2021 Periodic Review Report

(Reporting Period: November 11, 2016 to November 11, 2021)

Location:

Former Diarsenol Co., Kingsley Park
Kingsley Street, City of Buffalo, New York
NYSDEC Site No. 915124

Prepared for:

City of Buffalo
Office of Strategic Planning
Division of Environmental Affairs
65 Niagara Square Room 901
Buffalo, New York 14202

LaBella Project No. 2212554

January 2022

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Table of Contents

1.0 EXECUTIVE SUMMARY

This Periodic Review Report (PRR) is a required element of the approved Site Monitoring and Maintenance (SM&M) Plan for Kingsley Park (Former Diarsenol Co.) in the City of Buffalo, Erie County, New York (hereafter referred to as the "Site"). This PRR was prepared on behalf of the City of Buffalo to summarize the post remedial status of New York State Department of Environmental Conservation (NYSDE) Inactive Hazardous Waste Site No. 915124. This PRR and associated Institutional and Engineering Controls (IC/EC) Certification Form have been completed for the post-remedial activities at the Site for the reporting period from November 11, 2016 to November 11, 2021.

1.1 Site Summary

The Site encompasses approximately 2.2157 acres, located on Kingsley Street in the City of Buffalo, Erie County, New York. The Site was a pharmaceutical manufacturer that produced an arsenic-based medication. The company operated from 1925 until the early 1940s. From the 1940s until 1967, various owners occupied the Site. In 1967, the City of Buffalo acquired the property and by 1972 all the Diarsenol buildings were removed, and a public park and playground were in place.

A number of sampling efforts and environmental investigations have been conducted at the Site. Previous activities include sampling by the Erie County Department of Environmental Planning (1983), NUS Corp. (1986), Ecology and Environment (Phase II Study - 1989) and the New York State Department of Health (NYSDOH) (1990). From September 1990 to February 1991 Engineering-Science Inc. (ES) conducted an Interim Remedial Investigation (IRI) which determined arsenic contamination in Site soils. An Interim Remediation Measure (IRM) was conducted from March 1991 to June 1992. Following the IRM, NYSDEC instructed ES to conduct a Supplemental Remedial Investigation/Feasibility Study (RI/FS) which was completed in February 1994. A Record of Decision (ROD) was signed in March 1994 which required a shallow groundwater collection system to divert groundwater in contaminated areas to a municipal sewer line. It also called for continued monitoring of Site groundwater. ES completed a SM&M Plan in 1994 and is being implemented by the City of Buffalo. Benchmark Environmental Engineering and Science, PLLC (Benchmark) provided updates to the SM&M plan in a letter dated March 18, 2004.

1.2 Effectiveness of Remedial Program

Based on a recent inspection and the groundwater monitoring at the Site, the IC/ECs for the Site are intact and functioning as designed. Site monitoring well groundwater depth measurements were recorded between 2.78 and 5.66 feet from top of casing with groundwater elevations between 634.44 to 637.95 feet above mean sea level (ft. AMSL). Groundwater flow direction at the Site is generally to the northwest.

1.3 Non-Compliance

No areas of non-compliance regarding the major elements of the SM&M Plan were identified during the preparation of this PRR.

1.4 Recommendations

Overall, the remedial program is viewed to be effective in achieving the remedial objectives for the Site. No changes to the SM&M Plan or the frequency of PRR submissions are recommended at this time. Based on the condition of MW-9, it is recommended the concrete pad for the monitoring well be repaired or the well be decommissioned.

2.0 SITE OVERVIEW

The Site encompasses approximately 2.2157 acres and is addressed as 52 Kingsley Street in the City of Buffalo, Erie County, New York (see Figure 1). As shown in Figure 2, the Site consists of a City of Buffalo Park including basketball courts, playgrounds, sports fields, and open green space. The Site also includes a vacant parcel along Riley Street. The Site is in an urban residential neighborhood bounded by Kingsley Street to the south, Riley Street to the north, and is east of Jefferson Avenue and west of Roehrer Avenue. Figure 2 depicts the Site boundaries overlain on a current aerial image.

2.1 Site Background

The Site consists of a 2.2157-acre Inactive Hazardous Waste Site located on Kingsley Street in the City of Buffalo, Erie County, New York. The Site was occupied by The Diarsenol Company, a former pharmaceutical manufacturer that produced an arsenic-based medication consisting of up to 31-percent arsenic. The company operated from 1925 until the early 1940s. It is suspected that off-specification products or unused raw materials were disposed behind the former building in a depression detected during the Site investigation or otherwise released during building demolition.

In September 1990, the NYSDEC requested that ES conduct an IRI of the Site. The IRI consisted of collecting and analyzing surface and subsurface soil samples from the park and surrounding properties, installing 14 soil borings, and constructing one groundwater monitoring well. Soil sampling determined that shallow soils in the park surrounding properties, as well as a localized area of deeper soils in the park, were contaminated with arsenic at levels ranging from background, which was determined to be 10-20 parts per million (ppm), to 7,090 ppm.

The ES IRI Report was completed in February 1991. In March 1991, the NYSDEC approved the report, prepared a bid package, and procured a contractor for an IRM. The IRM consisted of excavation and removal of soils containing elevated arsenic levels from the park and surrounding properties, backfilling and restoration, and the installation of four groundwater monitoring wells. During the IRM, a total of 11,549 tons of arsenic-contaminated soil were removed from the Site. Of this total, approximately 1,981 tons of soil was disposed as hazardous waste and 9,568 tons were disposed as non-hazardous waste. The construction phase of the IRM was completed in June 1992.

