MACTEC

engineering and constructing a better tomorrow

January 17, 2023

Ms. Megan Kuczka
New York State Department of Environmental Conservation
Division of Environmental Remediation
700 Delaware Avenue
Buffalo, New York 14209

Subject: **Periodic Review Report**
November 30, 2019 - November 30, 2022
Buffalo Outer Harbor-Radio Tower Area
NYSDEC Site No. 915026

Dear Ms. Kuczka:

MACTEC Engineering and Geology, P.C. (MACTEC) is submitting this Periodic Review Report (PRR) for the Buffalo Outer Harbor-Radio Tower Area (Site) on behalf of the Remedial Party, Honeywell International Inc. (Honeywell).

A completed Site Management PRR Notice - Institutional and Engineering Controls Certification Form is provided herein as Attachment A, which includes a summary of existing covenants and property use restrictions. Supporting Tables, Figures, and Appendices are included herein as Attachment B. The remainder of this document is consistent with the outline presented in New York State Department of Environmental Conservation's (NYSDEC's) 45-day notice letter dated October 18, 2022.

I. Introduction

A. Site Summary:

The Site is located on property owned by Erie Canal Harbor Development Corporation (ECHDC). A Site Location Plan is included in Attachment B.1. ECHDC purchased the property from Niagara Frontier Transportation Authority on August 30, 2016. The Site address is 901 Fuhrmann Boulevard in Buffalo, Erie County, New York 14205. The Site consists of an approximately 0.9-acre area where land disposal and fill placement formerly occurred, and soils were found to be contaminated with nitrobenzene exceeding toxicity characteristic leaching procedure (TCLP) hazardous waste thresholds. The Site is located within a larger 6-acre area known as the Radio Tower Area (RTA). A Record of Decision (ROD) was issued by the NYSDEC for the RTA in March 1999; the ROD was modified by an Explanation of Significant Difference in 2003.

Remedial action completed at the Site consisted of in-situ chemical oxidation and stabilization, and in-place capping of the former disposal area. The Site remediation activities were documented in a Remedial Action Completion Report (August 17, 2005),

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which was approved by NYSDEC in a letter dated November 22, 2005. Institutional controls were also implemented via a Declaration of Covenants and Restrictions that was filed with Erie County in December 2005.

The covenants and restrictions include land use restrictions and the requirement for annual inspection and maintenance of the capped area, as specified in Section 6.0 of the NYSDEC-approved Site Management Plan prepared for Honeywell by Remedial Engineering, P.C. (August 17, 2005). Six groundwater monitoring wells (GW-18R, GW-19, GW-20, GW-21, GW-22, and GW-23) are located adjacent to the capped area.

During the period of November 30, 2019 to November 30, 2022 (reporting period), the following routine OM&M activities were completed in accordance with the Work Plan for Inspection and Monitoring (referred to hereafter as the Work Plan), prepared by MACTEC (December 19, 2008), as approved, with amendment, by the NYSDEC as indicated in their letter dated July 10, 2009:

- Collection and laboratory testing of groundwater samples from Site wells once every three years (i.e., 2022); and
- Annual inspection and maintenance mowing of the disposal area cap system.

B. Effectiveness Monitoring: The cap system is intact with suitable vegetative cover and no subsidence. Analytical results from the 2022 groundwater monitoring event indicate that nitrobenzene was not detected in groundwater. The reported concentrations for various metals in the 2022 groundwater samples exceeded the NY Class GA groundwater standards. The metals results were consistent with previous Outer Harbor data, as well as data presented in the ROD, which concluded that the concentrations of metals in groundwater may be attributable to “general groundwater quality in the vicinity of the Site”. A table providing a comparison of the analytical data to NY Class GA groundwater standards is provided in Attachment B.2.

C. Compliance: The OM&M activities conducted during the reporting period were performed in accordance with the Work Plan.

D. Recommendations: Implementation of the activities specified in the Work Plan will continue during the period of November 30, 2022 to November 30, 2025, as described in Section VI of this letter.

II. Site Overview

A. Site Location: The Site is located at 901 Fuhrmann Boulevard in an area known as Buffalo Outer Harbor on Lake Erie. A Site Location Plan is included in Attachment B.1. The Site is specifically located near the northern edge of the NFTA terminal parking area and consists of a 0.9-acre capped/remediated former disposal area. The adjacent land to the north has recently been developed as the Lakeside Bike Park. There are six groundwater monitoring wells (GW-18R, GW-19, GW-20, GW-21, GW-22, and GW-23) located adjacent to the capped area.

B. Chronology: A ROD was issued by the NYSDEC for the RTA in March 1999 calling for ex-situ bioremediation of the nitrobenzene-contaminated soils. In 2001, a pilot-study was successfully completed for the in-situ chemical oxidation treatment of the nitrobenzene-contaminated soils. An Explanation of Significant Difference was issued in

2003, accepting an in-situ chemical oxidation remedy. Remedial action was conducted in 2003 and initially consisted of two rounds of in-situ chemical oxidation using potassium permanganate. Subsequently, treatability studies were conducted in support of stabilization of the remaining contamination, and a mixture of Portland cement and activated carbon was used to stabilize the remaining nitrobenzene-contaminated material. The final restoration activities completed in 2004 included removal of approximately 1,680 cubic yards of treated and stabilized soil, which were disposed of at the Alltift Landfill site (NYSDEC site No. 9-15-054), and in-place capping of the remaining treated soils. The cap is a soil cover system that is 24 inches thick, consisting of a bottom geotextile liner overlain by 20 inches of clean fill and 4 inches of topsoil. Vegetation was established over the capped area via seeding with local grasses. The site remediation activities were documented in a Remedial Action Completion Report (August 17, 2005) which was approved by NYSDEC in a letter dated November 22, 2005. Institutional controls were also implemented, including land use restrictions and the requirement for annual inspection and maintenance of the capped area, as specified in Section 6.0 of the NYSDEC-approved Site Management Plan prepared for Honeywell by Remedial Engineering, P.C. (August 17, 2005). A Declaration of Covenants and Restrictions was executed by NYSDEC and filed at the Erie County courthouse on December 27, 2005. Quarterly groundwater monitoring events were completed by MACTEC in 2005-2006, with the results documented in a letter report issued by MACTEC on October 4, 2006. Semi-annual groundwater monitoring events were completed by MACTEC in 2006-2007, with results presented in a letter report issued by MACTEC on March 26, 2008. A Work Plan was prepared by MACTEC in December 2008 that presented requirements for ongoing inspection and monitoring for the Site. This Work Plan was approved, with amendment, by the NYSDEC, as indicated in a letter dated July 10, 2009. On September 30, 2009, MACTEC issued a letter to NYSDEC that presented the 2010 inspection and monitoring schedule for the Site.

III. Evaluation of Remedy Performance, Effectiveness and Protectiveness

A. The performance, effectiveness and protectiveness of the remedy is verified by ensuring that the cap system is intact as constructed and that the remaining nitrobenzene-contaminated soils are not leaching to groundwater.

- Ensuring the cap system is intact as constructed: Annual site inspections are conducted that include monitoring of site vegetation, ground inspections, and visual checks for evidence of erosion or subsidence. The results from the annual inspections indicate that the integrity of the cap is sound. A copy of the annual inspection reports is included in Attachment B.3.
- Ensuring that the remaining nitrobenzene-contaminated soils are not leaching to groundwater. Beginning in 2010, groundwater samples are to be collected once every three years from the six groundwater monitoring wells located on the Site. The samples are analyzed for nitrobenzene and Target Analyte List (TAL) metals in accordance with EPA Methods. The 2022 analytical report is included in Attachment B.4 – Data Validation Summary Report.

IV. IC/EC Plan Compliance Report – A separate IC/EC Plan has not been prepared. A description and status of institutional and engineering controls is included in Attachment A of this PRR.

V. Monitoring Plan Compliance Report – A separate Monitoring Plan Compliance Report is not required for this site. Monitoring requirements are addressed in the Work Plan, as approved, with amendment, by the NYSDEC.

VI. Operations and Maintenance Plan Compliance Report

A. Components of the Work Plan – Requirements of the Work Plan, as amended and approved, include the following:

- Triennial Groundwater Sampling and Analysis
- Annual Site Inspections
- Maintenance Activities (annual mowing of cap, repair of areas showing erosion or subsidence, etc.).

B. Summary of OM&M Completed during the reporting period: Groundwater sampling and analysis (2022 only), annual site inspection, and annual mowing were completed in accordance with the Work Plan. The following summarizes the activities completed:

- The 2022 groundwater sampling was completed on September 14, 2022 and October 20, 2022. The sampling included collection of aqueous samples from six monitoring wells; the samples were analyzed for the parameters specified in the Work Plan. Two rounds of sampling were completed due to a variance in purging methodology (several of the monitoring wells did not have the required minimum volume purged prior to sampling) and the method detection limit achieved by the laboratory was above the NY Class GA groundwater standard for nitrobenzene during the initial sampling round. Field Data Collection Records are included in Attachment B.5.
- Annual site inspections were conducted as outlined in the Work Plan.
- Routine maintenance activities were conducted, consisting of annual mowing events.
- A survey of the groundwater monitoring wells was completed on November 16, 2022 to confirm elevations of the top of the well polyvinyl chloride risers used when measuring the depth to groundwater. The elevation of the top of riser was previously unknown for monitoring wells GW-18R and GW-20. The elevation of the top of the wells with cover in place and the top of the protective steel casing were also surveyed. The elevations surveyed on November 16, 2022 are incorporated into Attachment B.6 Summary of Depth to Water Measurements. The survey was completed using a Leica GS18 T global navigation satellite system antenna paired with a Leica CS20 field controller. The top of grate elevation of the sump at the block building located south of site (584.90) as provided by Ravi Engineering and Land Surveying, P.C. of Rochester, New York to Jacobs on May 11, 2022 was used as the vertical benchmark elevation. Jacobs independently surveyed the elevation of the benchmark as 584.88.

C. OM&M Deficiencies: None identified.

D. Conclusions and Recommendations: The following conclusions were developed based on the data collected during the reporting period:

- Based on the results of the annual inspection report, which verifies that the integrity of the cap is adequate and that vegetation is suitably established, the remedy remains protective and functions as a barrier that prevents direct contact with underlying waste and impacted soils.
- Based on the results of the 2022 groundwater monitoring event, which indicates that groundwater is not being contaminated by nitrobenzene leaching from the stabilized soils, the remedy is effective at preventing the leaching of contamination to groundwater.

The following recommendations were developed based on the data collected during the reporting period:

- Concentrations of nitrobenzene were not detected in groundwater samples collected in 2022. Therefore, it is recommended that the next triennial sampling event be conducted in 2025 in accordance with the Work Plan.
- Site inspections should continue on an annual basis.
- Routine OM&M activities should continue, including annual mowing of the capped area, on an annual basis.
- The next PRR submittal should be completed and submitted to NYSDEC by December 30, 2025.

VII. Overall PRR Conclusions

A. Compliance: Inspection, maintenance, and monitoring activities were completed during the reporting period in accordance with the Work Plan. The Site remains in compliance with applicable covenants and restrictions.

B. Performance and Effectiveness of the Remedy: The condition of the cap system and results of groundwater monitoring well sampling and analysis for nitrobenzene indicate that the remedy is performing effectively.

C. Future PRR submittals: It is anticipated that the next PRR will be submitted by December 30, 2025.

Closing

Please contact Mr. Ryan Belcher at (207) 289-4213 with any questions or comments on this submittal.

Respectfully,

MACTEC Engineering and Geology, P.C.

