	12.29	12.48	12.39	12.39	12.38	2.43
pH	6.82	6.87	6.87	6.86	6.85	6.83	6.82	6.83	6.84	6.86	6.88	6.90	6.91	6.92
Conductivity (mS/cm)	0.563	0.540	0.539	0.538	0.539	0.537	0.563	0.571	0.573	0.577	0.579	0.583	0.590	0.593
Dissolved Oxygen (mg/L)	4.99	5.18	5.19	5.22	4.93	4.88	5.02	4.58	4.69	4.76	4.75	4.70	4.56	4.64
Turbidity (NTU)	93.5	147.9	160.9	216.8	345.7	226.4	187.1	96.3	84.3	75.6	57.5	56.9	88.3	67.3
ORP (mV)	299.7	321.4	329.5	358.8	347.8	357.1	376.5	381.0	379.3	374.8	374.3	376.7	381.0	383.7

SAMPLE INFORMATION

Sample List:

- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- NaOH Total Cyanide ☒
- Free Cyanide ☐
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID:	PTP-SB01-20200615
Start Time:	1510
End Time:	1525
MS/MSD:	Yes ☒ No ☐
Duplicate:	Yes ☒ No ☐
Total Bottles:	3
Sampled By:	CM

Duplicate ID:	~~Dup-20200615~~ DUP01-20200615
Sample Time:	—
Total Bottles:	1
Sampled By:	CM
MS/MSD ID:	PTP-SB01-20200615
Sample Time:	1510
Total Bottles:	1
Sampled By:	CM

Observations (water color, clarity, etc.):

1245 lower flow rate to 100 ml/min to slow drawdown + lower turb.

1321 lower tubing intake to 14.50'

Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change) N/A

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel: Cody Murphy

Date: 6/15/20

Weather: 76°F Sunny

Time In: 1220 Time Out: 1545

Well ID:	PTP-SB01		
Original Install Depth:	16.6	feet	
Screen Length:	10	feet	
Well Diameter:	1	inches	

		6/15
Depth to Water (from TOC):	(feet)	10.13
Depth to Water(From TOC) With Pump in place:	(feet)	10.13
Total Depth (from TOC):	(feet)	16.93
Length of Water Column :	(feet)	6.80

WELL INFORMATION

Well Type: Flushmount ☐ Stick-Up ☒

Well Locked: Yes ☐ No ☒

Measuring Point Marked: Yes ☐ No ☒

Well Condition: Good ☒ Poor ☐

Well Condition Comments: Temp. well

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	0.28 gal
Pumping Rate of Pump:	(mL/min)	120 → 100
Total Volume Removed:	(mL or gal)	4.5 gal

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION

Pump ID: AQ668 Pump Size: — Depth of Pump Intake: 16.00'

Evacuation Method: Bailer ☐ Peristaltic ☒ Bladder ☐ Other ☐

Tubing Used: Teflon ☐ Polyethylene ☒ N/A ☐

Water Quality Meter (type/Serial Number): YSI 6920 27942

Sampling Method: Bailer ☐ Peristaltic ☒ Bladder ☐ Other ☐

Did well go dry? Yes ☐ No ☒

Final Depth to Water (prior to turning off pump): 15.71

Barometric Pressure (At time of sampling) in mm/Hg: 766.789

FIELD PARAMETER READINGS:

Time	1336	1341	1346	*	1400	1405	1410	1415	1420	1425	1430	1435	1440	1445
Rate (ml/min)	100	100	100		100	100	100	100	100	100	100	100	100	100
Depth to Water (ft. TOC)	13.78	13.98	14.31		14.01	14.30	14.60	14.95	15.23	15.44	15.63	15.58	15.57	15.53
Temperature (°C)	12.20	12.13	12.08		12.20	11.75	11.59	11.47	11.69	11.98	12.15	12.35	12.32	12.34
pH	6.93	6.93	6.95		6.92	6.99	6.98	6.99	7.00	7.00	7.01	7.02	7.03	7.04
Conductivity (mS/cm)	0.599	0.603	0.608		0.605	0.602	0.605	0.607	0.610	0.611	0.613	0.614	0.616	0.617
Dissolved Oxygen (mg/L)	4.78	4.75	4.74		5.21	4.84	4.78	4.73	4.59	4.63	4.75	4.94	4.95	4.97
Turbidity (NTU)	88.7	109.9	136.2		23.2	16.4	24.9	31.8	37.5	37.8	38.1	29.2	21.8	17.7
ORP (mV)	387.6	390.1	392.6		350.9	369.3	372.1	377.2	374.1	372.3	368.0	364.2	366.7	369.2

SAMPLE INFORMATION

Sample List:

- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- Total Cyanide ☒
- Free Cyanide ☐
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID: PTP_SB01_20200615

Start Time: 1510

End Time: 1525

MS/MSD: Yes ☒ No ☐

Duplicate: Yes ☒ No ☐

Total Bottles: 1

Sampled By: CM

Duplicate ID: Dup_20200615

Sample Time: —

Total Bottles: 1

Sampled By: CM

MS/MSD ID: PTP_SB01_20200615

Sample Time: 1510

Total Bottles: 1

Sampled By: CM

Observations (water color, clarity, etc.):

* stop to clean out flow cell.