Following completion of the IRM, the new wells were sampled, and arsenic was detected at levels exceeding groundwater standards. Two additional rounds of groundwater sampling were conducted by ES in 1992. Arsenic was detected at levels exceeding groundwater standards in three of the five Site wells. To address this contamination, the NYSDEC issued a work assignment to ES in June 1993 to conduct a supplemental RI/FS. ES completed the field investigation in December 1993 and the final report was issued in February 1994.

A ROD was signed on March 31, 1994, calling for the installation of a shallow groundwater collection system to collect groundwater in areas where it fails to meet standards and convey the collected groundwater to a municipal sewer line. The ROD also called for continued monitoring of Site groundwater. A SM&M Plan was prepared by ES dated January 1994. The Long-Term SM&M Plan is in effect and is being implemented by the City of Buffalo.

An Operations and Maintenance Schedule (OMS) was submitted to the NYSDEC by Benchmark in March 2004 updating the SM&M Plan.

3.0 EFFECTIVENESS OF THE REMEDIAL PROGRAM

As detailed below in Section 5.1.1, the monitoring well system and groundwater collection system at the Site were inspected annually and the quinquennial groundwater monitoring was conducted on November 5, 2021. Based on this inspection, the engineering controls are generally intact and functioning effectively; the groundwater system is intact and functioning effectively at the Site.

4.0 INSTITUTIONAL/ENGINEERING CONTROLS (IC/EC)

4.1 Institutional Control Requirements and Compliance

A series of Institutional Controls (ICs) have been established for the Site in the form of Site restrictions. Adherence to these ICs is required by the SM&M Plan and include the following:

- Maintain groundwater collection trench discharge to the municipal sewer system and groundwater monitoring wells;
- Groundwater monitoring; and
- Implementation of the SM&M Plan

4.2 Engineering Control Requirements and Compliance

Engineering Controls (ECs) have been established for the Site including a groundwater collection trench with discharge to the municipal sewer system.

4.2.1 Groundwater Collection Trench

The migration of remaining contamination in groundwater at the Site is conducted via a shallow groundwater collection trench at the Site. The groundwater collections trench consists of an approximately 7-foot deep trench in the vicinity of MW-1, MW-2, and MW-3 the uses the relatively high permeability fill installed during the IRM and crushed stone to collect the contaminated groundwater. Collected groundwater is discharged to the sanitary sewer system under Riley Street. The collection trench is equipped with a sampling port that is monitored annually by the Buffalo Sewer Authority (BSA) for arsenic (total and dissolved), barium, cadmium, and bis(2-ethylhexyl)phthalate. The need for maintenance and repairs of the groundwater collection system will be evaluated during the routine inspections. The purpose of these inspections is to confirm the EC measures are functional and are operating as intended.

5.0 SITE MONITORING AND MAINTENANCE PROGRAM

5.1 Site Inspection and Certification

This PRR provides the information necessary to document the IC/EC certification. The certification primarily consists of a Site inspection to complete the NYSDEC "Site Management Periodic Review Report Notice-Institutional and Engineering Controls Certification Form" and confirm the IC/ECs:

- Are in place, performing properly, and remain effective;
- Nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any operation and maintenance plan for such controls; and
- That access is available to the Site to evaluate continued maintenance of such controls.

The Site inspection includes the inspection of the following components in accordance with the SM&M Plan and OMS.

- Groundwater collection system; and
- Site groundwater monitoring wells

5.1.1 Site-Wide Inspection

Annual inspections of the Site groundwater collection system and quinquennial groundwater monitoring wells are required per the SM&M Plan, OMS, and accepted modifications from the 2011 PRR. The annual inspections, since the previous PRR in 2017, were conducted by LiRo Engineers, Inc. and the quinquennial inspection was conducted by LaBella on November 5, 2021, which included inspection of the on-Site groundwater collection system and Site groundwater monitoring wells. The sub-drain sampling port and cleanout (the only portions of the groundwater collection system visible for inspection) were inspected. Based on the observations, the groundwater collection system appears to be in good condition and functioning as intended. The Site groundwater monitoring wells were inspected and observed to be structurally sound with the following exceptions:

- The concrete pad at MW-6 is beginning to upheave possibly due to nearby tree.
- The concrete pad at MW-9 is cracked and soils have accumulated around the well riser.

The completed Well Inspection Forms are included in Appendix 1. A photographic log showing the current condition at the Site is included in Appendix 2.

5.1.2 IC/EC Certification

The NYSDEC's IC/EC Certification Form was completed in its entirety as all ICs/ECs are in place for the Site per the SM&M Plan. Appendix 3 includes the NYSDEC "Site Management Periodic Review Report Notice-Institutional and Engineering Controls Certification Form."

5.2 Groundwater Monitoring

The SM&M Plan and OMS specify the groundwater monitoring requirements. The 2011 PRR (submitted by Benchmark on December 5, 2011 recommended modification of the groundwater monitoring frequency from semi-annually to quinquennial. The NYSDEC accepted the 2011 PRR on

April 16, 2021 with the recommended modification. The following groundwater monitoring activities are being performed to monitor the effectiveness of the shallow groundwater collection system:

- Quinquennial groundwater sample collection from monitoring wells MW-1 and MW-2 using low-flow sampling techniques;
- Analysis of field parameters (pH, Eh, temperature, turbidity, specific conductivity) at MW-1 and MW-2 during the low-flow sampling procedure;
- Analysis of collected samples for total arsenic and cadmium by a NY State Department of Health ELAP-certified laboratory;
- Inspection and documentation of the structural integrity of all monitoring wells; and,
- Quinquennial collection of groundwater elevation data from all monitoring wells (MW-1 through MW-9).