Ryan Belcher
Associate Environmental Engineer

Mark Stelmack, P.E.
Associate Environmental Engineer

W/attachments

cc: Sasa Jazic (Honeywell) – electronic copy
Chris Catanzaro (ECHDC) – electronic copy
John Formoza (Jacobs) – electronic copy

ATTACHMENT A

PRR NOTICE
IC/EC 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. 915026

Site Name Buffalo Outer Harbor-Radio Tower Area

Site Address: 901 Fuhrmann Boulevard Zip Code: 14205
City/Town: Buffalo
County: Erie
Site Acreage: 0.896

Reporting Period: November 30, 2019 to November 30, 2022

	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? 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. 915026 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
portion of 122.17-1-1.~~1~~ 2	Erie Canal Harbor Development Corp	Site Management Plan Soil Management Plan Landuse Restriction Ground Water Use Restriction

1. Maintenance of the soil cover in accordance with Site Management Plan
2. Site limited to industrial or commercial use only, excluding day care, child care and medical care uses.
3. Use of groundwater underlying site prohibited without treatment rendering it safe for drinking water or industrial purposes.
4. Annual inspection required to confirm that the remedy (cover) and required restrictions remain in place.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
portion of 122.17-1-1.~~1~~ 2	Cover System

Cover system: geotextile cover, overlain by 20 inches of clean fill and 4 inches of topsoil

Box 5

Periodic Review Report (PRR) Certification Statements

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

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

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

YES	NO
☒	☐

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

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

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

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

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

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

YES	NO
☒	☐

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

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

_____ _____

Signature of Owner, Remedial Party or Designated Representative — Date

IC CERTIFICATIONS
SITE NO. 915026

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 Sasa Jazic (print name) at 14 Columbia Circle, Suite 103, Albany, NY 12203 (print business address),

am certifying as Remediation Manager for the 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

1/11/2023
Date

EC CERTIFICATIONS

Box 7

Professional Engineer 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 Mark Stelmack at MACTEC Engineering & Geology, P.C., 511 Congress St., Portland, ME 04101

am certifying as a Professional Engineer for the Remedial Party.

Mark Stelmack

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

Stamp (Required for PE)

January 11, 2023

Date

ATTACHMENT B

SUPPORTING TABLES, FIGURES, AND APPENDICES

ATTACHMENT B.1 SITE LOCATION PLAN

MON WELL
GW-20
GROUND=586.07
TOP OF CAP=588.27

LANDS N/F
NIAGARA FRONTIER TRANSPORTATION AUTHORITY
TMP# 122.17-1-1
L.6434 P.43

N 1041144.28
E 1070954.37

N63°56'28"W
34.66'

N79°26'09"W
106.97'

6' CHAIN LINK FENCE

CC-2
PK NAIL
N: 1041161.17
E: 1071297.92
ELEV.=585.64'

MON WELL
GW-18R
GROUND=585.77
TOP OF CAP=588.55
SEAM OF CAP=588.21

CC-2
PK NAIL
N: 1041098.60
E: 1071109.17
ELEV.=585.70'

S28°58'36"W
179.04'

EDGE OF PAVEMENT

N25°14'12"E
121.63'

AREA:
39,016 SQ.FT.
0.896± ACRES

MON WELL
GW-22
GROUND=583.33
TOP OF CAP=586.24
SEAM OF CAP=585.89

CHA #1
PK NAIL
N 1040999.22
E 1071060.99
ELEV.=585.52'

N21°11'57"W
45.89'

MON WELL
GW-21
GROUND=584.73
TOP OF CAP=586.94

MON WELL
GW-23
GROUND=583.70
TOP OF CAP=586.62
SEAM OF CAP=586.27

LIGHT

LIGHT

EDGE OF PAVEMENT

N43°36'11"E
41.53'

S24°26'10"E
164.87'

N38°46'30"E
45.15'

POINT OF BEGINNING

N49°20'15"E
82.58'

MON WELL
GW-19
GROUND=584.95
TOP OF CAP=587.33

6' CHAIN LINK FENCE

N 1040837.61
E 1070935.97

N20°15'55"W
1115.50'

S20°15'55"E
1.65'

S69°12'31"W
100.31'

CAPPED REBAR
FND.
N 1040172.57
E 1072347.92

993.90'

S69°44'05"W

POINT OF
COMMENCEMENT

HIGHWAY BOUNDARY LINE
FUHRMANN
BOULEVARD

LANDS N/F
FREEZER QUEEN FOOS, INC.
TMP# 132.06-1-1.1
L.9547 P.579

LEGEND

MON WELL	MONITORING WELL
CAPPED REBAR	PROPERTY MONUMENTATION (CAPPED REBAR)
LIGHT	LIGHT POLE
	HIGHWAY BOUNDARY LINE
	PARCEL BOUNDARY LINE
	CHAIN LINK FENCE
	EDGE OF PAVEMENT

REFERENCES:

1. DEED DESCRIBING THE LANDS N/F OF "NIAGARA FRONTIER PORT AUTHORITY", FILED IN THE ERIE COUNTY CLERK'S OFFICE (E.C.C.O.) IN LIBER 6434 OF DEEDS, PAGE 43.
2. DEED DESCRIBING THE LANDS N/F OF "FREEZER QUEEN FOODS, INC.", FILED IN ERIE COUNTY CLERK'S OFFICE (E.C.C.O.) IN LIBER 9547 OF DEEDS, PAGE 579.
3. NGS MONUMENT INFORMATION.

NOTES:

1. PLANTIMENTRICS SHOWN HEREON ARE PREPARED BY CLOUGH, HARBOUR & ASSOCIATES, L.L.P FROM AN APRIL 2005 FIELD SURVEY. REF. "ROCH" FB.75, P.67
2. ELEVATIONS ARE BASED ON N.A.V.D. 1988 DATUM REFERENCING NATIONAL GEODETIC SURVEY MONUMENT MONUMENT Q 388, ELEV. = 581.66', USING DIFFERENTIAL LEVELING TECHNIQUES.
3. NORTH ORIENTATION AND COORDINATES SHOWN HEREON BASED ON N.Y.S. PLANE WEST ZONE, NAD 83, REFERENCING MONUMENTS;

BUFFALO R IMPROVEMENT CORP TK	LEHR
N:1040703.604	N:1030094.885
E:1076485.685	E:1076447.880

4. NO BOUNDARY DETERMINATION PERFORMED IN THE PREPARATION OF THIS PLAN.
5. OWNER'S INFORMATION BASED ON TAX INFORMATION.
6. ADDITIONAL FIELDWORK PERFORMED ON JULY 19, 2005. REF. "ROCH" FB.95, P.1

GRAPHIC SCALE

50 0 25 50 100

1 inch = 50 ft.

I HEREBY CERTIFY THAT THIS PLAN WAS COMPLETED ⚠1 ON JULY 21 2005 USING LISTED REFERENCES AND FIELD NOTES FROM AN ACTUAL FIELD SURVEY COMPLETED ON JULY 19, 2005.

DAVID L. STANDINGER NYSPLS. #050107 DATE

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Rochester, NY 14614-1607
PHONE (585) 262-2640
FAX (585) 262-2642
www.cloughharbour.com

Revisions	Drawn By:	App'd. By:	Date:
1. REVISED DATE (JUNE TO JULY)	DLS		8/25/05
0. MAP ISSUED	DJH	DLS	7/22/05

David L. Standinger NYSPLS # 050107

Plan
showing
INSTITUTIONAL CONTROL AREA
being a portion of property N/F
NIAGARA FRONTIER TRANSPORTATION AUTHORITY
City of Buffalo County of Erie State of New York

Scale: 1"=50' | Date: JULY, 2005 | Sheet 1 OF 1

Dwg: I:\13258\survey\acad\VBASE-132582000.dwg Xref: NONE Dview: NONE CHA Project Number: 13258

ATTACHMENT B.2 COMPARISON OF GROUNDWATER SAMPLE ANALYTICAL DATA TO NYS GA GROUNDWATER STANDARDS

COMPARISON OF GROUNDWATER SAMPLE ANALYTICAL DATA TO NYS GA GROUNDWATER STANDARDS

Units	Method	Parameter Name	Sample Delivery Group Fraction	Groundwater Quality Standard or Guidance Value	Field Sample ID Location Sample Date	GW-18R-091422 GW-18R 9/14/2022 JD52003	GW-18R-102022 GW-18R 10/20/2022 JD54274	GW-19-091422 GW-19 9/14/2022 JD52003	GW-19-102022 GW-19 10/20/2022 JD54274	GW-20-091422 GW-20 9/14/2022 JD52003	GW-20-FD-091422 GW-20 9/14/2022 JD52003	GW-20-102022 GW-20 10/20/2022 JD54274	GW-20-FD-102022 GW-20 10/20/2022 JD54274	GW-21-091422 GW-21 9/14/2022 JD52003	GW-21-102022 GW-21 10/20/2022 JD54274	GW-22-091422 GW-22 9/14/2022 JD52003	GW-22-102022 GW-22 10/20/2022 JD54274	GW-23-091422 GW-23 9/14/2022 JD52003	GW-23-102022 GW-23 10/20/2022 JD54274
µg/L	SW8270	Nitrobenzene	T	0.4		0.61 UJ	0.31 UJ	0.61 U	0.31 UJ	0.61 UJ	0.61 UJ	0.31 UJ	0.31 UJ	0.61 U	0.32 UJ	0.61 UJ	0.31 UJ	0.61 UJ	0.31 UJ
µg/L	SW6010	Aluminum	T	Not Applicable		**380**	**209**	**330**	**494**	**716**	**849**	**300**	**482**	150 U	150 U	**7010**	**1050**	**699**	150 U
µg/L	SW6010	Antimony	T	3		4.7 U	**6.5**	24 U	**8.4**	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	**35.0**	24 U	**150**	**4.8** J
µg/L	SW6010	Arsenic	T	25		**19.2**	**10.3**	**12.8**	**8.5**	**6.0**	**5.6**	**4.3**	**5.0**	**2.9** J	**4.0**	**23.1**	14 U	**180**	**21.2**
µg/L	SW6010	Barium	T	1000		**75.2** J	**79.9** J	**18.3** J	**17.6** J	**49.7** J	**46.8** J	**34.9** J	**36.9** J	**35.6** J	**27.6** J	**111** J	**84.4** J	**716**	**257**
µg/L	SW6010	Beryllium	T	3		0.50 U	0.50 U	**1.1**	**1.1**	**0.90** J	**0.90** J	**1.0**	**0.90** J	0.50 U	**0.50** J	0.50 U	2.5 U	**0.60** J	**0.60** J
µg/L	SW6010	Cadmium	T	5		**1.9** J	**1.9** J	**6.0**	**4.7**	**1.2** J	**1.1** J	**1.0** J	**1.0** J	**1.8** J	**2.0** J	**4.1**	**2.3** J	**5.7**	**1.9** J
µg/L	SW6010	Calcium	T	Not Applicable		**190000**	**176000**	**52200**	**53200**	**76700** J-	**63600** J-	**65100**	**66400**	**32600**	**29100**	**353000**	**415000**	**194000**	**198000**
µg/L	SW6010	Chromium	T	50		**3.4** J	2.0 U	**4.1** J	**3.3** J	**5.3** J	**6.5** J	2.0 U	2.0 U	2.0 U	2.0 U	**21.6**	**7.0** J	**22.4**	**2.2** J
µg/L	SW6010	Cobalt	T	Not Applicable		2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	**5.9** J	**8.7** J	2.6 U	2.6 U
µg/L	SW6010	Copper	T	200		**6.2** J	5.9 U	**13.6**	**17.9**	**18.9**	**19.1**	5.9 U	5.9 U	5.9 U	5.9 U	**46.7**	**42.4**	**311**	**35.3**
µg/L	SW6010	Iron	T	300		**5310**	**3060**	**88.9** J	**72.9** J	**1170** J	**1710** J	**349**	**429**	**549**	**170**	**21800**	**7300**	**155000**	**14000**
µg/L	SW6010	Lead	T	25		**18.9** J	**22.9**	**18.0**	**13.3** J	**35.3**	**32.5**	**9.6**	**10.4**	**3.4**	**3.1**	**51.5**	**79.6**	**837**	**101**
µg/L	SW6010	Magnesium	T	35000		**36100**	**33000**	**183** J	**462** J	**8870**	**6550**	**8730**	**8690**	**4790** J	**2420** J	**147000**	**147000**	**44800**	**34600**
µg/L	SW6010	Manganese	T	300		**526**	**412**	**2.2** J	**6.3** J	**77.7**	**66.8**	**38.8**	**45.1**	**19.2**	**11.6** J	**1080**	**1920**	**795**	**793**
µg/L	SW6010	Nickel	T	100		**1.9** J	**3.3** J	**4.2** J	**4.2** J	**3.5** J	**2.8** J	**1.7** J	1.7 U	1.7 U	1.7 U	**33.9**	**44.2**	**7.4** J	**3.1** J
µg/L	SW6010	Potassium	T	Not Applicable		**23700**	**25000**	**368000**	**327000**	**117000**	**120000**	**106000**	**106000**	**14700**	**14900**	**28400** J	**30700**	**40800**	**46800**
µg/L	SW6010	Selenium	T	10		4.9 U	4.9 U	**8.4** J	**5.5** J	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	**6.9** J	**7.5** J	4.9 U
µg/L	SW6010	Silver	T	50		6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U
µg/L	SW6010	Sodium	T	20000		**12400**	**13700**	**35900**	**29900**	**24700**	**24200**	**22600**	**22600**	**12700**	**11400**	**44600**	**40700**	**18100**	**9500** J
µg/L	SW6010	Thallium	T	0.5		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
µg/L	SW6010	Vanadium	T	Not Applicable		**6.5** J	**3.0** J	**11.9** J	**44.2** J	**9.5** J	**14.2** J	**7.3** J	**7.8** J	1.8 U	1.8 U	**15.1** J	**5.5** J	**63.1**	**4.0** J
µg/L	SW6010	Zinc	T	2000		**160**	**203**	**126**	6.9 U	**86.1** J	**244** J	**22.3**	**22.7**	**72.8**	**18.1** J	**249**	**357**	**757**	**128**
µg/L	SW7470	Mercury	T	0.7		0.095 U	**0.10** J	**0.097** J	**0.20**	0.095 U	0.095 U	**0.29**	0.095 U	0.095 U	0.095 U	0.095 U	**0.20**	**0.93**	**0.099** J
µg/L	SW6010	Aluminum	D	Not Applicable		1500 U	150 U		**221**			150 UJ	**751** J		150 U	1500 U	150 U	1500 U	150 U
µg/L	SW6010	Antimony	D	3		47 U	**5.7** J		**8.0**			4.7 U	4.7 U		4.7 U	47 U	24 U	47 U	**5.2** J
µg/L	SW6010	Arsenic	D	25		28 U	**5.2**		**7.9**			**5.0**	**4.7**		**4.6**	28 U	14 U	28 U	**22.0**
µg/L	SW6010	Barium	D	1000		130 U	**77.3** J		**15.8** J			**30.2** J	**29.7** J		**21.8** J	**142** J	**72.9** J	**151** J	**248**
µg/L	SW6010	Beryllium	D	3		5.0 U	0.50 U		**1.0**			**1.1**	**1.0**		0.50 U	5.0 U	2.5 U	5.0 U	**0.50** J
µg/L	SW6010	Cadmium	D	5		10 U	**1.6** J		**4.8**			1.0 U	1.0 U		**1.9** J	10 U	**1.7** J	10 U	**1.7** J
µg/L	SW6010	Calcium	D	Not Applicable		**218000**	**176000**		**50800**			**59100** J-	**57500** J-		**23000**	**197000**	**363000**	**195000**	**239000**
µg/L	SW6010	Chromium	D	50		20 U	2.0 U		**3.1** J			2.0 U	2.0 U		2.0 U	20 U	2.0 U	20 U	2.0 U
µg/L	SW6010	Cobalt	D	Not Applicable		26 U	2.6 U		2.6 U			2.6 U	2.6 U		2.6 U	26 U	**5.8** J	26 U	2.6 U
µg/L	SW6010	Copper	D	200		59 U	5.9 U		**16.8**			5.9 U	5.9 U		5.9 U	59 U	**7.0** J	59 U	5.9 U
µg/L	SW6010	Iron	D	300		320 U	**887**		32 U			**71.0** J	**48.7** J		32 U	**913** J	**130**	**3010**	**11200**
µg/L	SW6010	Lead	D	25		20.0 J	**3.6**		9.0 U			1.8 U	1.8 U		1.8 U	18 U	1.8 U	18 U	**13.9**
µg/L	SW6010	Magnesium	D	35000		**42000** J	**32700**		140 U			**7910**	**7420**		**2410** J	**51800**	**143000**	**50200**	**38000**
µg/L	SW6010	Manganese	D	300		**68.0** J	**411**		1.4 U			**18.6**	**16.6**		**3.4** J	**546**	**1440**	**575**	**861**
µg/L	SW6010	Nickel	D	100		17 U	**2.5** J		**3.9** J			**1.7** U	1.7 U		1.7 U	17 U	**35.1**	17 U	**2.5** J
µg/L	SW6010	Potassium	D	Not Applicable		**28300** J	**26200**		**325000**			**118000**	**121000**		**15400**	**42200** J	**32800**	**42700** J	**52200**
µg/L	SW6010	Selenium	D	10		49 U	4.9 U		**8.0** J			4.9 U	4.9 U		4.9 U	49 U	4.9 U	49 U	4.9 U
µg/L	SW6010	Silver	D	50		61 U	6.1 U		6.1 U			6.1 U	6.1 U		6.1 U	61 U	6.1 U	61 U	6.1 U
µg/L	SW6010	Sodium	D	20000		**13700** J	**15100**		**30700**			**24700**	**25200**		**11700**	**20700** J	**44600**	**19400** J	**10900**
µg/L	SW6010	Thallium	D	0.5		18 U	1.8 U		1.8 U			1.8 J	1.8 U		1.8 U	18 U	1.8 U	18 U	1.8 U
µg/L	SW6010	Vanadium	D	Not Applicable		18 U	1.8 U		**55.9**			**6.9** J	**6.7** J		1.8 U	18 U	1.8 U	18 U	1.8 U
µg/L	SW6010	Zinc	D	2000		**192** J	**62.2**		**12.0** J			**10.2** J	**13.1** J		6.9 U	69 U	**175**	**359**	**77.5**
µg/L	SW7470	Mercury	D	0.7		0.095 U	0.095 U		**0.19** J			**0.14** J	0.095 U		0.095 U	0.095 U	0.095 U	0.095 U	**0.096** J