1410 lower tubing intake to 16'

Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change) N/A

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel:	Cody Murphy	Well ID:	PTP-SB01		
Date:	6/15/20	Original Install Depth:	16.6	feet	
Weather:	76°F sunny	Screen Length:	10	feet	
Time In:	1220 Time Out: 1545	Well Diameter:	1	Inches	

6115

WELL INFORMATION

Depth to Water (from TOC):	(feet)	10.13	Well Type:	Flushmount ☐	Stick-Up ☒	
Depth to Water(From TOC) With Pump in place:	(feet)	10.13	Well Locked:	Yes ☐	No ☒	
Total Depth (from TOC):	(feet)	16.93	Measuring Point Marked:	Yes ☐	No ☒	
Length of Water Column :	(feet)	6.80	Well Condition:	Good ☒	Poor ☐	
			Well Condition Comments:	Temp well		

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	0.28 gal
Pumping Rate of Pump:	(mL/min)	120 → 100
Total Volume Removed:	(mL or gal)	4.5 gal

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION

Pump ID:	4068	Pump Size: –	Depth of Pump Intake:	16.00'	
Evacuation Method:	Bailer ☐	Peristaltic ☒	Bladder ☐	Other ☐	
Tubing Used:	Tefton ☐	Polyethylene ☒	N/A ☐		
Water Quality Meter (type/Serial Number):	YSI 6920		27942		
Sampling Method:	Bailer ☐	Peristaltic ☒	Bladder ☐	Other ☐	
Did well go dry?	Yes ☐	No ☒			
Final Depth to Water (prior to turning off pump):	15.71				
Barometric Pressure (At time of sampling) in mm/Hg:	766.289				

FIELD PARAMETER READINGS:

Time	1450	1455	1500	1505										
Rate (ml/min)	100	100	100	100										
Depth to Water (ft. TOC)	15.56	15.61	15.64	15.69										
Temperature (°C)	11.98	11.85	11.77	11.80										
pH	7.04	7.03	7.04	7.04										
Conductivity (mS/cm)	0.615	0.614	0.613	0.613										
Dissolved Oxygen (mg/L)	4.90	4.87	4.73	4.61										
Turbidity (NTU)	7.9	7.1	6.8	6.7										
ORP (mV)	369.1	367.4	365.8	366.2										

SAMPLE INFORMATION

Sample List:

- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- Total Cyanide ☒
- Free Cyanide ☐
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID:	PTP-SB01-20200615
Start Time:	1510
End Time:	1525
MS/MSD:	Yes ☒ No ☐
Duplicate:	Yes ☒ No ☐
Total Bottles:	1
Sampled By:	CM

Duplicate ID:	Dup-20200615
Sample Time:	1510
Total Bottles:	1
Sampled By:	CM
MS/MSD ID:	PTP-SB01-20200615
Sample Time:	1510
Total Bottles:	1
Sampled By:	CM

Observations (water color, clarity, etc.):

Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change) N/A

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel:	Katelynn F.	Well ID:	SG-7		
Date:	6/15/2020	Original Install Depth:	N/A	feet	
Weather:	Sunny 70s °F	Screen Length:	N/A	feet	
Time In:	1700	Time Out:	1740	Well Diameter:	N/A	inches

6/15

WELL INFORMATION

Depth to Water (from TOC):	(feet)	6.45	Well Type:	SW	Flushmount ☒	Stick-Up ☐
Depth to Water(From TOC) With Pump in place:	(feet)	—	Well Locked:		Yes ☒	No ☐
Total Depth (from TOC):	(feet)	6.58	Measuring Point Marked:		Yes ☐	No ☒
Length of Water Column :	(feet)	0.13	Well Condition:		Good ☒	Poor ☐
			Well Condition Comments:	Surface Water		

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	—
Pumping Rate of Pump:	(ml/min)	—
Total Volume Removed:	(mL or gal)	—

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION

Pump ID:	PAB	Pump Size:	Depth of Pump Intake:	
Evacuation Method:	Bailer ☒	Peristaltic ☐	Bladder ☐	Other ☐
Tubing Used:	Teflon ☐	Polyethylene ☐	N/A ☒	
Water Quality Meter (type/Serial Number):	YSI 6920 | 27942			
Sampling Method:	Bailer ☒	Peristaltic ☐	Bladder ☐	Other ☐
Did well go dry?	Yes ☐	No ☒		
Final Depth to Water (prior to turning off pump):	6.95			
Barometric Pressure (At time of sampling) in mm/Hg:	765.914			

FIELD PARAMETER READINGS:

Time	~~1029~~ 1725														
Rate (ml/min)	—														
Depth to Water (ft. TOC)	6.45														
Temperature (°C)	22.82														
pH	7.67														
Conductivity (mS/cm)	2.13														
Dissolved Oxygen (mg/L)	8.63														
Turbidity (NTU)	2029														
ORP (mV)	213.7														

SAMPLE INFORMATION

Sample List:

- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- Total Cyanide ☐
- Free Cyanide ☒
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID:	SG-7-20200615	Duplicate ID:	
Start Time:	1730	Sample Time:	
End Time:	1735	Total Bottles:	
MS/MSD:	Yes ☐ No ☒	Sampled By:	
Duplicate:	Yes ☐ No ☒	MS/MSD ID:	
Total Bottles:	1	Sample Time:	
Sampled By:	KE	Total Bottles:	
		Sampled By:	

Observations (water color, clarity, etc.):

Free Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change)

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

GROUNDWATER SAMPLING LOG

Ashland Glens Falls, NY

Quarterly Groundwater & Surface Water Sampling Event

Sampling Personnel: Cody Murphy + Hailey Brown	Well ID:	SG-11	
Date: 6/15/20	Original Install Depth:	N/A	feet
Weather: 74°F Sunny	Screen Length:	N/A	feet
Time In: 1700 Time Out: 1740	Well Diameter:	N/A	inches