On November 5, 2021, quinquennial groundwater monitoring and well inspections were conducted. Water levels were measured in eight of the nine monitoring wells. Monitoring well MW-8 is located on private property and not accessible at the time of the monitoring event. Table 1 provides a summary of the groundwater elevation data from the Site groundwater monitoring wells. Figure 3 presents a groundwater contour map of the groundwater measurements at the time of the inspection and groundwater sampling. Site monitoring well groundwater depth measurements were recorded between 2.78 and 5.66 feet from top of casing with groundwater elevations between 634.44 to 637.95 ft. AMSL. Groundwater flow direction at the Site is generally to the northwest.

Following the collection of the monitoring well water levels, monitoring wells MW-1 and MW-2 were sampled using standard low-flow sampling techniques. A field duplicate sample was collected from monitoring well MW-2. Laboratory analytical results are summarized in Table 2. Monitoring well purge field logs are provided in Appendix 4. The laboratory analytical report is provided in Appendix 5. The Data Usability Summary Report (DUSR) is provided in Appendix 6. As indicated on Table 2 the total arsenic concentrations from MW-1 and MW-2 exceeded the Groundwater Standard. Cadmium in both monitoring wells was below the Groundwater Standard. The field duplicate results were comparable to and slightly lower than the parent sample.

Annual sampling analytical data for the groundwater collection system discharge between 2017 and 2021 was obtained from the Buffalo Sewer Authority (BSA) and is summarized in Table 3. The BSA analytical results were below the maximum allowable instantaneous discharge (MAID) limits for each parameter.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Quinquennial inspection and groundwater monitoring of the Site was performed on November 5, 2021, by LaBella Associates, DPC as prescribed in the SM&M Plan and OMS. As a result of this inspection, LaBella has determined that the Site is in compliance with the elements of the SM&M Plan.

As reflected by the signed Institutional and Engineering Controls Certification Form (Appendix 3), LaBella has concluded that:

- The required EC/ICs are in place, are performing properly, and remain effective;
- The SM&M Plan and OMS is being implemented; and

- The remedy continues to be protective of public health and the environment.

Based on the results of the quinquennial groundwater monitoring, arsenic was detected in MW-1 and MW-2 at concentrations exceeding the Groundwater Standard. Cadmium was detected in both monitoring wells at concentrations below the Groundwater Standard. The groundwater analytical results are consistent with previous sampling events. The BSA analytical results were all below the MAID limits.

LaBella recommends the following:

- No changes to the inspection, reporting or certification frequency prescribed for the Site; and,
- Repairs to the concrete pad or decommissioning of MW-9.

7.0 LIMITATIONS

The conclusions presented in this report are based on information gathered in accordance with generally acceptable professional consulting principles and practices. All conclusions reflect observable conditions existing at the time of the Site inspection. Information provided by outside sources (individuals, agencies, laboratories, etc.) as cited herein, was used in the assessment of the Site. The accuracy of the conclusions drawn from this assessment is, therefore, dependent upon the accuracy of information provided by these sources. Furthermore, LaBella is not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to the performance of services.

This report is based upon the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. Professional judgments expressed herein are based upon the facts currently available with the limits of the existing data, scope of services, budget and schedule. To the extent that more definitive conclusions are desired by the Client than are warranted by the current available facts, it is specifically Labella's' intent that the conclusions and recommendations stated herein will be intended as guidance and not necessarily a firm course of action expect where explicitly stated as such. LaBella makes no warranties, expressed or implied including without limitation, warranties as to merchantability or fitness of a particular purpose. Furthermore, the information provided in this report is not be construed as legal advice.

This assessment and report have been completed and prepared on behalf of and for the exclusive use of City of Buffalo. Any reliance on this report by a third party is at such party's sole risk.

8.0 REFERENCES

DER-10/Technical Guidance for Site Investigation and Remediation, NYSDEC, May 3, 2010

Site Monitoring and Maintenance Plan for Diarsenol Company, Kingsley Park Site, Buffalo, New York; Engineering-Science, Inc., January 1994

Operation and Maintenance Schedule; Benchmark Environmental Engineering & Science, PLLC, March 2004