Notes:
D = Dissolved
J = Estimated
µg/L - micrograms
T = Total
U = Undetected
Bold text indicates detected
Shaded cells indicated detected value greater than standard or guidance value

Prepared by: RTB 1/5/2023
Checked by: MJS 1/6/2023

ATTACHMENT B.3 SITE INSPECTION FORMS

Site Inspection Form

Site Name: Buffalo Outer Harbor Weather: Partly Sunny
Project Number: 37972 Assessment by: James Johnson
Date: 10/09/2020

Yes	No	N/A	
			A. Security
☒	☐	☐	1. Does fence exist? _____
☐	☐	☒	2. Is there a breach in fence? _____
☒	☐	☐	3. Locks on gate? _____
☐	☐	☒	4. Posted signs? _____
☐	☒	☐	5. Signs of trespassers/vandalism? _____
			6. Other _____
			B. General Site Conditions
☐	☒	☐	1. Vegetation stress? _____
☐	☒	☐	2. Mowing required? No
☒	☐	☐	3. Access road drivable? _____
☐	☒	☐	4. Odors? _____
			5. Other _____
			C. Cap Inspection
☐	☒	☐	1. Exposed waste? _____
☒	☐	☐	2. Side slope stable? _____
☐	☒	☐	3. Erosion? _____
☐	☒	☐	4. Leachate seeps (discolored vegetation)? _____
☐	☒	☐	5. Synthetic liner exposed? _____
☐	☒	☐	6. Bare spots? _____
☐	☒	☐	7. Presence of burrowing animals? _____
☐	☒	☐	8. Deep rooted vegetation? _____
☐	☒	☐	9. Cracking? _____
☐	☒	☐	10. Ponding water? _____
☐	☒	☐	11. Evidence of methane seeps? _____
			12. Other Evidence of track hoe crossing cap
			D. Surface Water
☐	☐	☒	1. Obstruction of flow ditches? _____
☐	☐	☒	2. Erosion of ditches? _____
☐	☐	☒	3. Silt & erosion control? _____
☐	☐	☒	4. Culverts in good condition? _____
☐	☐	☒	5. Evidence of overflow or uncontrolled flow? _____
☐	☐	☒	6. Outfalls in good condition? _____
☐	☐	☒	7. Sedimentation basin/ponds secure? _____
			8. Other _____
			E. Methane Gas Control
☐	☐	☒	1. Does one exist? _____

Site Inspection Form

Yes	No	N/A	
☐	☐	☒	2. Is system active or passive? _____
☐	☐	☒	3. Permanent methane gas probes? _____
☐	☐	☒	4. Locks on monitoring wells? _____
☐	☐	☒	5. Vents in working order? _____
☐	☐	☒	6. Well seals in place? _____
☐	☐	☒	7. Methane levels within LEL limits? _____
☐	☐	☒	8. Monitoring reports current?
			9. Other _____
			F. Leachate Collection System
☐	☒	☐	1. Does one exist? _____
			2. Collection method:
☐	☐	☒	a. Sump? _____
☐	☐	☒	b. Well point? _____
☐	☐	☒	c. Earthen basin/pond? _____
☐	☐	☒	d. Structure secured? _____
			e. Other _____
			3. Pumping system:
☐	☐	☒	a. Automatic? _____
☐	☐	☒	b. Manual? _____
☐	☐	☒	c. Mechanically operable? _____
☐	☐	☒	d. Leaks/failures? _____
			4. Disposals:
☐	☐	☒	a. Onsite pretreatment/treatment? _____
☐	☐	☒	b. Surface discharge? (NPDES/SPDES) _____
☐	☐	☒	c. POTW – hardpiped?
☐	☐	☒	d. Quick disconnect caps in place? _____
			5. Transportation (if any):
☐	☐	☒	a. Chemicals? _____
☐	☐	☒	b. Filter cake? _____
☐	☐	☒	6. Ancillary equipment in good condition? (Pipes, valves, pumps, vaults, instruments and etc.) _____
☐	☐	☒	7. Monitoring reports current? _____
			8. Other _____
			G. Groundwater Monitoring & Recovery Wells (if any)
☒	☐	☐	1. Locks on wells? _____
☒	☐	☐	2. Wells in good condition? _____
☒	☐	☐	3. Well seals in good condition? _____
☒	☐	☐	4. Access to wells? _____
☒	☐	☐	5. Monitoring reports current? _____
			6. Other _____

Yes	No	N/A	
		☒	**H. Treatment Plant**
☐	☐	☒	1. Building in good condition? (Doors, windows, wells, roof) _____
☐	☐	☒	2. Visual tank inspection performed? _____
☐	☐	☒	3. Visual inspection of pipes, valves, fittings etc.? _____
☐	☐	☒	4. Pump operation/inspection performed? _____
☐	☐	☒	5. Instruments operation/calibration? _____
☐	☐	☒	6. Mixer operation/inspection? _____
☐	☐	☒	7. Proper personal protection equipment? _____
☐	☐	☒	8. Air compressor system functioning properly? _____
☐	☐	☒	9. Filter press inspected? _____
☐	☐	☒	10. Emergency generator functioning properly? _____
			I. Polymeric Marine Mattress (PMM)
☐	☐	☒	1. Damage due to burrowing animals? _____
☐	☐	☒	2. Damage due ice and/or ice flowages? _____
☐	☐	☒	3. Impacts or damage due to the periodic dredging of the Buffalo River? _____
☐	☐	☒	4. Impacts or damage due to navigation activities in the Buffalo River? _____
☐	☐	☒	5. Establishment of woody plant growth causing displacement or stress on the system? _____
☐	☐	☒	6. Areas of settlement or displacement of the system? _____
☐	☐	☒	7. Erosion at the upstream and downstream limits of the system? _____
☐	☐	☒	8. Damage to the stone infill adjacent to Outfall #006 and the concrete wall/sheet pile along the upstream limit of the system? _____
☐	☐	☒	9. Damage to the stone infill within the marine mattresses? _____
☐	☐	☒	10. Damage to the general integrity of the system (Look for splits, cuts and gaps)? _____

J. General Comments

Picture 1: Outer Harbor Landfill looking west.