WELL INFORMATION

		6/15			
Depth to Water (from TOC):	(feet)	6.45	Well Type: SW	Flushmount ☒	Stick-Up ☐
Depth to Water(From TOC) With Pump in place:	(feet)	—	Well Locked:	Yes ☒	No ☐
Total Depth (from TOC):	(feet)	6.58	Measuring Point Marked:	Yes ☐	No ☒
Length of Water Column:	(feet)	0.13	Well Condition:	Good ☒	Poor ☐
			Well Condition Comments: Surface Water		

WELL WATER INFORMATION

Volume of Water in Well:	(mL or gal)	—
Pumping Rate of Pump:	(mL/min)	—
Total Volume Removed:	(mL or gal)	GRAB

Volume Measurements	(gal)	(ml)	Tubing/Well Size
Tubing Volume per foot	0.003	11.36	1/4" ID tubing
Well Volume per foot	0.041	155.18	1" diam. well
	0.163	616.95	2" diam. well
	0.653	2,471.60	4" diam. well

EVACUATION INFORMATION

Pump ID: GRAB Pump Size: - Depth of Pump Intake:

Evacuation Method: Bailer ☒ Peristaltic ☐ Bladder ☐ Other ☐

Tubing Used: Teflon ☐ Polyethylene ☐ N/A ☒

Water Quality Meter (type/Serial Number): YSI 8920 | 4739

Sampling Method: Bailer ☒ Peristaltic ☐ Bladder ☐ Other ☐

Did well go dry? Yes ☐ No ☒

Final Depth to Water (prior to turning off pump): 6.45

Barometric Pressure (At time of sampling) in mm/Hg: 765.979

FIELD PARAMETER READINGS:

Time	1715													
Rate (ml/min)	—													
Depth to Water (ft. TOC)	6.45													
Temperature (°C)	26.9													
pH	7.87													
Conductivity (mS/cm)	1.999													
Dissolved Oxygen (mg/L)	7.14													
Turbidity (NTU)	302.1													
ORP (mV)	235.8													

SAMPLE INFORMATION

Sample List:
- Diss. Chromium & Vanadium ☐
- Diss. Hexavalent Chromium ☐
- Total Cyanide ☐
- Free Cyanide ☒
- Total Dissolved Solids ☐
- Hardness ☐
- VOCs (Dichlorobenzenes) ☐

Sample ID: SG-11-20200615
Start Time: 17:20
End Time: 17:30
MS/MSD: Yes ☒ No ☐
Duplicate: Yes ☒ No ☐
Total Bottles: ~~2~~ 3
Sampled By: CM

Duplicate ID: ~~Dup-20200615~~ DUP02-20200615
Sample Time: ~~1720~~ (1800)
Total Bottles: ~~1720 cm~~ ~~2~~ 1
Sampled By: CM

MS/MSD ID: SG-11-20200615
Sample Time: 1720
Total Bottles: ~~2~~ 1
Sampled By: CM

Observations (water color, clarity, etc.):

Free Cyanide Sulfide Test Strip: Positive (Black) / Negative (No change) [Negative circled]

UNIT STABILITY

pH	DO	Turb.	Cond	ORP
± 0.1	± 10%	± 10%, <10NTU	± 3%	± 10 mV

Page 1 of 1

Enclosure 2 Laboratory Analytical Reports

26-Jun-2020

Cassie Reuter
EHS Support LLC
316 Grandview Ave
Argyle, WI 53504

Re: **Ashland Glens Falls, NY** Work Order: **20061611**

Dear Cassie,

ALS Environmental received 4 samples on 18-Jun-2020 for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Ehrland Bosworth

Electronically approved by: Ehrland Bosworth

Ehrland Bosworth
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS Group, USA

Date: 26-Jun-20

Client: EHS Support LLC
Project: Ashland Glens Falls, NY
Work Order: **20061611**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20061611-01	SG-7_20200615	Water		6/15/2020 17:30	6/18/2020 10:15	☐
20061611-02	SG-11_20200615	Water		6/15/2020 17:20	6/18/2020 10:15	☐
20061611-03	DUP02_20200615	Water		6/15/2020	6/18/2020 10:15	☐
20061611-04	EB01_20200615	Water		6/15/2020 12:00	6/18/2020 10:15	☐

ALS Group, USA

Date: 26-Jun-20

Client: EHS Support LLC
Project: Ashland Glens Falls, NY
WorkOrder: **20061611**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
µg/L	Micrograms per Liter

Client: EHS Support LLC
Project: Ashland Glens Falls, NY
Work Order: 20061611

Case Narrative

Samples for the above noted Work Order were received on 06/18/2020. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Wet Chemistry:
Batch R291176, Method CNF_1677_W, Sample 20061611-02AMS and -02AMSD: The Free Cyanide MS and/or MSD recoveries were below the lower control limit. The corresponding result in the parent sample may be biased low for Free Cyanide.

No other deviations or anomalies were noted.