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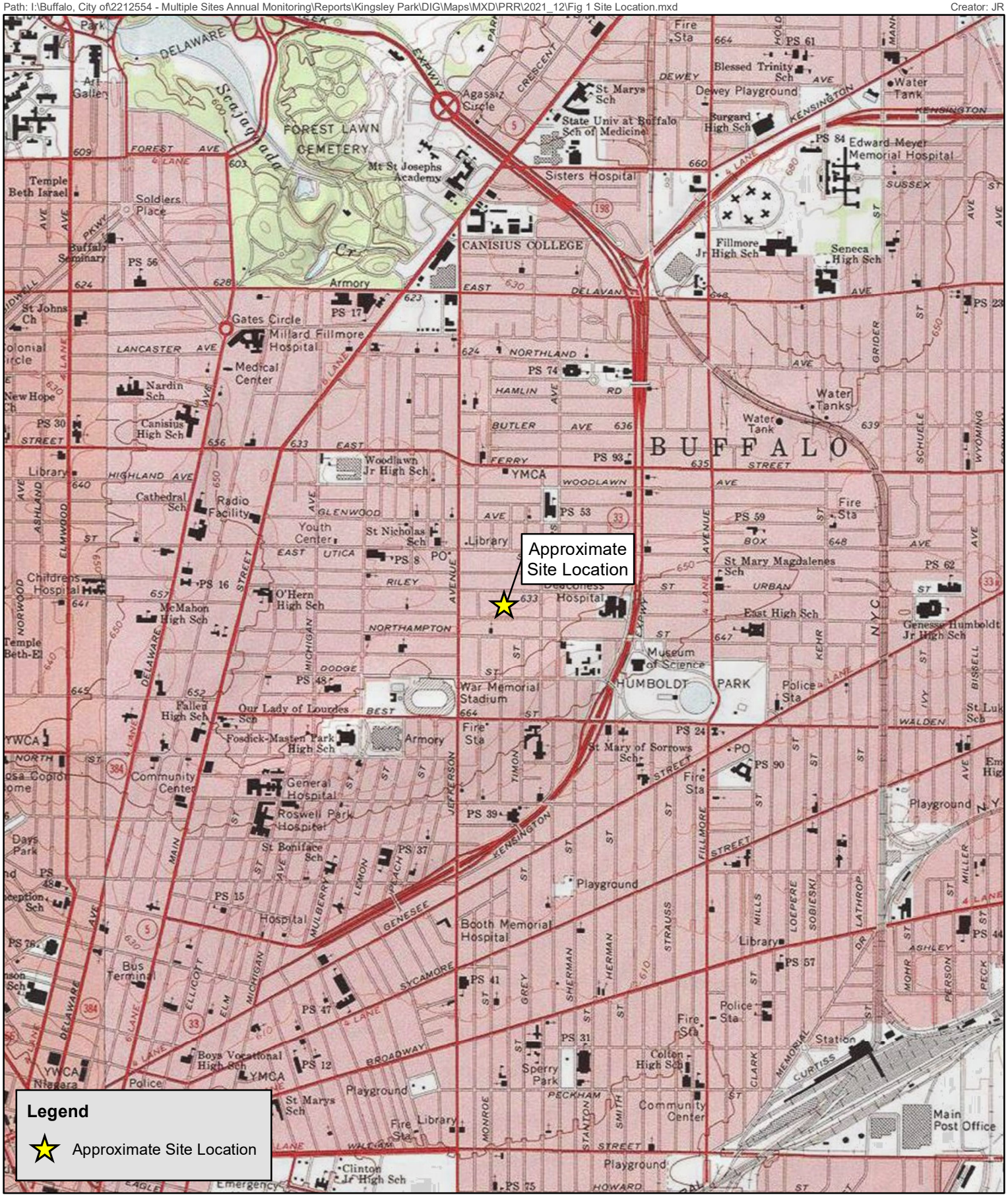
FIGURES



PROJECT # / DRAWING # / DATE:	DRAWING NAME:	PROJECT:
2212554 **Figure 1** 12/13/2021	Site Location Map	2021 Periodic Review Report Kingsley Park Buffalo, New York NYSDEC Site No. 915124

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Data Source: Bing Maps; Erie County 2020; LaBella 2021.

PROJECT # / DRAWING # / DATE:	DRAWING NAME:	PROJECT:
2212554 **Figure 2** 1/27/2022	Site Plan	2021 Periodic Review Report Kingsley Park Buffalo, New York NYSDEC Site No. 915124

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Data Source: Bing Maps; Erie County 2020; LaBella 2021.

PROJECT # / DRAWING # / DATE:	DRAWING NAME:	PROJECT:
2212554 **Figure 3** 1/27/2022	Groundwater Contour Map	2021 Periodic Review Report Kingsley Park Buffalo, New York NYSDEC Site No. 915124

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LaBella
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Data Source: Bing Maps; Erie County 2020; LaBella 2021.

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TABLES

TABLE 1
SUMMARY OF GROUNDWATER ELEVATIONS
DIARSENOL COMPANY KINGSLEY PARK
NYSDEC Site No.915124

Well ID	Top of Casing Elevation (ft. AMSL)	11/5/2021 Depth of Water (ft. BTOC)	Groundwater (ft. AMSL)
MW - 1	640.71	4.00	636.71
MW - 2	640.71	5.66	635.05
MW - 3	641.06	5.51	635.55
MW - 4	639.87	3.88	635.99
MW - 5	640.49	3.00	637.49
MW - 6	640.61	2.78	637.83
MW - 7	641.06	3.11	637.95
MW - 8	639.60	NA	NA
MW - 9	639.45	5.01	634.44

Notes:
NA : Not accessible
ft. AMSL ; feet above sea level
ft. BTOC : feet below top of casing.
Casing elevation information obtained from the LiRo PRR 2018

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
DIARSENOL COMPANY KINGSLEY PARK
NYSDEC Site No.915124

Parameter	Monitoring Well ID and Date		Class "GA" GWQS[2]
	MW -1	MW -2	
	11/5/2021	11/5/2021	
Field Measurements			
pH (standard units)	7.17	7.22	6.5 - 8.5
Temperature (°C)	14.5	14.58	NA
Specific Conductance (ms/cm)	0.7	1.25	NA
Turbidity	-	-	NA
Dissolved Oxygen (mg/L)	3.8	8.09	NA
Appearance (visual)	clear	clear	NA
Odor (olfactory)	no odor	no odor	NA
Inorganic Compounds (mg/L)			
Total Arsenic	**0.0772**	**0.4485**	0.025
Total Cadmium	0.0005	0.00022	0.005

Notes:
Reported values represent the greater value of the sample and duplicate sample results.
NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV) as per NYCRR Part 703
BOLD : represents exceedances of GWQS
NA : Not Applicable; a GWQS has not been established for this parameter.
- : Turbidity meter was not fuctioning.