Site Inspection Form

Site Name: Buffalo Outer Harbor Weather: Sunny
Project Number: 37971 Assessment by: Benjamin Hendry
Date: 10/19/2021

Yes	No	N/A	
			A. Security
☒	☐	☐	1. Does fence exist? _____
☐	☒	☐	2. Is there a breach in fence? _____
☒	☐	☐	3. Locks on gate? _____
☐	☐	☒	4. Posted signs? _____
☐	☒	☐	5. Signs of trespassers/vandalism? _____
			6. Other _____
			B. General Site Conditions
☐	☒	☐	1. Vegetation stress? _____
☐	☒	☐	2. Mowing required? No
☒	☐	☐	3. Access road drivable? _____
☐	☒	☐	4. Odors? _____
			5. Other _____
			C. Cap Inspection
☐	☒	☐	1. Exposed waste? _____
☒	☐	☐	2. Side slope stable? _____
☐	☒	☐	3. Erosion? _____
☐	☒	☐	4. Leachate seeps (discolored vegetation)? _____
☐	☒	☐	5. Synthetic liner exposed? _____
☐	☒	☐	6. Bare spots? _____
☐	☒	☐	7. Presence of burrowing animals? _____
☐	☒	☐	8. Deep rooted vegetation? _____
☐	☒	☐	9. Cracking? _____
☐	☒	☐	10. Ponding water? _____
☐	☒	☐	11. Evidence of methane seeps? _____
			12. Other Evidence of track hoe crossing cap
			D. Surface Water
☐	☐	☒	1. Obstruction of flow ditches? _____
☐	☐	☒	2. Erosion of ditches? _____
☐	☐	☒	3. Silt & erosion control? _____
☐	☐	☒	4. Culverts in good condition? _____
☐	☐	☒	5. Evidence of overflow or uncontrolled flow? _____
☐	☐	☒	6. Outfalls in good condition? _____
☐	☐	☒	7. Sedimentation basin/ponds secure? _____
			8. Other _____
			E. Methane Gas Control
☐	☒	☐	1. Does one exist? _____

Site Inspection Form

Yes	No	N/A	
☐	☐	☒	2. Is system active or passive? _____
☐	☐	☒	3. Permanent methane gas probes? _____
☐	☐	☒	4. Locks on monitoring wells? _____
☐	☐	☒	5. Vents in working order? _____
☐	☐	☒	6. Well seals in place? _____
☐	☐	☒	7. Methane levels within LEL limits? _____
☐	☐	☒	8. Monitoring reports current?
			9. Other _____
			F. Leachate Collection System
☐	☒	☐	1. Does one exist? _____
			2. Collection method:
☐	☐	☒	a. Sump? _____
☐	☐	☒	b. Well point? _____
☐	☐	☒	c. Earthen basin/pond? _____
☐	☐	☒	d. Structure secured? _____
			e. Other _____
			3. Pumping system:
☐	☐	☒	a. Automatic? _____
☐	☐	☒	b. Manual? _____
☐	☐	☒	c. Mechanically operable? _____
☐	☐	☒	d. Leaks/failures? _____
			4. Disposals:
☐	☐	☒	a. Onsite pretreatment/treatment? _____
☐	☐	☒	b. Surface discharge? (NPDES/SPDES) _____
☐	☐	☒	c. POTW – hardpiped?
☐	☐	☒	d. Quick disconnect caps in place? _____
			5. Transportation (if any):
☐	☐	☒	a. Chemicals? _____
☐	☐	☒	b. Filter cake? _____
☐	☐	☒	6. Ancillary equipment in good condition? (Pipes, valves, pumps, vaults, instruments and etc.) _____
☐	☐	☒	7. Monitoring reports current? _____
			8. Other _____
			G. Groundwater Monitoring & Recovery Wells (if any)
☒	☐	☐	1. Locks on wells? _____
☒	☐	☐	2. Wells in good condition? _____
☒	☐	☐	3. Well seals in good condition? _____
☒	☐	☐	4. Access to wells? _____
☒	☐	☐	5. Monitoring reports current? _____
			6. Other _____

Site Inspection Form

Yes	No	N/A	
			H. Treatment Plant
☐	☐	☒	1. Building in good condition? (Doors, windows, wells, roof) _____
☐	☐	☒	2. Visual tank inspection performed? _____
☐	☐	☒	3. Visual inspection of pipes, valves, fittings etc.? _____
☐	☐	☒	4. Pump operation/inspection performed? _____
☐	☐	☒	5. Instruments operation/calibration? _____
☐	☐	☒	6. Mixer operation/inspection? _____
☐	☐	☒	7. Proper personal protection equipment? _____
☐	☐	☒	8. Air compressor system functioning properly? _____
☐	☐	☒	9. Filter press inspected? _____
☐	☐	☒	10. Emergency generator functioning properly? _____
			I. Polymeric Marine Mattress (PMM)
☐	☐	☒	1. Damage due to burrowing animals? _____
☐	☐	☒	2. Damage due ice and/or ice flowages? _____
☐	☐	☒	3. Impacts or damage due to the periodic dredging of the Buffalo River? _____
☐	☐	☒	4. Impacts or damage due to navigation activities in the Buffalo River? _____
☐	☐	☒	5. Establishment of woody plant growth causing displacement or stress on the system? _____
☐	☐	☒	6. Areas of settlement or displacement of the system? _____
☐	☐	☒	7. Erosion at the upstream and downstream limits of the system? _____
☐	☐	☒	8. Damage to the stone infill adjacent to Outfall #006 and the concrete wall/sheet pile along the upstream limit of the system? _____
☐	☐	☒	9. Damage to the stone infill within the marine mattresses? _____
☐	☐	☒	10. Damage to the general integrity of the system (Look for splits, cuts and gaps)? _____

J. General Comments

All site conditions OK. Replaced damaged locks, repainted wells, water levels taken 10-14-21. Enclosure mowed in September, 2021.


338°NW (T) 42.85675, -78.872383 ±24ft ▲ 463ft
19 Oct 2021, 11:39:15


276°W (T) 42.856415, -78.871564 ±31ft ▲ 499ft
19 Oct 2021, 11:56:30


227°SW (T) 42.856881, -78.871816 ±56ft ▲ 516ft
19 Oct 2021, 12:19:53


294°W (T) 42.856983, -78.871665 ±24ft ▲ 519ft
19 Oct 2021, 12:24:22

Site Inspection Form

Jacobs

Site Name: Outer Harbor Project Number: **37971** Weather: 70's, clear
Completed by: Benjamin Hendry Date: 09/14/22

Yes	No		
			A. Security
☒	☐		1. Does fence exist?
☐	☒		2. Is there a breach in fence? If yes, describe and include photos in log
☐	☒		3. Locks in good condition and secured on gate upon arrival?
☐	☒		4. Posted signs in acceptable condition and legible?
☐	☒		5. Evidence of trespassers/vandalism observed?

Comments: Locks n/a

		B. General Site Conditions
☐	☒	1. Vegetation stress present?
☐	☒	2. Mowing required?
☒	☐	3. Access road drivable?
☐	☒	4. Odors detected?

Comments: Mowed 09/14/22

			C. Groundwater Monitoring & Recovery Wells
☒	☐		1. Monitoring and/or recovery systems exist on-site? (If no, skip section)
☒	☐	☐	2. Locks on wells?
☒	☐	☐	3. Wells in good condition?
☒	☐	☐	4. Well seals in good condition?
☒	☐	☐	5. Access to wells?
☒	☐	☐	6. Monitoring reports current?

Comments:

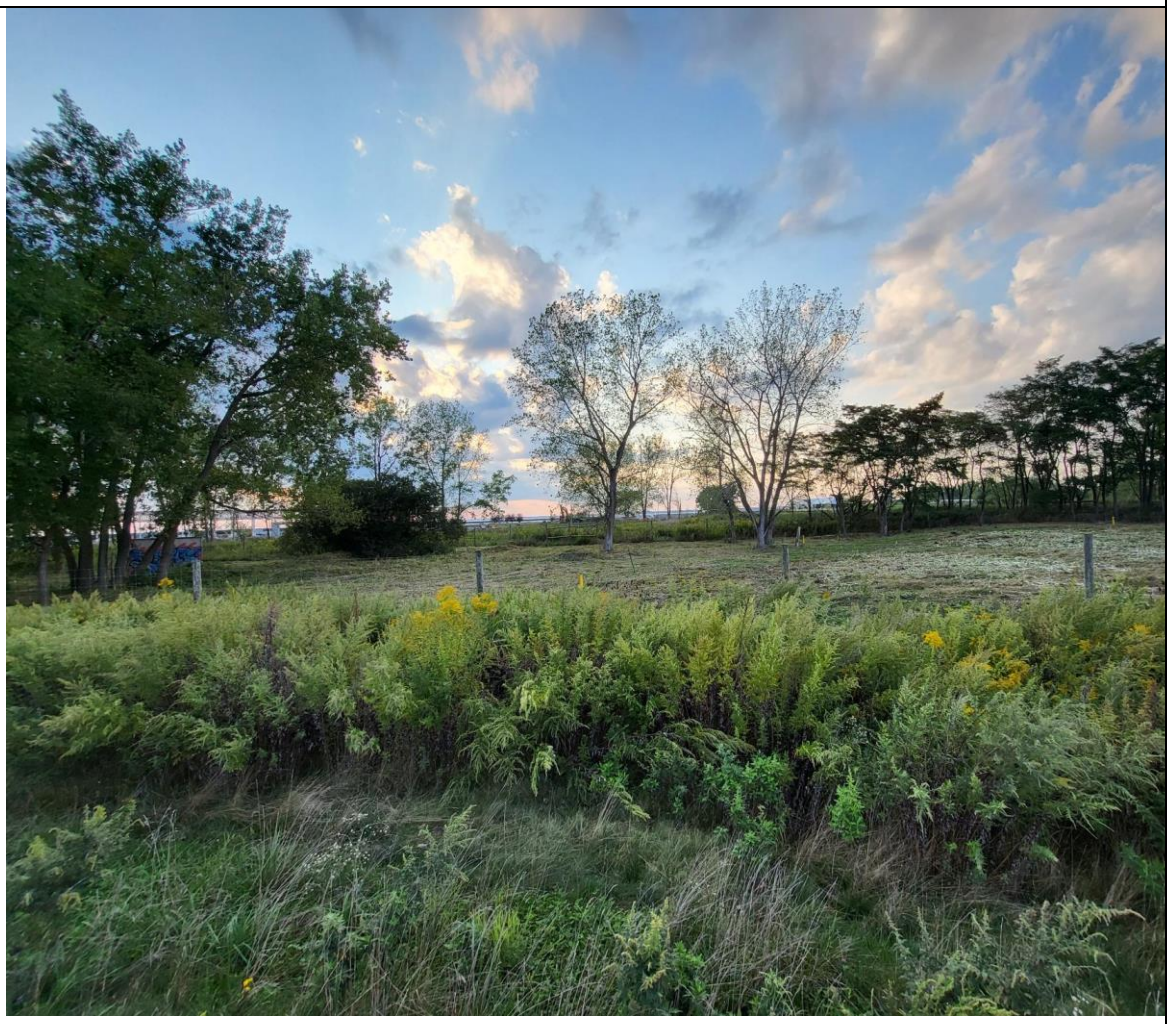
Description	Image
Mowed area inside fence from ext.	

Description	Image
Mowed area inside fence	

Description	Image
Mowed area inside fence	

Description	Image
Mowed area inside fence	

Description	Image
Mowed area inside fence	

Description	Image
Mowed area inside fence from ext.	

Description	Image
Access gate adjacent to site area	

ATTACHMENT B.4 DATA VALIDATION SUMMARY REPORT

DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

1.0 INTRODUCTION

Data validation was completed on groundwater samples collected by WSP USA Environment & Infrastructure Inc. (WSP) during September 2022 and October 2022. Samples were analyzed by Accutest Laboratories located in Dayton, New Jersey. Sample data are reported under two sample delivery groups (SDGs) JD52003 and JD54274. A summary of samples included in this report is presented on Table 1. Samples were analyzed by one or more of the following U.S. Environmental Protection (USEPA) SW-846 (USEPA, 1996) analytical methods were performed:

- Nitrobenzene by USEPA Method SW8270D LL.
- Total and dissolved metals by USEPA Method SW6010D and SW7470A.

Data validation was completed using Level II procedures described for Honeywell projects. Level II data quality reviews are completed using laboratory QC summary forms. A summary of QC limits used during data validation is included on Table 2. Data qualifications were completed using the professional judgment of the validation chemist and general procedures specified in USEPA national data validation guidelines (USEPA, 2020a; USEPA, 2020b).

During the Level II data validation the following data quality indicators are reviewed:

- Lab Report Narrative
- Data Completeness and Chain of Custody
- Sample Collection and Holding Times
- QC Blanks
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD)
- Surrogate Spikes
- Field and Laboratory Duplicates
- Reporting Limits
- Electronic Data Verification

Data qualifications were completed if necessary in accordance with the guidelines using the following qualifiers:

U = The target compound was not detected at a concentration greater than, or equal to, the detection limit.
J = The reported concentration is considered an estimated value.
J+ = The reported concentration is considered an estimated value biased high.
J- = The reported concentration is considered an estimated value biased low.

UJ = The target compound was not detected and the reporting limit is considered to be estimated.

R = The reported value is rejected and is considered to be unusable

Validation reason codes are assigned to qualified results that are associated with QC measurements outside project QC goals. The data qualification actions are reviewed by the project chemist prior to accepting the final data. The validation qualification actions and associated validation reason codes are presented on Table 3. The following data validation reason codes were applied to one or more sample results:

FD = Field duplicate exceeds relative percent difference criteria
MSDL=Matrix spike duplicate recovery less than the lower limit
MSL=Matrix spike recovery less than the lower limit
SSL=Surrogate recovery less than lower control limit
TD=Total concentration less than dissolved concentration

Result for non-detects were reported by the laboratory as U qualified results at the method detection limit (MDL). Target analyte results detected at concentrations between the method detection limit (MDL) and Method reporting limits (MRLs) were reported as J qualified estimated values by the laboratory.