ALS Group, USA

Date: *26-Jun-20*

Client: EHS Support LLC
Project: Ashland Glens Falls, NY

Work Order: 20061611

Lab ID: 20061611-01A
Client Sample ID: SG-7_20200615
Collection Date: 6/15/2020 5:30:00 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, FREE			**OIA 1677**			Analyst: **MB**
Cyanide, Free	ND		2.0	µg/L	1	6/19/2020 01:30 PM

Lab ID: 20061611-02A
Client Sample ID: SG-11_20200615
Collection Date: 6/15/2020 5:20:00 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, FREE			**OIA 1677**			Analyst: **MB**
Cyanide, Free	ND		2.0	µg/L	1	6/19/2020 01:30 PM

Lab ID: 20061611-03A
Client Sample ID: DUP02_20200615
Collection Date: 6/15/2020
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, FREE			**OIA 1677**			Analyst: **MB**
Cyanide, Free	ND		2.0	µg/L	1	6/19/2020 01:30 PM

Lab ID: 20061611-04A
Client Sample ID: EB01_20200615
Collection Date: 6/15/2020 12:00:00 PM
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
CYANIDE, FREE			**OIA 1677**			Analyst: **MB**
Cyanide, Free	ND		2.0	µg/L	1	6/19/2020 01:30 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 26-Jun-20

Client: EHS Support LLC

QC BATCH REPORT

Work Order: 20061611

Project: Ashland Glens Falls, NY

Batch ID: **R291176** Instrument ID **FS3100** Method: **OIA 1677**

MBLK Sample ID: **MB-R291176-R291176** Units: **µg/L** Analysis Date: **6/19/2020 01:30 PM**

Client ID: Run ID: **FS3100_200619B** SeqNo: **6498703** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Free	1.568	2.0								J

LCS Sample ID: **LCS-R291176-R291176** Units: **µg/L** Analysis Date: **6/19/2020 01:30 PM**

Client ID: Run ID: **FS3100_200619B** SeqNo: **6498704** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Free	51.53	2.0	50	0	103	82-132	0			

MS Sample ID: **20061611-02AMS** Units: **µg/L** Analysis Date: **6/19/2020 01:30 PM**

Client ID: **SG-11_20200615** Run ID: **FS3100_200619B** SeqNo: **6498711** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Free	38.68	2.0	50	-0.26	77.9	82-130	0			S

MSD Sample ID: **20061611-02AMSD** Units: **µg/L** Analysis Date: **6/19/2020 01:30 PM**

Client ID: **SG-11_20200615** Run ID: **FS3100_200619B** SeqNo: **6498712** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cyanide, Free	40.11	2.0	50	-0.26	80.7	82-130	38.68	3.64	11	S

The following samples were analyzed in this batch:

20061611-01A 20061611-02A 20061611-03A
20061611-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511 | Houston, TX +1 281 530 5656 | Spring City, PA +1 610 948 4903 | South Charleston, WV +1 304 356 3168
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070 | Middletown, PA +1 717 944 5541 | Salt Lake City, UT +1 801 266 7700 | York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 224371

ALS Project Manager: EB | ALS Work Order #: 2006166

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Glens Falls, NY	A	Cyanide, Free (OIA-1677)
Work Order		Project Number		B	
Company Name	EHS Support LLC	Bill To Company	EHS Support LLC	C	
Send Report To	Cassie Reuter	Invoice Attn	Accounts Payable	D	
Address	316 Grandview Ave	Address	316 Grandview Ave	E	
				F	
City/State/Zip	Argyle, WI 53504	City/State/Zip	Argyle, WI 53504	G	
Phone	(608) 351-0626	Phone	(608) 351-0626	H	
Fax		Fax		I	
e-Mail Address	cassie.reuter@ehs-support.com	e-Mail Address	jevondrack@ashland.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SG-7_20200615	6/15/2020	1730	Water	NaOH	1	X										
2	SG-11_20200615	6/15/2020	1720	Water	NaOH	2	X										
3	DUP02_20200615	6/15/2020	—	Water	NaOH	1	X										
4	EB01_20200615	6/15/2020	1200	Water	NaOH	1	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Katelyn Foster [signature]

Shipment Method: FedEx

Required Turnaround Time: (Check Box) ☒ Std 10 WK Days ☐ 5 WK Days ☐ Other ☐ 2 WK Days ☐ 24 Hour

Results Due Date: STD

Relinquished by:	Date:	Time:	Received by:	Notes: SG-11-20200615 MS/MSD
[signature]	6/17/2020	1515	FedEx	
Relinquished by: FedEx	Date: 6/18/20	Time: 10:15	Received by (Laboratory): [signature]	
Logged by (Laboratory): MJG	Date: 6/18/20	Time: 16:00	Checked by (Laboratory): EB	

Cooler ID	Cooler Temp.
	4.2°C
	SR1
	8420

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP CheckList
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ALS Group, USA

Sample Receipt Checklist

Client Name: **EHS SUPPORT-ARGYLE** Date/Time Received: **18-Jun-20 10:15**

Work Order: **20061611** Received by: **MJG**

Checklist completed by Matthew Gaylord (eSignature) 18-Jun-20 (Date) Reviewed by: Ehrland Bosworth (eSignature) 19-Jun-20 (Date)

Matrices: Water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.2/4.2C	SR1	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	6/18/2020 3:54:42 PM		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-171343-2
Client Project/Site: Hercules Glens Falls 2Q20

For:
Ashland LLC
5200 Blazer Parkway
DS-4
Dublin, Ohio 43017

Attn: Mr. Jim Vondracek

Authorized for release by:
6/29/2020 7:50:45 AM

Eddie Barnett, Project Manager I
(912)250-0280
eddie.barnett@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Ashland LLC
Job ID: 480-171343-2
Project/Site: Hercules Glens Falls 2Q20

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-171343-2

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

CASE NARRATIVE
Client: Ashland LLC
Project: Hercules Glens Falls 2Q20

Report Number: 480-171343-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 06/18/2020; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5º C and 3.7º C.