TABLE 3
BUFFALO SEWER AUTHORITY SAMPLING RESULTS
DIARSENOL COMPANY KINGSLEY PARK
NYSDEC Site No.915124

Parameter	MAID (mg/L)	Date Sampled and Result (mg/L)				
		5/27/2021	4/29/2020	4/23/2019	7/25/2018	4/13/2017
BEHP	1	0.0	0.0	0.071	0.0	0.0
Arsenic, Total	2	0.011	0.008	0.006	0.03	0.0
Cadmium, Total	1	0.0	0.0	0.007	0.023	0.007
Barium, Total	10	0.213	0.117	0.134	0.237	0.05
pH	5 to 12	7.5	7.8	9.0	7.0	9.0

Notes:
MAID : Maximum Allowable Instantanious Discharge
mg/L : Milligrams per Liter
BEHP : Bis2(ethylhexyl)phthalate

APPENDIX 1

Well Inspection Form

WELL INSPECTION CHECKLIST
DIARSENOL COMPANY KINGSLEY PARK
NYSDEC Site No.915124

Well Number	TOIC Elevation (Ft/ASL) (NASL)	Well Depth (feet)	TOIC Water Level (feet)	Well Marking (G/F/P)	Casing Lock (G/F/P)	Well Cap (G/F/P)	Obstruction in well (Y/N)	Water in Annulet (Y/N)	Concrete Pad (G/F/P)	Inspection Date	(Volume Purged (Gallons)	Comments
MW - 1	640.71	11.92	4.00	No	F	F	N	Y	G	11/5/2021	4.5	
MW - 2	640.71	11.51	5.66	No	F	P	N	N	G	11/5/2021	1.05	
MW - 3	641.06	11.66	5.51	No	F	F	N	N	G	11/5/2021	-	
MW - 4	639.87	12.31	3.88	No	F	F	N	Y	G	11/5/2021	-	
MW - 5	640.49	12.00	3.00	No	F	P	N	N	G	11/5/2021	-	
MW - 6	640.61	12.00	2.78	No	F	F	N	N	P	11/5/2021	-	Concrete pad upheaved due to tree.
MW - 7	641.06	11.7	3.11	No	F	F	N	Y	G	11/5/2021	-	
MW - 8	639.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Private property with dog.
MW - 9	639.45	12.72	5.01	No	F	F	N	N	P	11/5/2021	-	Concrete pad damaged.

Notes:
TOIC : Top of inner casing
TOIC Elevations provided by LiRo 2018 PRR
NA : Not Accessible, private property with viscious dog.

TABLE C.4
WELL INSPECTION CHECKLIST
DIARSENOL COMPANY KINGSLEY PARK

				Well Inspection (GOOD/FAIR/POOR OR YES/NO)									
Well Number	TOIC (1) Elevation (Ft/ASL) (NASL)	Well Depth (feet)	TOIC Water Level (feet)	Well Marking (G/F/P)	Casing Lock (G/F/P)	Protective Cover (G/F/P)	Well Cap (G/F/P)	Obstructions in Well (Y/ N)	Water in Annulet (Y/ N)	Concrete Pad (G/F/P)	Inspection Date	Comments	Volume Purged (Gallons)
MW-1	640.71	12.5	9.63	NONE	N/A	F	F	NO	NO	F	8/27/20		
MW-2	640.71	13.0	11.36	NONE	N/A	F	F	NO	NO	F	8/27/20		
MW-3	641.06	13.0	10.75	NONE	N/A	F	F	NO	NO	F	8/27/20		
MW-4	639.87	13.0	4.31	NONE	N/A	F	F	NO	YES	F	8/27/20		
MW-5	640.49	13.0	8.95	NONE	N/A	F	F	NO	NO	F	8/27/20		
MW-6	640.61	12.5	DRY	NONE	N/A	F	F	NO	NO	F	8/27/20		
MW-7	641.06	12.0	9.59	NONE	N/A	F	F	NO	YES	F	8/27/20		
MW-8	639.60	14.0	PRIVATE PROPERTY, NO ACESS										
MW-9	639.45	13.5	9.69	NONE	N/A	F	F	NO	NO	F	8/27/20		

(1) - TOP OF INNER CASING

TABLE C.4
WELL INSPECTION CHECKLIST
DIARSENOL COMPANY KINGSLEY PARK

				Well Inspection (GOOD/FAIR/POOR OR YES/NO)									
Well Number	TOIC (1) Elevation (Ft/ASL) (NASL)	Well Depth (feet)	TOIC Water Level (feet)	Well Marking (G/F/P)	Casing Lock (G/F/P)	Protective Cover (G/F/P)	Well Cap (G/F/P)	Obstructions in Well (Y/ N)	Water in Annulet (Y/ N)	Concrete Pad (G/F/P)	Inspection Date	Comments	Volume Purged (Gallons)
MW-1	640.71	12.5	3.99	None	None	F	F	N	N	F	9/16/19		
MW-2	640.71	13.0	3.92		None	F	None	N	N	F	9/16/19		
MW-3	641.06	13.0	4.15		F	F	F	N	N	F	9/16/19		
MW-4	639.87	13.0	4.00		None	F	F	N	N	F	9/16/19		
MW-5	640.49	13.0	4.25		None	F	F	N	N	F	9/16/19		
MW-6	640.61	12.5	2.61		None	F	F	N	N	F	9/16/19		
MW-7	641.06	12.0	2.37		F	F	F	N	N	F	9/16/19		
MW-8	639.60	14.0	NO ACCESS - PRIVATE PROPERTY								9/16/19		
MW-9	639.45	13.5	4.98		F	F	F	N	N	F	9/16/19		