Sample results that are not included on Table 3 were interpreted to be usable as reported by the laboratory. A complete summary of final sample results is provided in Table 4. A field duplicate summary is provided in Table 5.

2.0 DATA VALIDATION ACTIONS AND OBSERVATIONS

Quality control (QC) parameters and measurements checked during validation met requirements in the analytical method and/or validation guidelines. Unless specified below, results are interpreted to be usable as reported by the laboratory.

2.1 SVOC - Nitrobenzene

Data were evaluated based on the following parameters:

* Collection and Preservation
* Holding Times
* Data Completeness
* Blank Contamination
* LCS
* MS/MSD
* Field Duplicates
  Surrogate Recoveries
* Reporting Limits

* Criteria were met for this parameter

<u>Surrogates</u>

Surrogate percent recoveries for terphenyl-d14 in samples GW-18R-091422 (38), GW-18R-102022 (30), GW-19-102022 (33), GW-20-091422 (34), GW-20-102022 (31), GW-20-FD-

091422 (48), GW-20-FD-102022 (32), GW-21-102022 (28), GW-22-091422 (23), GW-22-102022 (24) and GW-23-091422 (35) and nitrobenzene-d5, 2-fluorobiphenyl and terphenyl-d14 in sample GW-23-102022 (45/44/28) were less than the QC limit of 50, which may indicate low bias. Nitrobenzene was not detected in associated samples and reporting limits were qualified as estimated (UJ) with reason code SSL.

2.2 Metals

Data were evaluated based on the following parameters:

* Collection and Preservation
* Holding Times
* Data Completeness
* Blank Contamination
* LCS
* MS/MSD
* Field Duplicates
* Total and Dissolved metals check
  Reporting Limits

* - Criteria were met for this parameter

MS/MSD

For the MS/MSD analysis of sample GW-20-091422, the MS percent recovery for calcium (68) was less than the QC limit of 75, which may indicate low bias. The result for calcium results in duplicate pair GW-20-091422/ GW-20-FD-091422 were qualified as estimated (J-) with reason code MSL.

For the MS/MSD analysis of sample GW-20-102022, the MS and MSD percent recoveries for dissolved calcium (68/66) were less than the QC limit of 75, which may indicate low bias. Dissolved calcium results in field duplicate pair GW-20-102022/ GW-20-FD-102022 were qualified as estimated (J-) with reason code MSL,MSDL.

Field Duplicates

In general, field duplicate results indicate that good sampling and analytical precision was obtained in the groundwater media. Some results are qualified for not meeting project precision goals. A summary of qualified sample results is presented on Table 3. Field duplicate results are summarized on Table 5.

For the field duplicate pair GW-20-091422 and GW-20-FD-091422 the RPD of iron (38) exceeded the QC limit of 20 and the difference of zinc results were greater than two times the RL between original and field duplicate sample. The associated result in sample set GW-20-091422 and GW-20-FD-091422 were qualified as estimated (J) with reason code FD.

For the field duplicate pair GW-20-102022 and GW-20-FD-102022 the difference of dissolved aluminum results was greater than two times the RL between original and field duplicate

sample. The associated results in sample set GW-20-102022 and GW-20-FD-102022 were qualified as estimated (UJ/J) with reason code FD.

Total and Dissolved Metals Concentration

For a subset of analytes, the dissolved metals concentration was greater than total metals concentration with a RPD greater than 25 percent. The total and dissolved concentration of Barium (25) and Potassium (39) in sample GW-22-091422, Selenium (37) in sample GW-19-102022 and difference between total and dissolved result was greater than two times the RL in sample GW-18R-091422. Total and dissolved results for the sample were qualified as estimated (J) with reason code TD.

References:

U.S. Environmental Protection Agency (USEPA), 1996. "Test Methods for Evaluating Solid Waste"; Laboratory Manual Physical/Chemical Methods; Office of Solid Waste and Emergency Response; Washington, DC; SW-846; November 1986; Revision 4 -December 1996.

U.S. Environmental Protection Agency (USEPA), 2020. "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Data Review"; Office of Superfund Remediation and Technology Innovation (OSRTI); EPA-540-R-20-005; November 2020.

U.S. Environmental Protection Agency (USEPA), 2020. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review"; Office of Superfund Remediation and Technology Innovation (OSRTI); EPA-542-R-20-006; November 2020.

Data Validator: Manasa Sri

December 4, 2022

Senior Chemist: Chris Ricardi, NRCC-EAC

December 5, 2022

TABLE 1
SAMPLE AND ANALYTICAL SUMMARY
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

					Purpose	Nitrobenzene	Metals		Mercury	
					Method	SW8270D LL	SW6010D		SW7470A	
							Total	Dissolved	Total	Dissolved
SDG	Field Sample ID	Location ID	Type	Matrix	Date					
JD52003	GW-18R-091422	GW-18R	REG	GW	9/14/2022	1	22	22	1	1
JD52003	GW-19-091422	GW-19	REG	GW	9/14/2022	1		22		1
JD52003	GW-20-091422	GW-20	REG	GW	9/14/2022	1		22		1
JD52003	GW-20-FD-091422	GW-20	FD	GW	9/14/2022	1		22		1
JD52003	GW-21-091422	GW-21	REG	GW	9/14/2022	1		22		1
JD52003	GW-22-091422	GW-22	REG	GW	9/14/2022	1	22	22	1	1
JD52003	GW-23-091422	GW-23	REG	GW	9/14/2022	1	22	22	1	1
JD54274	GW-18R-102022	GW-18R	REG	GW	10/20/2022	1	22	22	1	1
JD54274	GW-19-102022	GW-19	REG	GW	10/20/2022	1	22	22	1	1
JD54274	GW-20-102022	GW-20	REG	GW	10/20/2022	1	22	22	1	1
JD54274	GW-20-FD-102022	GW-20	FD	GW	10/20/2022	1	22	22	1	1
JD54274	GW-21-102022	GW-21	REG	GW	10/20/2022	1	22	22	1	1
JD54274	GW-22-102022	GW-22	REG	GW	10/20/2022	1	22	22	1	1
JD54274	GW-23-102022	GW-23	REG	GW	10/20/2022	1	22	22	1	1

Notes:
FD = Field Duplicate
REG = Field Sample
SDG = Sample Delivery Group

Prepared by: Manasa Sri 12/2/2022
Reviewed by: Chris Ricardi 12/5/2022

TABLE 2
PROJECT PRECISION AND ACCURACYGOALS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER 2022 GROUNDWATER
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

PARAMETER	QC TEST	ANALYTE	WATER (%R)	WATER (RPD)
Semivolatiles	Surrogate	All BN Compounds	50 - 140	
	LCS	All BN Compounds	50 - 140	
	MS/MSD	All BN Compounds	50 - 140	20
	Field Duplicate	All Target Compounds		50
Inorganics-Metals	LCS	All Target Analytes	80 - 120	
	MS/MSD	All Target Analytes	75 -125	
	Lab Duplicate	All Target Analytes		20
	Field Duplicate	All Target Analytes		20

Notes:
LCS - Laboratory Control Sample
MS/MSD - Matrix spike/ Matrix Spike Duplicate
RPD = Relative Percent Difference
%R = Percent Recovery
QC = Quality Control
QC Limits are based on USEPA Region II Data Validation Guidelines and Project QA/QC Objectives

TABLE 3
VALIDATON ACTIONS SUMMARY
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

Field Sample ID	Type	Method	Parameter	Fraction	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
GW-20-091422	REG	SW6010	Iron	T	1170		J	FD	µg/L
GW-20-091422	REG	SW6010	Zinc	T	86.1		J	FD	µg/L
GW-20-102022	REG	SW6010	Aluminum	D	150	U	UJ	FD	µg/L
GW-20-FD-091422	FD	SW6010	Iron	T	1710		J	FD	µg/L
GW-20-FD-091422	FD	SW6010	Zinc	T	244		J	FD	µg/L
GW-20-FD-102022	FD	SW6010	Aluminum	D	751		J	FD	µg/L
GW-20-091422	REG	SW6010	Calcium	T	76700		J-	MSL	µg/L
GW-20-FD-091422	FD	SW6010	Calcium	T	63600		J-	MSL	µg/L
GW-20-102022	REG	SW6010	Calcium	D	59100		J-	MSL,MSDL	µg/L
GW-20-FD-102022	FD	SW6010	Calcium	D	57500		J-	MSL,MSDL	µg/L
GW-18R-091422	REG	SW8270	Nitrobenzene	T	0.61	U	UJ	SSL	µg/L
GW-18R-102022	REG	SW8270	Nitrobenzene	T	0.31	U	UJ	SSL	µg/L
GW-19-102022	REG	SW8270	Nitrobenzene	T	0.31	U	UJ	SSL	µg/L
GW-20-091422	REG	SW8270	Nitrobenzene	T	0.61	U	UJ	SSL	µg/L
GW-20-102022	REG	SW8270	Nitrobenzene	T	0.31	U	UJ	SSL	µg/L
GW-20-FD-091422	FD	SW8270	Nitrobenzene	T	0.61	U	UJ	SSL	µg/L
GW-20-FD-102022	FD	SW8270	Nitrobenzene	T	0.31	U	UJ	SSL	µg/L
GW-21-102022	REG	SW8270	Nitrobenzene	T	0.32	U	UJ	SSL	µg/L
GW-22-091422	REG	SW8270	Nitrobenzene	T	0.61	U	UJ	SSL	µg/L
GW-22-102022	REG	SW8270	Nitrobenzene	T	0.31	U	UJ	SSL	µg/L
GW-23-091422	REG	SW8270	Nitrobenzene	T	0.61	U	UJ	SSL	µg/L
GW-23-102022	REG	SW8270	Nitrobenzene	T	0.31	U	UJ	SSL	µg/L
GW-18R-091422	REG	SW6010	Lead	T	18.9		J	TD	µg/L
GW-18R-091422	REG	SW6010	Lead	D	20.0	J	J	TD	µg/L
GW-19-102022	REG	SW6010	Selenium	T	5.5	J	J	TD	µg/L
GW-19-102022	REG	SW6010	Selenium	D	8.0	J	J	TD	µg/L
GW-22-091422	REG	SW6010	Barium	T	111	J	J	TD	µg/L
GW-22-091422	REG	SW6010	Potassium	T	28400		J	TD	µg/L

TABLE 3
VALIDATON ACTIONS SUMMARY
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

Field Sample ID	Type	Method	Parameter	Fraction	Lab Result	Lab Qual	Val Qual	Reason Codes	Units
GW-22-091422	REG	SW6010	Barium	D	142	J	J	TD	µg/L
GW-22-091422	REG	SW6010	Potassium	D	42200	J	J	TD	µg/L

Field duplicate exceeds relative percent difference criteria
Matrix spike duplicate recovery less than the lower limit
Matrix spike recovery less than the lower limit
Surrogate recovery less than lower control limit
Total concentration less than dissolved concentration
Undetected
Estimated