TOTAL CYANIDE

Samples PTP-SB01_20200615 (480-171343-1), MW-OB23_20200616 (480-171343-2), MW-OB19_20200616 (480-171343-3), EB02_20200615 (480-171343-11) and DUP01_20200615 (480-171343-12) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012B. The samples were prepared and analyzed on 06/25/2020 and 06/26/2020.

Cyanide, Total recovered low for the MS of sample PTP-SB01_20200615MS (480-171343-1) in batch 480-538269. Refer to the QC report for details.

Sample MW-OB23_20200616 (480-171343-2)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Ashland LLC
Job ID: 480-171343-2
Project/Site: Hercules Glens Falls 2Q20

Client Sample ID: PTP-SB01_20200615 — Lab Sample ID: 480-171343-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.31	F1	0.010	0.0050	mg/L	1		9012B	Total/NA

Client Sample ID: MW-OB23_20200616 — Lab Sample ID: 480-171343-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	1.0		0.050	0.025	mg/L	5		9012B	Total/NA

Client Sample ID: MW-OB19_20200616 — Lab Sample ID: 480-171343-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.30		0.010	0.0050	mg/L	1		9012B	Total/NA

Client Sample ID: EB02_20200615 — Lab Sample ID: 480-171343-11

No Detections.

Client Sample ID: DUP01_20200615 — Lab Sample ID: 480-171343-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.30		0.010	0.0050	mg/L	1		9012B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Ashland LLC
Project/Site: Hercules Glens Falls 2Q20

Job ID: 480-171343-2

Client Sample ID: PTP-SB01_20200615

Lab Sample ID: 480-171343-1
Matrix: Water
Date Collected: 06/15/20 15:10
Date Received: 06/18/20 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.31	F1	0.010	0.0050	mg/L		06/26/20 12:31	06/26/20 14:08	1

Client Sample ID: MW-OB23_20200616

Lab Sample ID: 480-171343-2
Matrix: Water
Date Collected: 06/15/20 16:00
Date Received: 06/18/20 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	1.0		0.050	0.025	mg/L		06/25/20 12:08	06/25/20 14:16	5

Client Sample ID: MW-OB19_20200616

Lab Sample ID: 480-171343-3
Matrix: Water
Date Collected: 06/16/20 09:30
Date Received: 06/18/20 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.30		0.010	0.0050	mg/L		06/25/20 12:08	06/25/20 14:13	1

Client Sample ID: EB02_20200615

Lab Sample ID: 480-171343-11
Matrix: Water
Date Collected: 06/15/20 12:03
Date Received: 06/18/20 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0050	mg/L		06/26/20 12:31	06/26/20 14:24	1

Client Sample ID: DUP01_20200615

Lab Sample ID: 480-171343-12
Matrix: Water
Date Collected: 06/15/20 00:00
Date Received: 06/18/20 08:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.30		0.010	0.0050	mg/L		06/26/20 12:31	06/26/20 14:25	1

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 480-537996/1-A
Matrix: Water
Analysis Batch: 538027

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 537996

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0050	mg/L		06/25/20 12:08	06/25/20 13:39	1

Lab Sample ID: LCS 480-537996/2-A
Matrix: Water
Analysis Batch: 538027

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 537996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.400	0.358		mg/L		90	90 - 110

Lab Sample ID: LCS 480-537996/3-A
Matrix: Water
Analysis Batch: 538027

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 537996

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.247		mg/L		99	90 - 110

Lab Sample ID: 480-171343-3 MS
Matrix: Water
Analysis Batch: 538027

Client Sample ID: MW-OB19_20200616
Prep Type: Total/NA
Prep Batch: 537996

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.30		0.100	0.393		mg/L		90	90 - 110

Lab Sample ID: MB 480-538238/1-A
Matrix: Water
Analysis Batch: 538269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538238

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0050	mg/L		06/26/20 12:31	06/26/20 14:02	1

Lab Sample ID: LCS 480-538238/2-A
Matrix: Water
Analysis Batch: 538269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538238

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.400	0.377		mg/L		94	90 - 110

Lab Sample ID: LCS 480-538238/3-A
Matrix: Water
Analysis Batch: 538269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538238

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.247		mg/L		99	90 - 110

Lab Sample ID: 480-171343-1 MS
Matrix: Water
Analysis Batch: 538269

Client Sample ID: PTP-SB01_20200615
Prep Type: Total/NA
Prep Batch: 538238

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.31	F1	0.100	0.385	F1	mg/L		76	90 - 110

QC Sample Results

Client: Ashland LLC
Project/Site: Hercules Glens Falls 2Q20

Job ID: 480-171343-2

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: 480-171343-1 MSD
Matrix: Water
Analysis Batch: 538269

Client Sample ID: PTP-SB01_20200615
Prep Type: Total/NA
Prep Batch: 538238

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.31	F1	0.100	0.404		mg/L		95	90 - 110	5	15

QC Association Summary

Client: Ashland LLC
Job ID: 480-171343-2
Project/Site: Hercules Glens Falls 2Q20

General Chemistry

Prep Batch: 537996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171343-2	MW-OB23_20200616	Total/NA	Water	9012B	
480-171343-3	MW-OB19_20200616	Total/NA	Water	9012B	
MB 480-537996/1-A	Method Blank	Total/NA	Water	9012B	
LCS 480-537996/2-A	Lab Control Sample	Total/NA	Water	9012B	
LCS 480-537996/3-A	Lab Control Sample	Total/NA	Water	9012B	
480-171343-3 MS	MW-OB19_20200616	Total/NA	Water	9012B	