(1) - TOP OF INNER CASING

TABLE C.4
WELL INSPECTION CHECKLIST
DIARSENOL COMPANY KINGSLEY PARK

				Well Inspection (GOOD/FAIR/POOR OR YES/NO)									
Well Number	TOIC (1) Elevation (Ft/ASL) (NASL)	Well Depth (feet)	TOIC Water Level (feet)	Well Marking (G/F/P)	Casing Lock (G/F/P)	Protective Cover (G/F/P)	Well Cap (G/F/P)	Obstructions in Well (Y/ N)	Water in Annulet (Y/ N)	Concrete Pad (G/F/P)	Inspection Date	Comments	Volume Purged (Gallons)
MW-1	640.71	12.5	12.0	NONE	None	G	F	No	No	F	10/3/18		—
MW-2	640.71	13.0	Dry		"	"	None	"	"	F			—
MW-3	641.06	13.0	11.85		F	"	F	"	"	F			—
MW-4	639.87	13.0	12.5		None	"	F	"	"	F			—
MW-5	640.49	13.0	12.3		"	"	P	"	"	F			—
MW-6	640.61	12.5	Dry		"	"	F	"	"	F			—
MW-7	641.06	12.0	NM		F	"	P	"	Yes	F			—
MW-8	639.60	14.0	NM	NPK	PRIVATE	PROPE	RTY						—
MW-9	639.45	13.5	12.9	↓	None	F	F	No	NO	F	↓		—

(1) – TOP OF INNER CASING

APPENDIX 2

Photographs

Site facing west

Site facing north

Monitoring Well MW-1

Monitoring Well MW-2

Monitoring Well MW-3

Monitoring Well MW-4

Monitoring Well MW-5

Monitoring Well MW-6

Kingsley Park Site No. 915124
Kingsley Street
Buffalo, NY 14208

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Monitoring Well MW-7

Monitoring Well MW-8
Not accessible.

Monitoring Well MW-9

APPENDIX 3

Site Management Periodic Review Report Notice-Institutional and Engineering Controls Certification Form

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

Site Details **Box 1**

Site No. 915124

Site Name Diarsenol Co., Kingsley Park

Site Address: Kingsley Street Zip Code: 14208
City/Town: Buffalo
County: Erie
Site Acreage: ~~2.000~~ 2.2157

Reporting Period: November 11, 2016 to November 11, 2021

	YES	NO
1. Is the information above correct?	☐	☒
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

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

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

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

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 915124 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
100.50-5-18.1	City of Buffalo	O&M Plan

Site Monitoring and Maintenance Plan (12/1994)
- Maintain groundwater collection trench discharging to municipal sewer sytem and groundwater monitoring wells.
- Groundwater monitoring.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
100.50-5-18.1	Leachate Collection

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
X	☐

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

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

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

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

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

YES	NO
X	☐

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

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

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. 915124

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Andrew Benkleman (print name) at LaBella Associates, 300 Pearl Street, Buffalo, NY 14202 (print business address),

am certifying as Remedial Party (Owner or Remedial Party)

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

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

12/13/2021
Date

EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Andrew Benkleman (print name) at LaBella Associates, 300 Pearl Street, Buffalo, NY 14202 (print business address),

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

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	12/13/2021 Date

APPENDIX 4

Field Logs

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL I.D.: MW - 1

300 Pearl Street
Buffalo, New York 14202
Telephone: (716) 551-6281
Facsimile: (716) 551-6282

Project Name: Kingsley Park
Location: City of Buffalo, Buffalo, New York
Project No.: 2212554
Sampled By: Heather Geoghegan
Date: 11/5/2021
Weather: 34 °F Sun

PURGE VOLUME CALCULATION

Well Diameter: 2”
Depth of Well: 11.92’
Static Water Level: 4.00 bgs
One Well Volume: 1.05 Gallons

PURGE AND SAMPLING METHOD

☐ Bailer – Type:
☒ Pump – Type: Peristaltic
Sampling Device: Designated Tubing
Pump Rate: NA

FIELD PARAMETER MEASUREMENT

Time	Water Level	Gallons Purged	pH	Temp (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen	Comments
1116	4.0	-	7.64	14.6	0.77	-	5.35	Cloudy
1120	5.35	1.0	7.48	14.5	0.67	-	8.10	Floating white debris; slightly cloudy
1124	8.10	1.0	7.66	14.8	0.68	-	7.51	Floating white debris; clear
1128	7.51	0.5	7.41	15.1	0.68	-	7.09	Floating white debris; clear
1132	7.09	0.5	7.19	14.2	0.68	-	4.32	Floating white debris; clear
1136	4.32	0.5	7.17	17.9	0.69	-	4.18	Floating white debris; clear
1140	4.18	0.5	7.16	14.5	0.70	-	3.13	Floating white debris; clear
1145	3.13	0.5	7.17	14.5	0.70	-	3.80	Floating white debris; clear

Total 4.5 Gallons Purged

Purge Time Start: 1116
Purge Time End: 1145

WELL SAMPLING

Sample I.D.: MW -1
No. of Containers: 1
Sample Time: 1145
Sample Preservation:

Sampled For:
☐ VOCs - 8260 TCL + CP-51
☐ SVOCs - 8270 CP-51 Only
☐ VOCs - 8260B CP-51 Only
☐ Total RCRA Metals
☐ PCBs
☒ Other: Total Arsenic, Total Cadmium

OBSERVATIONS

Difficulties with well cover. White floating debris of sorts was present throughout sampling event.