Prepared by: Manasa Sri 12/2/2022
Reviewed by: Chris Ricardi 12/5/2022

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

			Field Sample ID	GW-18R-091422	GW-18R-102022	GW-19-091422	GW-19-102022
			Location	GW-18R	GW-18R	GW-19	GW-19
			Sample Date	9/14/2022	10/20/2022	9/14/2022	10/20/2022
			Sample Delivery Group	JD52003	JD54274	JD52003	JD54274
Units	Method	Parameter Name	Fraction				
µg/L	SW8270	Nitrobenzene	T	0.61 UJ	0.31 UJ	0.61 U	0.31 UJ
µg/L	SW6010	Aluminum	T	380	209	330	494
µg/L	SW6010	Antimony	T	4.7 U	6.5	24 U	8.4
µg/L	SW6010	Arsenic	T	19.2	10.3	12.8	8.5
µg/L	SW6010	Barium	T	75.2 J	79.9 J	18.3 J	17.6 J
µg/L	SW6010	Beryllium	T	0.50 U	0.50 U	1.1	1.1
µg/L	SW6010	Cadmium	T	1.9 J	1.9 J	6.0	4.7
µg/L	SW6010	Calcium	T	190000	176000	52200	53200
µg/L	SW6010	Chromium	T	3.4 J	2.0 U	4.1 J	3.3 J
µg/L	SW6010	Cobalt	T	2.6 U	2.6 U	2.6 U	2.6 U
µg/L	SW6010	Copper	T	6.2 J	5.9 U	13.6	17.9
µg/L	SW6010	Iron	T	5310	3060	88.9 J	72.9 J
µg/L	SW6010	Lead	T	18.9 J	22.9	18.0	13.3 J
µg/L	SW6010	Magnesium	T	36100	33000	183 J	462 J
µg/L	SW6010	Manganese	T	526	412	2.2 J	6.3 J
µg/L	SW6010	Nickel	T	1.9 J	3.3 J	4.2 J	4.2 J
µg/L	SW6010	Potassium	T	23700	25000	368000	327000
µg/L	SW6010	Selenium	T	4.9 U	4.9 U	8.4 J	5.5 J
µg/L	SW6010	Silver	T	6.1 U	6.1 U	6.1 U	6.1 U
µg/L	SW6010	Sodium	T	12400	13700	35900	29900
µg/L	SW6010	Thallium	T	1.8 U	1.8 U	1.8 U	1.8 U
µg/L	SW6010	Vanadium	T	6.5 J	3.0 J	11.9 J	44.2 J
µg/L	SW6010	Zinc	T	160	203	126	6.9 U
µg/L	SW7470	Mercury	T	0.095 U	0.10 J	0.097 J	0.20
µg/L	SW6010	Aluminum	D	1500 U	150 U		221
µg/L	SW6010	Antimony	D	47 U	5.7 J		8.0
µg/L	SW6010	Arsenic	D	28 U	5.2		7.9
µg/L	SW6010	Barium	D	130 U	77.3 J		15.8 J
µg/L	SW6010	Beryllium	D	5.0 U	0.50 U		1.0

Prepared by: Manasa Sri 12/2/2022
Reviewed by: Chris Ricardi 12/5/2022

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

			Field Sample ID	GW-18R-091422	GW-18R-102022	GW-19-091422	GW-19-102022
			Location	GW-18R	GW-18R	GW-19	GW-19
			Sample Date	9/14/2022	10/20/2022	9/14/2022	10/20/2022
			Sample Delivery Group	JD52003	JD54274	JD52003	JD54274
Units	**Method**	**Parameter Name**	**Fraction**				
µg/L	SW6010	Cadmium	D	10 U	1.6 J		4.8
µg/L	SW6010	Calcium	D	218000	176000		50800
µg/L	SW6010	Chromium	D	20 U	2.0 U		3.1 J
µg/L	SW6010	Cobalt	D	26 U	2.6 U		2.6 U
µg/L	SW6010	Copper	D	59 U	5.9 U		16.8
µg/L	SW6010	Iron	D	320 U	887		32 U
µg/L	SW6010	Lead	D	20.0 J	3.6		9.0 U
µg/L	SW6010	Magnesium	D	42000 J	32700		140 U
µg/L	SW6010	Manganese	D	68.0 J	411		1.4 U
µg/L	SW6010	Nickel	D	17 U	2.5 J		3.9 J
µg/L	SW6010	Potassium	D	28300 J	26200		325000
µg/L	SW6010	Selenium	D	49 U	4.9 U		8.0 J
µg/L	SW6010	Silver	D	61 U	6.1 U		6.1 U
µg/L	SW6010	Sodium	D	13700 J	15100		30700
µg/L	SW6010	Thallium	D	18 U	1.8 U		1.8 U
µg/L	SW6010	Vanadium	D	18 U	1.8 U		55.9
µg/L	SW6010	Zinc	D	192 J	62.2		12.0 J
µg/L	SW7470	Mercury	D	0.095 U	0.095 U		0.19 J

Notes:
U = Undetected
J = Estimated

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

			Field Sample ID	GW-20-091422	GW-20-FD-091422	GW-20-102022	GW-20-FD-102022	GW-21-091422
			Location	GW-20	GW-20	GW-20	GW-20	GW-21
			Sample Date	9/14/2022	9/14/2022	10/20/2022	10/20/2022	9/14/2022
			Sample Delivery Group	JD52003	JD52003	JD54274	JD54274	JD52003
Units	Method	Parameter Name	Fraction					
µg/L	SW8270	Nitrobenzene	T	0.61 UJ	0.61 UJ	0.31 UJ	0.31 UJ	0.61 U
µg/L	SW6010	Aluminum	T	716	849	300	482	150 U
µg/L	SW6010	Antimony	T	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
µg/L	SW6010	Arsenic	T	6.0	5.6	4.3	5.0	2.9 J
µg/L	SW6010	Barium	T	49.7 J	46.8 J	34.9 J	36.9 J	35.6 J
µg/L	SW6010	Beryllium	T	0.90 J	0.90 J	1.0	0.90 J	0.50 U
µg/L	SW6010	Cadmium	T	1.2 J	1.1 J	1.0 J	1.0 J	1.8 J
µg/L	SW6010	Calcium	T	76700 J-	63600 J-	65100	66400	32600
µg/L	SW6010	Chromium	T	5.3 J	6.5 J	2.0 U	2.0 U	2.0 U
µg/L	SW6010	Cobalt	T	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
µg/L	SW6010	Copper	T	18.9	19.1	5.9 U	5.9 U	5.9 U
µg/L	SW6010	Iron	T	1170 J	1710 J	349	429	549
µg/L	SW6010	Lead	T	35.3	32.5	9.6	10.4	3.4
µg/L	SW6010	Magnesium	T	8870	6550	8730	8690	4790 J
µg/L	SW6010	Manganese	T	77.7	66.8	38.8	45.1	19.2
µg/L	SW6010	Nickel	T	3.5 J	2.8 J	1.7 J	1.7 U	1.7 U
µg/L	SW6010	Potassium	T	117000	120000	106000	106000	14700
µg/L	SW6010	Selenium	T	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
µg/L	SW6010	Silver	T	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U
µg/L	SW6010	Sodium	T	24700	24200	22600	22600	12700
µg/L	SW6010	Thallium	T	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
µg/L	SW6010	Vanadium	T	9.5 J	14.2 J	7.3 J	7.8 J	1.8 U
µg/L	SW6010	Zinc	T	86.1 J	244 J	22.3	22.7	72.8
µg/L	SW7470	Mercury	T	0.095 U	0.095 U	0.29	0.095 U	0.095 U
µg/L	SW6010	Aluminum	D			150 UJ	751 J	
µg/L	SW6010	Antimony	D			4.7 U	4.7 U	
µg/L	SW6010	Arsenic	D			5.0	4.7	
µg/L	SW6010	Barium	D			30.2 J	29.7 J	
µg/L	SW6010	Beryllium	D			1.1	1.0	

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

			Field Sample ID	GW-20-091422	GW-20-FD-091422	GW-20-102022	GW-20-FD-102022	GW-21-091422
			Location	GW-20	GW-20	GW-20	GW-20	GW-21
			Sample Date	9/14/2022	9/14/2022	10/20/2022	10/20/2022	9/14/2022
			Sample Delivery Group	JD52003	JD52003	JD54274	JD54274	JD52003
Units	**Method**	**Parameter Name**	**Fraction**					
µg/L	SW6010	Cadmium	D			1.0 U	1.0 U	
µg/L	SW6010	Calcium	D			59100 J-	57500 J-	
µg/L	SW6010	Chromium	D			2.0 U	2.0 U	
µg/L	SW6010	Cobalt	D			2.6 U	2.6 U	
µg/L	SW6010	Copper	D			5.9 U	5.9 U	
µg/L	SW6010	Iron	D			71.0 J	48.7 J	
µg/L	SW6010	Lead	D			1.8 U	1.8 U	
µg/L	SW6010	Magnesium	D			7910	7420	
µg/L	SW6010	Manganese	D			18.6	16.6	
µg/L	SW6010	Nickel	D			1.7 U	1.7 U	
µg/L	SW6010	Potassium	D			118000	121000	
µg/L	SW6010	Selenium	D			4.9 U	4.9 U	
µg/L	SW6010	Silver	D			6.1 U	6.1 U	
µg/L	SW6010	Sodium	D			24700	25200	
µg/L	SW6010	Thallium	D			1.8 J	1.8 U	
µg/L	SW6010	Vanadium	D			6.9 J	6.7 J	
µg/L	SW6010	Zinc	D			10.2 J	13.1 J	
µg/L	SW7470	Mercury	D			0.14 J	0.095 U	

Notes:
U = Undetected
J = Estimated

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

			Field Sample ID	GW-21-102022	GW-22-091422	GW-22-102022	GW-23-091422	GW-23-102022
			Location	GW-21	GW-22	GW-22	GW-23	GW-23
			Sample Date	10/20/2022	9/14/2022	10/20/2022	9/14/2022	10/20/2022
			Sample Delivery Group	JD54274	JD52003	JD54274	JD52003	JD54274
Units	Method	Parameter Name	Fraction					
µg/L	SW8270	Nitrobenzene	T	0.32 UJ	0.61 UJ	0.31 UJ	0.61 UJ	0.31 UJ
µg/L	SW6010	Aluminum	T	150 U	7010	1050	699	150 U
µg/L	SW6010	Antimony	T	4.7 U	35.0	24 U	150	4.8 J
µg/L	SW6010	Arsenic	T	4.0	23.1	14 U	180	21.2
µg/L	SW6010	Barium	T	27.6 J	111 J	84.4 J	716	257
µg/L	SW6010	Beryllium	T	0.50 J	0.50 U	2.5 U	0.60 J	0.60 J
µg/L	SW6010	Cadmium	T	2.0 J	4.1	2.3 J	5.7	1.9 J
µg/L	SW6010	Calcium	T	29100	353000	415000	194000	198000
µg/L	SW6010	Chromium	T	2.0 U	21.6	7.0 J	22.4	2.2 J
µg/L	SW6010	Cobalt	T	2.6 U	5.9 J	8.7 J	2.6 U	2.6 U
µg/L	SW6010	Copper	T	5.9 U	46.7	42.4	311	35.3
µg/L	SW6010	Iron	T	170	21800	7300	155000	14000
µg/L	SW6010	Lead	T	3.1	51.5	79.6	837	101
µg/L	SW6010	Magnesium	T	2420 J	147000	147000	44800	34600
µg/L	SW6010	Manganese	T	11.6 J	1080	1920	795	793
µg/L	SW6010	Nickel	T	1.7 U	33.9	44.2	7.4 J	3.1 J
µg/L	SW6010	Potassium	T	14900	28400 J	30700	40800	46800
µg/L	SW6010	Selenium	T	4.9 U	4.9 U	6.9 J	7.5 J	4.9 U
µg/L	SW6010	Silver	T	6.1 U	6.1 U	6.1 U	6.1 U	6.1 U
µg/L	SW6010	Sodium	T	11400	44600	40700	18100	9500 J
µg/L	SW6010	Thallium	T	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
µg/L	SW6010	Vanadium	T	1.8 U	15.1 J	5.5 J	63.1	4.0 J
µg/L	SW6010	Zinc	T	18.1 J	249	357	757	128
µg/L	SW7470	Mercury	T	0.095 U	0.095 U	0.20	0.93	0.099 J
µg/L	SW6010	Aluminum	D	150 U	1500 U	150 U	1500 U	150 U
µg/L	SW6010	Antimony	D	4.7 U	47 U	24 U	47 U	5.2 J
µg/L	SW6010	Arsenic	D	4.6	28 U	14 U	28 U	22.0
µg/L	SW6010	Barium	D	21.8 J	142 J	72.9 J	151 J	248
µg/L	SW6010	Beryllium	D	0.50 U	5.0 U	2.5 U	5.0 U	0.50 J