Analysis Batch: 538027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171343-2	MW-OB23_20200616	Total/NA	Water	9012B	537996
480-171343-3	MW-OB19_20200616	Total/NA	Water	9012B	537996
MB 480-537996/1-A	Method Blank	Total/NA	Water	9012B	537996
LCS 480-537996/2-A	Lab Control Sample	Total/NA	Water	9012B	537996
LCS 480-537996/3-A	Lab Control Sample	Total/NA	Water	9012B	537996
480-171343-3 MS	MW-OB19_20200616	Total/NA	Water	9012B	537996

Prep Batch: 538238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171343-1	PTP-SB01_20200615	Total/NA	Water	9012B	
480-171343-11	EB02_20200615	Total/NA	Water	9012B	
480-171343-12	DUP01_20200615	Total/NA	Water	9012B	
MB 480-538238/1-A	Method Blank	Total/NA	Water	9012B	
LCS 480-538238/2-A	Lab Control Sample	Total/NA	Water	9012B	
LCS 480-538238/3-A	Lab Control Sample	Total/NA	Water	9012B	
480-171343-1 MS	PTP-SB01_20200615	Total/NA	Water	9012B	
480-171343-1 MSD	PTP-SB01_20200615	Total/NA	Water	9012B	

Analysis Batch: 538269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171343-1	PTP-SB01_20200615	Total/NA	Water	9012B	538238
480-171343-11	EB02_20200615	Total/NA	Water	9012B	538238
480-171343-12	DUP01_20200615	Total/NA	Water	9012B	538238
MB 480-538238/1-A	Method Blank	Total/NA	Water	9012B	538238
LCS 480-538238/2-A	Lab Control Sample	Total/NA	Water	9012B	538238
LCS 480-538238/3-A	Lab Control Sample	Total/NA	Water	9012B	538238
480-171343-1 MS	PTP-SB01_20200615	Total/NA	Water	9012B	538238
480-171343-1 MSD	PTP-SB01_20200615	Total/NA	Water	9012B	538238

Lab Chronicle

Client: Ashland LLC
Project/Site: Hercules Glens Falls 2Q20

Job ID: 480-171343-2

Client Sample ID: PTP-SB01_20200615

Lab Sample ID: 480-171343-1

Date Collected: 06/15/20 15:10
Matrix: Water
Date Received: 06/18/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			538238	06/26/20 12:31	CRK	TAL BUF
Total/NA	Analysis	9012B		1	538269	06/26/20 14:08	CRK	TAL BUF

Client Sample ID: MW-OB23_20200616

Lab Sample ID: 480-171343-2

Date Collected: 06/15/20 16:00
Matrix: Water
Date Received: 06/18/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			537996	06/25/20 12:08	CRK	TAL BUF
Total/NA	Analysis	9012B		5	538027	06/25/20 14:16	JRF	TAL BUF

Client Sample ID: MW-OB19_20200616

Lab Sample ID: 480-171343-3

Date Collected: 06/16/20 09:30
Matrix: Water
Date Received: 06/18/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			537996	06/25/20 12:08	CRK	TAL BUF
Total/NA	Analysis	9012B		1	538027	06/25/20 14:13	JRF	TAL BUF

Client Sample ID: EB02_20200615

Lab Sample ID: 480-171343-11

Date Collected: 06/15/20 12:03
Matrix: Water
Date Received: 06/18/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			538238	06/26/20 12:31	CRK	TAL BUF
Total/NA	Analysis	9012B		1	538269	06/26/20 14:24	CRK	TAL BUF

Client Sample ID: DUP01_20200615

Lab Sample ID: 480-171343-12

Date Collected: 06/15/20 00:00
Matrix: Water
Date Received: 06/18/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012B			538238	06/26/20 12:31	CRK	TAL BUF
Total/NA	Analysis	9012B		1	538269	06/26/20 14:25	CRK	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Ashland LLC
Job ID: 480-171343-2
Project/Site: Hercules Glens Falls 2Q20

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-02-21

Laboratory: Eurofins TestAmerica, Savannah

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10842	04-01-21

Method Summary

Client: Ashland LLC
Job ID: 480-171343-2
Project/Site: Hercules Glens Falls 2Q20

Method	Method Description	Protocol	Laboratory
9012B	Cyanide, Total andor Amenable	SW846	TAL BUF
9012B	Cyanide, Total and/or Amenable, Distillation	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Ashland LLC
Job ID: 480-171343-2
Project/Site: Hercules Glens Falls 2Q20

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-171343-1	PTP-SB01_20200615	Water	06/15/20 15:10	06/18/20 08:00	
480-171343-2	MW-OB23_20200616	Water	06/15/20 16:00	06/18/20 08:00	
480-171343-3	MW-OB19_20200616	Water	06/16/20 09:30	06/18/20 08:00	
480-171343-11	EB02_20200615	Water	06/15/20 12:03	06/18/20 08:00	
480-171343-12	DUP01_20200615	Water	06/15/20 00:00	06/18/20 08:00	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Katelyn Foster	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No: 680-115613-44213.2
Client Contact: Mr. Jim Vondracek	Phone: (386) 984 6782	E-Mail: eddie.barnett@testamericainc.com		Page: ~~Page 2 of 6~~ 1/2
Company: Ashland LLC				Job #:

Address: 5200 Blazer Parkway DS-4	Due Date Requested:	Analysis Requested
City: Dublin	TAT Requested (days): STD	
State, Zip: OH, 43017		
Phone: 614-790-6146(Tel)	PO #: PO814392	
Email: jevondracek@ashland.com	WO #: Task 400	
Project Name: Hercules Glens Falls O&M 2020	Project #: 68000956	
Site: Glens Falls	SSOW#:	