Recharge Behavior: ☐ Fast ☒ Moderate ☐ Slow ☐ Purged Dry

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL I.D.: MW – 2

300 Pearl Street
Buffalo, New York 14202
Telephone: (716) 551-6281
Facsimile: (716) 551-6282

Project Name: Kingsley Park
Location: City of Buffalo, Buffalo, New York
Project No.: 2212554
Sampled By: Heather Geoghegan
Date: 11/5/2021
Weather: 34 °F Sun

PURGE VOLUME CALCULATION

Well Diameter: 2”
Depth of Well: 12.72’
Static Water Level: 5.66 bgs
One Well Volume: 1.13 Gallons

PURGE AND SAMPLING METHOD

☐ Bailer – Type:
☒ Pump – Type: Peristaltic
Sampling Device: Designated Tubing
Pump Rate: NA

FIELD PARAMETER MEASUREMENT

Time	Water Level	Gallons Purged	pH	Temp (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen	Comments
1010	5.66	-	7.37	12.8	1.73	-	7.30	
1014	7.32	0.15	7.23	14.5	1.25	-	7.70	
1018	7.21	0.15	7.20	14.5	0.85	-	8.75	
1024	7.35	0.15	7.29	14.8	1.22	-	9.40	
1028	7.37	0.15	7.27	14.9	1.19	-	8.67	
1032	7.54	0.15	7.30	14.6	1.23	-	9.09	
1036	7.71	0.15	7.21	14.7	1.28	-	8.91	
1040	7.96	0.15	7.22	14.8	1.25	-	8.09	

Total 1.05 Gallons Purged

Purge Time Start: 10:10
Purge Time End: 10:40

WELL SAMPLING

Sample I.D.: MW -2
No. of Containers: 1 and Field Duplicate
Sample Time: 1042
Sample Preservation:

Sampled For:
☐ VOCs - 8260 TCL + CP-51
☐ SVOCs - 8270 CP-51 Only
☐ VOCs - 8260B CP-51 Only
☐ Total RCRA Metals
☐ PCBs
☒ Other: Total Arsenic, Total Cadmium

OBSERVATIONS

Field Duplicate

Recharge Behavior: ☐ Fast ☒ Moderate ☐ Slow ☐ Purged Dry

APPENDIX 5

Laboratory Analytical Report

ANALYTICAL REPORT

Lab Number:	L2161050
Client:	LaBella Associates, P.C. 300 Pearl Street Suite 252 Buffalo, NY 14202
ATTN:	Andy Benkleman
Phone:	(716) 551-6281
Project Name:	BUFFALO; KINGSLEY PARK
Project Number:	2212554
Report Date:	11/19/21

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

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

Project Name: BUFFALO; KINGSLEY PARK
Project Number: 2212554

Lab Number: L2161050
Report Date: 11/19/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2161050-01	MW-1	WATER	BUFFALO, NY	11/05/21 11:45	11/05/21
L2161050-02	MW-2	WATER	BUFFALO, NY	11/05/21 10:42	11/05/21
L2161050-03	DUPLICATE	WATER	BUFFALO, NY	11/05/21 00:00	11/05/21

Project Name:	BUFFALO; KINGSLEY PARK	**Lab Number:**	L2161050
Project Number:	2212554	**Report Date:**	11/19/21

Case Narrative

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

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

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

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

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

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

Project Name:	BUFFALO; KINGSLEY PARK	**Lab Number:**	L2161050
Project Number:	2212554	**Report Date:**	11/19/21

Case Narrative (continued)

Report Submission

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

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

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 11/19/21

METALS

Project Name: BUFFALO; KINGSLEY PARK
Project Number: 2212554
Lab Number: L2161050
Report Date: 11/19/21

SAMPLE RESULTS

Lab ID: L2161050-01
Client ID: MW-1
Sample Location: BUFFALO, NY
Sample Depth:
Matrix: Water

Date Collected: 11/05/21 11:45
Date Received: 11/05/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.07722		mg/l	0.00050	0.00016	1	11/18/21 08:12	11/18/21 15:39	EPA 3005A	1,6020B	PS
Cadmium, Total	0.00050		mg/l	0.00020	0.00005	1	11/18/21 08:12	11/18/21 15:39	EPA 3005A	1,6020B	PS

Project Name: BUFFALO; KINGSLEY PARK
Project Number: 2212554
Lab Number: L2161050
Report Date: 11/19/21

SAMPLE RESULTS

Lab ID: L2161050-02
Client ID: MW-2
Sample Location: BUFFALO, NY
Sample Depth:
Matrix: Water

Date Collected: 11/05/21 10:42
Date Received: 11/05/21
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.4485		mg/l	0.00050	0.00016	1	11/18/21 08:12	11/18/21 16:19	EPA 3005A	1,6020B	PS
Cadmium, Total	0.00022		mg/l	0.00020	0.00005	1	11/18/21 08:12	11/18/21 16:19	EPA 3005A	1,6020B	PS

Project Name: BUFFALO; KINGSLEY PARK
Lab Number: L2161050
Project Number: 2212554
Report Date: 11/19/21

SAMPLE RESULTS

Lab ID: L2161050-03
Client ID: DUPLICATE
Sample Location: BUFFALO, NY
Date Collected: 11/05/21 00:00
Date Received: 11/05/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.4447		mg/l	0.00050	0.00016	1	11/18/21 08:12	11/18/21 16:24	EPA 3005A	1,6020B	PS
Cadmium, Total	0.00021		mg/l	0.00020	0.00005	1	11/18/21 08:12	11/18/21 16:24	EPA 3005A	1,6020B	PS

Project Name: BUFFALO; KINGSLEY PARK
Project Number: 2212554
Lab Number: L2161050
Report Date: 11/19/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1571847-1										
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	11/18/21 08:12	11/18/21 15:01	1,6020B	PS
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	11/18/21 08:12	11/18/21 15:01	1,6020B	PS

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: BUFFALO; KINGSLEY PARK

Project Number: 2212554

Lab Number: L2161050

Report Date: 11/19/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1571847-2								
Arsenic, Total	107		-		80-120	-		
Cadmium, Total	104		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: BUFFALO; KINGSLEY PARK
Project Number: 2212554

Lab Number: L2161050
Report Date: 11/19/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1571847-3 QC Sample: L2162029-01 Client ID: MS Sample												
Arsenic, Total	0.0011	0.12	0.1182	98		-	-		75-125	-		20
Cadmium, Total	0.00017J	0.053	0.05341	101		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: BUFFALO; KINGSLEY PARK