Prepared by: Manasa Sri 12/2/2022
Reviewed by: Chris Ricardi 12/5/2022

TABLE 4
FINAL RESULTS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

			Field Sample ID	GW-21-102022	GW-22-091422	GW-22-102022	GW-23-091422	GW-23-102022
			Location	GW-21	GW-22	GW-22	GW-23	GW-23
			Sample Date	10/20/2022	9/14/2022	10/20/2022	9/14/2022	10/20/2022
			Sample Delivery Group	JD54274	JD52003	JD54274	JD52003	JD54274
Units	**Method**	**Parameter Name**	**Fraction**					
µg/L	SW6010	Cadmium	D	1.9 J	10 U	1.7 J	10 U	1.7 J
µg/L	SW6010	Calcium	D	23000	197000	363000	195000	239000
µg/L	SW6010	Chromium	D	2.0 U	20 U	2.0 U	20 U	2.0 U
µg/L	SW6010	Cobalt	D	2.6 U	26 U	5.8 J	26 U	2.6 U
µg/L	SW6010	Copper	D	5.9 U	59 U	7.0 J	59 U	5.9 U
µg/L	SW6010	Iron	D	32 U	913 J	130	3010	11200
µg/L	SW6010	Lead	D	1.8 U	18 U	1.8 U	18 U	13.9
µg/L	SW6010	Magnesium	D	2410 J	51800	143000	50200	38000
µg/L	SW6010	Manganese	D	3.4 J	546	1440	575	861
µg/L	SW6010	Nickel	D	1.7 U	17 U	35.1	17 U	2.5 J
µg/L	SW6010	Potassium	D	15400	42200 J	32800	42700 J	52200
µg/L	SW6010	Selenium	D	4.9 U	49 U	4.9 U	49 U	4.9 U
µg/L	SW6010	Silver	D	6.1 U	61 U	6.1 U	61 U	6.1 U
µg/L	SW6010	Sodium	D	11700	20700 J	44600	19400 J	10900
µg/L	SW6010	Thallium	D	1.8 U	18 U	1.8 U	18 U	1.8 U
µg/L	SW6010	Vanadium	D	1.8 U	18 U	1.8 U	18 U	1.8 U
µg/L	SW6010	Zinc	D	6.9 U	69 U	175	359	77.5
µg/L	SW7470	Mercury	D	0.095 U	0.095 U	0.095 U	0.095 U	0.096 J

Notes:
U = Undetected
J = Estimated

Prepared by: Manasa Sri 12/2/2022
Reviewed by: Chris Ricardi 12/5/2022

TABLE 5
FIELD DUPLICATE RESULTS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

			Field Sample ID	GW-20-091422	GW-20-FD-091422		GW-20-102022	GW-20-FD-102022	
			Location	GW-20	GW-20		GW-20	GW-20	
			Sample Date	9/14/2022	9/14/2022		10/20/2022	10/20/2022	
			Sample Delivery Group	JD52003	JD52003		JD54274	JD54274	
Units	Method	Parameter Name	Fraction			RPD			RPD
µg/L	SW8270	Nitrobenzene	T	0.61 UJ	0.61 UJ		0.31 UJ	0.31 UJ	
µg/L	SW6010	Aluminum	T	716	849	17	300	482	47 NC
µg/L	SW6010	Antimony	T	4.7 U	4.7 U		4.7 U	4.7 U	
µg/L	SW6010	Arsenic	T	6.0	5.6	7	4.3	5.0	15
µg/L	SW6010	Barium	T	49.7 J	46.8 J	6	34.9 J	36.9 J	6
µg/L	SW6010	Beryllium	T	0.90 J	0.90 J	0	1.0	0.90 J	11
µg/L	SW6010	Cadmium	T	1.2 J	1.1 J	9	1.0 J	1.0 J	0
µg/L	SW6010	Calcium	T	76700 J-	63600 J-	19	65100	66400	2
µg/L	SW6010	Chromium	T	5.3 J	6.5 J	20	2.0 U	2.0 U	
µg/L	SW6010	Cobalt	T	2.6 U	2.6 U		2.6 U	2.6 U	
µg/L	SW6010	Copper	T	18.9	19.1	1	5.9 U	5.9 U	
µg/L	SW6010	Iron	T	1170 J	1710 J	38 *	349	429	21
µg/L	SW6010	Lead	T	35.3	32.5	8	9.6	10.4	8
µg/L	SW6010	Magnesium	T	8870	6550	30 NC	8730	8690	0
µg/L	SW6010	Manganese	T	77.7	66.8	15	38.8	45.1	15
µg/L	SW6010	Nickel	T	3.5 J	2.8 J	22 NC	1.7 J	1.7 U	NC1
µg/L	SW6010	Potassium	T	117000	120000	3	106000	106000	0
µg/L	SW6010	Selenium	T	4.9 U	4.9 U		4.9 U	4.9 U	
µg/L	SW6010	Silver	T	6.1 U	6.1 U		6.1 U	6.1 U	
µg/L	SW6010	Sodium	T	24700	24200	2	22600	22600	0
µg/L	SW6010	Thallium	T	1.8 U	1.8 U		1.8 U	1.8 U	
µg/L	SW6010	Vanadium	T	9.5 J	14.2 J	40	7.3 J	7.8 J	7
µg/L	SW6010	Zinc	T	86.1 J	244 J	96 *	22.3	22.7	2
µg/L	SW7470	Mercury	T	0.095 U	0.095 U		0.29	0.095 U	101 NC
µg/L	SW6010	Aluminum	D				150 UJ	751 J	133 *
µg/L	SW6010	Antimony	D				4.7 U	4.7 U	
µg/L	SW6010	Arsenic	D				5.0	4.7	6
µg/L	SW6010	Barium	D				30.2 J	29.7 J	2
µg/L	SW6010	Beryllium	D				1.1	1.0	10

Prepared by: Manasa Sri 12/2/2022
Reviewed by: Chris Ricardi 12/5/2022

TABLE 5
FIELD DUPLICATE RESULTS
DATA VALIDATION SUMMARY REPORT
SEPTEMBER/OCTOBER 2022 GROUNDWATER EVENT
HONEYWELL BUFFALO OUTER HARBOR
BUFFALO, NEW YORK

			Field Sample ID	GW-20-091422	GW-20-FD-091422		GW-20-102022	GW-20-FD-102022	
			Location	GW-20	GW-20		GW-20	GW-20	
			Sample Date	9/14/2022	9/14/2022		10/20/2022	10/20/2022	
			Sample Delivery Group	JD52003	JD52003		JD54274	JD54274	
Units	Method	Parameter Name	Fraction			RPD			RPD
µg/L	SW6010	Cadmium	D				1.0 U	1.0 U	
µg/L	SW6010	Calcium	D				59100 J-	57500 J-	3
µg/L	SW6010	Chromium	D				2.0 U	2.0 U	
µg/L	SW6010	Cobalt	D				2.6 U	2.6 U	
µg/L	SW6010	Copper	D				5.9 U	5.9 U	
µg/L	SW6010	Iron	D				71.0 J	48.7 J	37 NC
µg/L	SW6010	Lead	D				1.8 U	1.8 U	
µg/L	SW6010	Magnesium	D				7910	7420	6
µg/L	SW6010	Manganese	D				18.6	16.6	11
µg/L	SW6010	Nickel	D				1.7 U	1.7 U	
µg/L	SW6010	Potassium	D				118000	121000	3
µg/L	SW6010	Selenium	D				4.9 U	4.9 U	
µg/L	SW6010	Silver	D				6.1 U	6.1 U	
µg/L	SW6010	Sodium	D				24700	25200	2
µg/L	SW6010	Thallium	D				1.8 J	1.8 U	NC1
µg/L	SW6010	Vanadium	D				6.9 J	6.7 J	3
µg/L	SW6010	Zinc	D				10.2 J	13.1 J	25 NC
µg/L	SW7470	Mercury	D				0.14 J	0.095 U	NC1

Notes:
NC1= Detected value less than the reporting limit of associated result
NC= Not calculated when difference of both results are < 2X RL
*= qualifed for RPD/ difference

Prepared by: Manasa Sri 12/2/2022
Reviewed by: Chris Ricardi 12/5/2022

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Honeywell International Inc. OMM work

HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

37971 PO#A001132428

SGS Job Number: JD52003

Sampling Date: 09/14/22

Report to:

Wood Environment & Infrastructure Soln.
511 Congress Street
Portland, ME 04112
Ryan.Belcher@amecfw.com; HTS-RES-LAB@Honeywell.com

ATTN: Ryan Belcher

Total number of pages in report: 70

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

David Chastain
General Manager

Client Service contact: Jadon Schiller 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA(68-00408), RI, SC, TX, UT, VA, WV

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SGS North America Inc.

Sample Summary

Honeywell International Inc. OMM work

Job No: JD52003

HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Project No: 37971 PO#A001132428

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD52003-1	09/14/22	16:10	BH	09/16/22	AQ	Ground Water	GW-18R-091422
JD52003-1F	09/14/22	16:10	BH	09/16/22	AQ	Groundwater Filtered	GW-18R-091422
JD52003-2	09/14/22	13:40	BH	09/16/22	AQ	Ground Water	GW-19-091422
JD52003-3	09/14/22	17:30	BH	09/16/22	AQ	Ground Water	GW-20-091422
JD52003-3D	09/14/22	17:30	BH	09/16/22	AQ	Water Dup/MSD	GW-20-MSD-091422
JD52003-3S	09/14/22	17:30	BH	09/16/22	AQ	Water Matrix Spike	GW-20-MS-091422
JD52003-4	09/14/22	17:30	BH	09/16/22	AQ	Ground Water	GW-20-FD-091422
JD52003-5	09/14/22	18:15	BH	09/16/22	AQ	Ground Water	GW-21-091422
JD52003-6	09/14/22	15:40	BH	09/16/22	AQ	Ground Water	GW-22-091422
JD52003-6F	09/14/22	15:40	BH	09/16/22	AQ	Groundwater Filtered	GW-22-091422
JD52003-7	09/14/22	14:10	BH	09/16/22	AQ	Ground Water	GW-23-091422
JD52003-7F	09/14/22	14:10	BH	09/16/22	AQ	Groundwater Filtered	GW-23-091422

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL
Metals ND = Not detected above the MDL

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Honeywell International Inc. OMM work	**Job No:**	JD52003
Site:	HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, B	**Report Date**	9/29/2022 12:42:59 P

On 09/16/2022, 7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.7 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD52003 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Semi-volatiles By Method SW846 8270E

Matrix: AQ **Batch ID:** OP41902A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD52003-3MS, JD52003-3MSD were used as the QC samples indicated.

Metals Analysis By Method SW846 6010D

Matrix: AQ **Batch ID:** MP35270

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD52003-3MS, JD52003-3MSD, JD52003-3SDL were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Calcium are outside control limits. Spike recovery indicates possible matrix interference.
- Matrix Spike Recovery(s) for Potassium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Selenium, Silver are outside control limits for sample MP35270-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- Samples(s) JD52003-2, JD52003-3, JD52003-4, JD52003-5: New York does not offer 3010A certification for antimony and silver. The laboratory is certified for method 3010A (Acid Digestion for Total Metals) for all other metals and is certified for the associated analytical methods of 6010C (ICP Analysis) and 6020A (ICP-MS Analysis). New York does certify for method 3005A (Acid Digestion for Total Recoverable or Dissolved Metals) for antimony and silver and the laboratory holds that certification, but that provides total recoverable rather than total metals results.
- JD52003-2 for Lead: Elevated detection limit due to dilution required for high interfering element.
- MP35270-SD1 for Manganese: Serial dilution indicates possible matrix interference.
- MP35270-SD1 for Zinc: Serial dilution indicates possible matrix interference.
- JD52003-2 for Antimony: Elevated detection limit due to dilution required for high interfering element.

Matrix: AQ **Batch ID:** MP35295

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD52180-1FMS, JD52180-1FMSD, JD52180-1FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Chromium, Vanadium, Zinc are outside control limits for sample MP35295-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- Samples(s) JD52003-1, JD52003-1F, JD52003-6, JD52003-6F, JD52003-7, JD52003-7F: New York does not offer 3010A certification for antimony and silver. The laboratory is certified for method 3010A (Acid Digestion for Total Metals) for all other metals and is certified for the associated analytical methods of 6010C (ICP Analysis) and 6020A (ICP-MS Analysis). New York does certify for method 3005A (Acid Digestion for Total Recoverable or Dissolved Metals) for antimony and silver and the laboratory holds that certification, but that provides total recoverable rather than total metals results.
- JD52003-6F for Sodium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Silver: Elevated sample detection limit due to limited volume.
- JD52003-6F for Selenium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Potassium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Arsenic: Elevated sample detection limit due to limited volume.
- JD52003-1F for Antimony: Elevated sample detection limit due to limited volume.
- JD52003-6F for Nickel: Elevated sample detection limit due to limited volume.
- JD52003-1F for Aluminum: Elevated sample detection limit due to limited volume.
- JD52003-6F for Aluminum: Elevated sample detection limit due to limited volume.
- JD52003-1F for Magnesium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Copper: Elevated sample detection limit due to limited volume.
- JD52003-1F for Beryllium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Barium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Nickel: Elevated sample detection limit due to limited volume.
- JD52003-1F for Cadmium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Calcium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Chromium: Elevated sample detection limit due to limited volume.