480-171343 Chain of Custody

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9012B - Cyanide, Total	6020A - Dissolved Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:				B	D		
PTP-SB01-20200615	6/15/20	1510	G	Water	N	Y	X		2	MS/MSD
MW-OB23-20200615	6/15/20	1600	G	Water	N	N	X		1	
MW-OB19-20200616	6/16/20	0930	G	Water	N	N	X		1	
MW-OB14-20200616	6/16/20	1325	G	Water	Y	N	X	X	2	
AW-CM-20200616	6/16/20	1522	G	Water	Y	Y	X	X	4	MS/MSD
AW-B4-20200616	6/16/20	1600	G	Water	Y	N	X	X	2	
MW-OB26-20200617	6/17/20	0950	G	Water	Y	N	X	X	2	
Sump-B-20200617	6/17/20	1031	G	Water	Y	N	X	X	2	
AW-MW4-20200617	6/17/20	1058	G	Water	Y	N	X	X	2	
MW-OB25-20200617	6/17/20	1105	G	Water	Y	N	X	X	2	
EB02-20200615	6/15/20	1203	G	Water	N	N	X		1	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	6/17/2020 1652	Austin Group	Tim Kneller	6-17-20 1652	ETA
Relinquished by: Tim Kneller	6-17-2020 1730	Eurofins			
Relinquished by:			Received by:	6/18/20 0800	TAB

Custody Seals Intact: △ Yes △ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 3.7, 3.5 #1

Ver: 01/16/2019

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing America

Client Information	Sampler: Katelyn Foster	Lab PM: Barnett, Eddie T	Carrier Tracking No(s):	COC No: 680-115613-44213.1
Client Contact: Mr. Jim Vondracek	Phone: (386) 984 6782	E-Mail: eddie.barnett@testamericainc.com		Page: ~~Page 1 of 6~~ 2/2
Company: Ashland LLC				Job #:

Address: 5200 Blazer Parkway DS-4	Due Date Requested:	Analysis Requested
City: Dublin	TAT Requested (days): STD	
State, Zip: OH, 43017		
Phone: 614-790-6146(Tel)	PO #: PO814392	
Email: jevondracek@ashland.com	WO #: Task 400	
Project Name: Hercules Glens Falls O&M 2020	Project #: 68000956	
Site: Glens Falls	SSOW#:	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9012B - Cyanide, Total	6020A - Dissolved Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:				B	D		
DUP01-20200615	6/15/20	—	G	Water	N	N	X		3	8 1 (X)
EB03-20200616	6/16/20	1120	G	Water	Y	N	X	X	3	2
EW-BS-20200617	6/17/20	1215	G	Water	Y	N	X	X	3	2
DUP03-20200617	6/17/20	—	G	Water	Y	N	X	X	3	2
EB04-20200617	6/17/20	1330	G	Water	Y	N	X	X	3	2
Sump-A-~~20200617~~	6/17/20	1423	G	Water	Y	N	X	X		
				Water						
				Water						
				Water						
				Water						
				Water						

TNE

6-17-2020

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	6/17/2020 1652	Antea Group	Tim Keller	6-17-2020 1652	ET-A
Tim Keller	6-17-2020 1730	EUROFINS TA			

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Ashland LLC

Job Number: 480-171343-2

Login Number: 171343
List Number: 2
Creator: Yeager, Brian A

List Source: Eurofins TestAmerica, Buffalo

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Enclosure 3 Tier II Validation Reports

EHS Validation Report Number: 305

Former Ciba Geigy Facility
Queensbury, New York

Analysis performed by: ALS Environmental, Holland, Michigan

Sample Delivery Group (SDG): 20061611
Analysis: General Chemistry
Review Level: Tier II

EHS Support

Report Date: July 2, 2020

Table of Contents

Sample Summary

Water samples were collected at the Former Ciba Geigy Facility in Queensbury, New York and were analyzed by Environmental Protection Agency (EPA) Method by OIA 1677 for free cyanide. Samples included in this sample delivery group (SDG), and in this data validation report, are listed in the table below.

SDG	Lab Sample ID	Field Sample ID	Sample Matrix	Sample Collection Date	Free cyanide analysis
20061611	20061611-01A	SG-7_20200615	Water	6/15/2020	X
20061611	20061611-02A	SG-11_20200615	Water	6/15/2020	X
20061611	20061611-03A	DUP02_20200615	Water	6/15/2020	X
20061611	20061611-04A	EB01_20200615	Water	6/15/2020	X

1 Introduction

Data were reviewed in accordance with USEPA Contract Laboratory Program National Functional Guidelines (Inorganic, January 2010), laboratory analytical methods, and professional judgment. Relevant EPA Region 2 Data Validation SOPs were referenced as needed. It is expected that the laboratory conducted sufficient quality review of the data prior to reporting. While QC is meant to increase confidence in analytical data, it is important to note that no compound concentration is guaranteed to be accurate, even if all QC criteria were met.

Data validation includes a review of reported results and supporting documentation in the laboratory report. Based on this evaluation, qualifiers may be added, deleted, or modified. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

1.1 Validation Qualifiers

U The analyte was included in the analysis but was not detected above the reported quantitation limit, or the result is considered non-detect as a consequence of associated blank contamination.

UJ The analyte was included in the analysis but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

2 Sample Custody and Receipt

All samples were received in good condition and properly preserved. The chain of custody was properly completed.