Project Number: 2212554

Lab Number: L2161050

Report Date: 11/19/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1571847-4 QC Sample: L2162029-01 Client ID: DUP Sample						
Cadmium, Total	0.00017J	0.00013J	mg/l	NC		20

Project Name: BUFFALO; KINGSLEY PARK
Project Number: 2212554

Lab Number: L2161050
Report Date: 11/19/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2161050-01A	Plastic 250ml HNO3 preserved	A	<2	<2	5.5	Y	Absent		AS-6020T(180),CD-6020T(180)
L2161050-02A	Plastic 250ml HNO3 preserved	A	<2	<2	5.5	Y	Absent		AS-6020T(180),CD-6020T(180)
L2161050-03A	Plastic 250ml HNO3 preserved	A	<2	<2	5.5	Y	Absent		AS-6020T(180),CD-6020T(180)

*Values in parentheses indicate holding time in days

Project Name:	BUFFALO; KINGSLEY PARK	**Lab Number:**	L2161050
Project Number:	2212554	**Report Date:**	11/19/21

GLOSSARY

Acronyms

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

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

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

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

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	BUFFALO; KINGSLEY PARK	**Lab Number:**	L2161050
Project Number:	2212554	**Report Date:**	11/19/21

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

Data Qualifiers

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

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

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

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

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

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

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

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	BUFFALO; KINGSLEY PARK	**Lab Number:**	L2161050
Project Number:	2212554	**Report Date:**	11/19/21

Data Qualifiers

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	BUFFALO; KINGSLEY PARK	**Lab Number:**	L2161050
Project Number:	2212554	**Report Date:**	11/19/21

REFERENCES

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

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

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

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

Westborough Facility:

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

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

Mansfield Facility:

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

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

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

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

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

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

Page 1 of 1

Date Rec'd in Lab: 11/6/21

ALPHA Job #: L2161050

Client Information

Client: LaBella Associates
Address: 300 Pearl Street Suite 130
Buffalo NY 14202
Phone: 716.551.6281
Fax: hgeoghegan@labellapc.com
Email:

Project Information

Project Name: Buffalo; Kingsley Park
Project Location: Buffalo, NY
Project # 2212554
(Use Project name as Project #) ☐
Project Manager: A. Beaklemen
ALPHAQuote #:

Turn-Around Time

Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

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

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirement

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

Disposal Site Information

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

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

NYSDEC ASP Category B Deliverables

Please specify Metals or TAL.

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total Arsenic	Total Calcium	Total Bottle	Sample Specific Comments
L2161050-01	MW-1	11/5/21	1145	WATER	HEG	x	x	1	
-02	MW-2	11/5/21	1042	WATER	HEG	x	x	1	
-03	DUPLICATE	11/5/21	—	WATER	HEG	x	x	1	

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

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

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

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	11/5/2021 1310		11/5/21 1310
ATL	11/5/21 1340		11/6/21 0805

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

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

APPENDIX 6

Data Usability Summary Report

Data Validation Services

120 Cobble Creek Road P. O. Box 208
North Creek, NY 12853
Phone (518) 251-4429
harry@frontiernet.net

November 24, 2021

Andrew Benkleman
Labella Associates
300 Pearl St Suite 130
Buffalo, NY 14202

RE: NYSDEC Kingsley Park, Buffalo, NY Site
Validation of Analytical Laboratory Data; Data Usability Summary Report (DUSR)
Alpha Analytical SDG No. L2161050

Dear Mr. Benkleman:

Review has been completed for the data package generated by that pertains to aqueous samples collected 11/05/21 the Kingsley Park, Buffalo, NY site. Two aqueous samples and a field duplicate were processed for total arsenic and total cadmium by USEPA SW846 method 6020B.

The data packages submitted by the laboratory contain full deliverables for validation, and this usability report is generated from review of the QC summary form information, with full review of sample raw data and limited review of associated QC raw data. The reported QC summary forms and sample raw data have been reviewed for application of validation qualifiers, with guidance from the USEPA national and regional validation documents, and in consideration for the specific requirements of the analytical methodology. The following items were reviewed:

* Data Completeness
* Case Narrative
* Custody Documentation
* Holding Times
* Calibration and Preparation Blanks
* Blind Field Duplicate Correlations
* Laboratory Control Sample (LCS)
* Initial and Continuing Calibration Standards
* Method Compliance
* Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review, as discussed in NYS DER-10 Appendix B Section 2.0 (c). Documentation of the outlying parameters cited in this report can be found in the laboratory data package.

In summary, results for the samples are usable as reported. No matrix spikes were processed, and the effect of matrix on the analyte recovery has not been determined. Data completeness, field duplicate precision, representativeness, reproducibility, and comparability are acceptable.

The sample identifications are attached to this text. Also included in this report is the client EQuIS EDD of the processed samples.

Blind Field Duplicate Evaluation

The blind field duplicate evaluation of MW-2 shows acceptable correlations.

Total Arsenic and Cadmium by 6020B

Holding times were met, and blanks show no contamination. Instrument performance and LCS recoveries are compliant.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,

Judy Harry

Attachments: Client and Laboratory Identifications
Client EDD

Sample Summaries

Project Name: BUFFALO; KINGSLEY PARK
Project Number: 2212554

Lab Number: L2161050
Report Date: 11/19/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2161050-01	MW-1	WATER	BUFFALO, NY	11/05/21 11:45	11/05/21
L2161050-02	MW-2	WATER	BUFFALO, NY	11/05/21 10:42	11/05/21
L2161050-03	DUPLICATE	WATER	BUFFALO, NY	11/05/21 00:00	11/05/21