3 Assessment Summary and Data Usability

In this SDG, no quality control (QC) excursions encountered led to qualification or rejection of data. Results reported in this SDG are considered usable. Please refer to report below for specific QC information.

4 General Chemistry Analysis

4.1 Preservation and Holding Times

Acceptance criteria were met. Relevant preservation and holding time requirements are presented in the following table.

Method	Matrix	Preservation	Holding time
Free cyanide by OIA 1677	Water	NaOH to pH > 12	14 days

4.2 Blanks

No sample results were qualified due to blank contamination. Free cyanide was detected in the method blank at a concentration less than the reporting limit, However, results for all associated field samples were non-detect, so no qualification was needed.

4.3 Laboratory Control Sample (LCS)

Acceptance criteria were met.

4.4 Laboratory Duplicate Analysis

NA: No laboratory duplicate analysis performed on a sample in this data set was reported.

4.5 Matrix Spike/ Matrix Spike Duplicate (MS/MSD) analysis

MS/MSD analysis was performed on sample 20061611-02. Recoveries were less than the laboratory's lower acceptance limits, but within the limits applied during validation (75 – 125%), Therefore, no qualification was needed.

4.6 Field Duplicates

Acceptance criteria were met. One parent sample – field duplicate pair was included in this sample delivery group. Results for both parent and duplicate were non-detect.

4.7 Additional Notes

NA: No additional notes to report.

Validation performed by: Amy Coats
EHS Support

EHS Validation Report Number: 306

Former Ciba Geigy Facility
Queensbury, New York

Analyses performed by: TestAmerica, Buffalo, New York

Sample Delivery Group (SDG): 480-171343-2
Analyses: General Chemistry
Review Level: Tier II

EHS Support

Report Date:
July 2, 2020

Table of Contents

Sample Summary

Water samples were collected at the Former Ciba Geigy Facility in Queensbury, New York and were analyzed by Environmental Protection Agency (EPA) SW-846 Method 9012B for cyanide. Samples included in this sample delivery group (SDG), and in this data validation report, are listed in the table below.

SDG	Lab Sample ID	Field Sample ID	Sample Matrix	Sample Collection Date	Cyanide analysis
480-171343-2	480-171343-1	PTP-SB01_20200615	Water	6/15/2020	X
480-171343-2	480-171343-2	MW-OB23_20200616	Water	6/15/2020	X
480-171343-2	480-171343-3	MW-OB19_20200616	Water	6/16/2020	X
480-171343-2	480-171343-11	EB02_20200615	Water	6/15/2020	X
480-171343-2	480-171343-12	DUP01_20200615	Water	6/15/2020	X

1 Introduction

Data were reviewed in accordance with USEPA Contract Laboratory Program National Functional Guidelines (Inorganic, January 2010), laboratory analytical methods, and professional judgment. Relevant EPA Region 2 Data Validation SOPs were referenced as needed. It is expected that the laboratory conducted sufficient quality review of the data prior to reporting. While QC is meant to increase confidence in analytical data, it is important to note that no compound concentration is guaranteed to be accurate, even if all QC criteria were met.

Data validation includes a review of reported results and supporting documentation in the laboratory report. Based on this evaluation, qualifiers may be added, deleted, or modified. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

1.1 Validation Qualifiers

U The analyte was included in the analysis but was not detected above the reported quantitation limit, or the result is considered non-detect as a consequence of associated blank contamination.

UJ The analyte was included in the analysis but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

2 Sample Custody and Receipt

All samples were received in good condition and properly preserved. The chain of custody was properly completed except that the relinquishing and receiving signatures associated with the second custody transfer do not appear on the same line. It is assumed that custody was maintained.

3 Assessment Summary and Data Usability

In this SDG, no QC (quality control) excursions encountered led to qualification or rejection of data. Results reported in this SDG are considered usable. Please refer to report below for specific QC information.

4 General Chemistry Analysis

4.1 Preservation and Holding Times

Acceptance criteria were met. Relevant preservation and holding time requirements are presented in the following table.

Method	Matrix	Preservation	Holding time
Total cyanide by 9012B	Water	4°C ± 2°C, NaOH to pH > 12	14 days

4.2 Blanks

Acceptance criteria were met. No detections were reported in the lab method blanks nor in the equipment blank associated with this data set.

4.3 Laboratory Control Sample (LCS)

Acceptance criteria were met.

4.4 Laboratory Duplicate Analysis

NA: No laboratory duplicate analysis performed on a sample in this data set was reported.

4.5 Matrix Spike/ Matrix Spike Duplicate (MS/MSD) Analysis

Matrix spike analysis was performed on sample 480-171343-3; the recovery was acceptable. MS/MSD analysis was performed on sample 480-171343-1. The MS recovery was less than the laboratory's lower acceptance limit but was within the limits applied during this validation (75 – 125%). Therefore, no qualification was needed; the flag applied by the laboratory has been removed.

4.6 Field Duplicates

Acceptance criteria, shown in the table below, were met. One field duplicate- parent sample pair was included in this sample delivery group.

Quality control nonconformance	Sample Result	Sample Result Qualification
Sample and its field duplicate ≥ 5x the RL and -RPD > 30% (aqueous) - or - -RPD > 50% (soil/ sediment)	Detect	J
Sample and/or its field duplicate < 5x the RL and -absolute difference > 2x the RL (aqueous) - or- -absolute difference > 3x the RL (soil/ sediment)	Non-detect	UJ
	Detect	J

4.7 Additional Notes

NA: No additional notes to report.

Validation performed by: Amy Coats
EHS Support