Metals Analysis By Method SW846 6010D

Matrix: AQ **Batch ID:** MP35295

- JD52003-1F for Cobalt: Elevated sample detection limit due to limited volume.
- JD52003-1F for Copper: Elevated sample detection limit due to limited volume.
- JD52003-6 for Lead: Elevated detection limit due to dilution required for high interfering element.
- JD52003-1F for Lead: Elevated sample detection limit due to limited volume.
- JD52003-1F for Iron: Elevated sample detection limit due to limited volume.
- JD52003-1F for Manganese: Elevated sample detection limit due to limited volume.
- JD52003-1F for Zinc: Elevated sample detection limit due to limited volume.
- JD52003-1F for Potassium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Selenium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Silver: Elevated sample detection limit due to limited volume.
- JD52003-1F for Sodium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Thallium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Thallium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Antimony: Elevated sample detection limit due to limited volume.
- JD52003-6F for Vanadium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Manganese: Elevated sample detection limit due to limited volume.
- JD52003-7F for Silver: Elevated sample detection limit due to limited volume.
- JD52003-7F for Sodium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Thallium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Vanadium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Zinc: Elevated sample detection limit due to limited volume.
- JD52003-6 for Antimony: Elevated detection limit due to dilution required for high interfering element.
- JD52003-6F for Zinc: Elevated sample detection limit due to limited volume.
- JD52003-7F for Magnesium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Arsenic: Elevated sample detection limit due to limited volume.
- JD52003-6F for Arsenic: Elevated sample detection limit due to limited volume.
- JD52003-6F for Barium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Beryllium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Cadmium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Calcium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Chromium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Cobalt: Elevated sample detection limit due to limited volume.
- JD52003-6 for Arsenic: Elevated detection limit due to dilution required for high interfering element.
- JD52003-7F for Chromium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Magnesium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Beryllium: Elevated sample detection limit due to limited volume.
- JD52003-6F for Iron: Elevated sample detection limit due to limited volume.
- JD52003-6F for Lead: Elevated sample detection limit due to limited volume.
- JD52003-7F for Nickel: Elevated sample detection limit due to limited volume.
- JD52003-7F for Barium: Elevated sample detection limit due to limited volume.
- JD52003-1F for Vanadium: Elevated sample detection limit due to limited volume.

Metals Analysis By Method SW846 6010D

Matrix: AQ	Batch ID: MP35295

- JD52003-7F for Selenium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Calcium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Potassium: Elevated sample detection limit due to limited volume.
- JD52003-7F for Cobalt: Elevated sample detection limit due to limited volume.
- JD52003-7F for Copper: Elevated sample detection limit due to limited volume.
- JD52003-7F for Iron: Elevated sample detection limit due to limited volume.
- JD52003-7F for Lead: Elevated sample detection limit due to limited volume.
- JD52003-6F for Antimony: Elevated sample detection limit due to limited volume.
- JD52003-7F for Manganese: Elevated sample detection limit due to limited volume.
- JD52003-7F for Aluminum: Elevated sample detection limit due to limited volume.
- JD52003-7F for Cadmium: Elevated sample detection limit due to limited volume.

Metals Analysis By Method SW846 7470A

Matrix: AQ	Batch ID: MP35339

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD52003-3MS, JD52003-3MSD were used as the QC samples for metals.

Matrix: AQ	Batch ID: MP35341

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD52296-1MS, JD52296-1MSD were used as the QC samples for metals.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD52003
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 09/14/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD52003-1	**GW-18R-091422**					
Aluminum		380	200	150	ug/l	SW846 6010D
Arsenic		19.2	3.0	2.8	ug/l	SW846 6010D
Barium		75.2 J	200	13	ug/l	SW846 6010D
Cadmium		1.9 J	3.0	1.0	ug/l	SW846 6010D
Calcium		190000	5000	99	ug/l	SW846 6010D
Chromium		3.4 J	10	2.0	ug/l	SW846 6010D
Copper		6.2 J	10	5.9	ug/l	SW846 6010D
Iron		5310	100	32	ug/l	SW846 6010D
Lead		18.9	3.0	1.8	ug/l	SW846 6010D
Magnesium		36100	5000	140	ug/l	SW846 6010D
Manganese		526	15	1.4	ug/l	SW846 6010D
Nickel		1.9 J	10	1.7	ug/l	SW846 6010D
Potassium		23700	10000	200	ug/l	SW846 6010D
Sodium		12400	10000	570	ug/l	SW846 6010D
Vanadium		6.5 J	50	1.8	ug/l	SW846 6010D
Zinc		160	20	6.9	ug/l	SW846 6010D
JD52003-1F	**GW-18R-091422**					
Calcium [a]		218000	50000	990	ug/l	SW846 6010D
Lead [a]		20.0 J	30	18	ug/l	SW846 6010D
Magnesium [a]		42000 J	50000	1400	ug/l	SW846 6010D
Manganese [a]		68.0 J	150	14	ug/l	SW846 6010D
Potassium [a]		28300 J	100000	2000	ug/l	SW846 6010D
Sodium [a]		13700 J	100000	5700	ug/l	SW846 6010D
Zinc [a]		192 J	200	69	ug/l	SW846 6010D
JD52003-2	**GW-19-091422**					
Aluminum		330	200	150	ug/l	SW846 6010D
Arsenic		12.8	3.0	2.8	ug/l	SW846 6010D
Barium		18.3 J	200	13	ug/l	SW846 6010D
Beryllium		1.1	1.0	0.50	ug/l	SW846 6010D
Cadmium		6.0	3.0	1.0	ug/l	SW846 6010D
Calcium		52200	5000	99	ug/l	SW846 6010D
Chromium		4.1 J	10	2.0	ug/l	SW846 6010D
Copper		13.6	10	5.9	ug/l	SW846 6010D
Iron		88.9 J	100	32	ug/l	SW846 6010D
Lead [b]		18.0	15	9.0	ug/l	SW846 6010D
Magnesium		183 J	5000	140	ug/l	SW846 6010D
Manganese		2.2 J	15	1.4	ug/l	SW846 6010D
Mercury		0.097 J	0.20	0.095	ug/l	SW846 7470A
Nickel		4.2 J	10	1.7	ug/l	SW846 6010D

Summary of Hits

Job Number: JD52003
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 09/14/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Potassium		368000	50000	1000	ug/l	SW846 6010D
Selenium		8.4 J	10	4.9	ug/l	SW846 6010D
Sodium		35900	10000	570	ug/l	SW846 6010D
Vanadium		11.9 J	50	1.8	ug/l	SW846 6010D
Zinc		126	20	6.9	ug/l	SW846 6010D
JD52003-3	**GW-20-091422**					
Aluminum		716	200	150	ug/l	SW846 6010D
Arsenic		6.0	3.0	2.8	ug/l	SW846 6010D
Barium		49.7 J	200	13	ug/l	SW846 6010D
Beryllium		0.90 J	1.0	0.50	ug/l	SW846 6010D
Cadmium		1.2 J	3.0	1.0	ug/l	SW846 6010D
Calcium		76700	5000	99	ug/l	SW846 6010D
Chromium		5.3 J	10	2.0	ug/l	SW846 6010D
Copper		18.9	10	5.9	ug/l	SW846 6010D
Iron		1170	100	32	ug/l	SW846 6010D
Lead		35.3	3.0	1.8	ug/l	SW846 6010D
Magnesium		8870	5000	140	ug/l	SW846 6010D
Manganese		77.7	15	1.4	ug/l	SW846 6010D
Nickel		3.5 J	10	1.7	ug/l	SW846 6010D
Potassium		117000	10000	200	ug/l	SW846 6010D
Sodium		24700	10000	570	ug/l	SW846 6010D
Vanadium		9.5 J	50	1.8	ug/l	SW846 6010D
Zinc		86.1	20	6.9	ug/l	SW846 6010D
JD52003-4	**GW-20-FD-091422**					
Aluminum		849	200	150	ug/l	SW846 6010D
Arsenic		5.6	3.0	2.8	ug/l	SW846 6010D
Barium		46.8 J	200	13	ug/l	SW846 6010D
Beryllium		0.90 J	1.0	0.50	ug/l	SW846 6010D
Cadmium		1.1 J	3.0	1.0	ug/l	SW846 6010D
Calcium		63600	5000	99	ug/l	SW846 6010D
Chromium		6.5 J	10	2.0	ug/l	SW846 6010D
Copper		19.1	10	5.9	ug/l	SW846 6010D
Iron		1710	100	32	ug/l	SW846 6010D
Lead		32.5	3.0	1.8	ug/l	SW846 6010D
Magnesium		6550	5000	140	ug/l	SW846 6010D
Manganese		66.8	15	1.4	ug/l	SW846 6010D
Nickel		2.8 J	10	1.7	ug/l	SW846 6010D
Potassium		120000	10000	200	ug/l	SW846 6010D
Sodium		24200	10000	570	ug/l	SW846 6010D
Vanadium		14.2 J	50	1.8	ug/l	SW846 6010D
Zinc		244	20	6.9	ug/l	SW846 6010D

Summary of Hits

Job Number: JD52003
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 09/14/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD52003-5	**GW-21-091422**					
Arsenic		2.9 J	3.0	2.8	ug/l	SW846 6010D
Barium		35.6 J	200	13	ug/l	SW846 6010D
Cadmium		1.8 J	3.0	1.0	ug/l	SW846 6010D
Calcium		32600	5000	99	ug/l	SW846 6010D
Iron		549	100	32	ug/l	SW846 6010D
Lead		3.4	3.0	1.8	ug/l	SW846 6010D
Magnesium		4790 J	5000	140	ug/l	SW846 6010D
Manganese		19.2	15	1.4	ug/l	SW846 6010D
Potassium		14700	10000	200	ug/l	SW846 6010D
Sodium		12700	10000	570	ug/l	SW846 6010D
Zinc		72.8	20	6.9	ug/l	SW846 6010D
JD52003-6	**GW-22-091422**					
Aluminum		7010	200	150	ug/l	SW846 6010D
Antimony [b]		35.0	30	24	ug/l	SW846 6010D
Arsenic [b]		23.1	15	14	ug/l	SW846 6010D
Barium		111 J	200	13	ug/l	SW846 6010D
Cadmium		4.1	3.0	1.0	ug/l	SW846 6010D
Calcium		353000	25000	500	ug/l	SW846 6010D
Chromium		21.6	10	2.0	ug/l	SW846 6010D
Cobalt		5.9 J	50	2.6	ug/l	SW846 6010D
Copper		46.7	10	5.9	ug/l	SW846 6010D
Iron		21800	100	32	ug/l	SW846 6010D
Lead [b]		51.5	15	9.0	ug/l	SW846 6010D
Magnesium		147000	5000	140	ug/l	SW846 6010D
Manganese		1080	15	1.4	ug/l	SW846 6010D
Nickel		33.9	10	1.7	ug/l	SW846 6010D
Potassium		28400	10000	200	ug/l	SW846 6010D
Sodium		44600	10000	570	ug/l	SW846 6010D
Vanadium		15.1 J	50	1.8	ug/l	SW846 6010D
Zinc		249	20	6.9	ug/l	SW846 6010D
JD52003-6F	**GW-22-091422**					
Barium [a]		142 J	2000	130	ug/l	SW846 6010D
Calcium [a]		197000	50000	990	ug/l	SW846 6010D
Iron [a]		913 J	1000	320	ug/l	SW846 6010D
Magnesium [a]		51800	50000	1400	ug/l	SW846 6010D
Manganese [a]		546	150	14	ug/l	SW846 6010D
Potassium [a]		42200 J	100000	2000	ug/l	SW846 6010D
Sodium [a]		20700 J	100000	5700	ug/l	SW846 6010D

Summary of Hits

Job Number: JD52003
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 09/14/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD52003-7	**GW-23-091422**					
Aluminum		699	200	150	ug/l	SW846 6010D
Antimony		150	6.0	4.7	ug/l	SW846 6010D
Arsenic		180	3.0	2.8	ug/l	SW846 6010D
Barium		716	200	13	ug/l	SW846 6010D
Beryllium		0.60 J	1.0	0.50	ug/l	SW846 6010D
Cadmium		5.7	3.0	1.0	ug/l	SW846 6010D
Calcium		194000	5000	99	ug/l	SW846 6010D
Chromium		22.4	10	2.0	ug/l	SW846 6010D
Copper		311	10	5.9	ug/l	SW846 6010D
Iron		155000	100	32	ug/l	SW846 6010D
Lead		837	3.0	1.8	ug/l	SW846 6010D
Magnesium		44800	5000	140	ug/l	SW846 6010D
Manganese		795	15	1.4	ug/l	SW846 6010D
Mercury		0.93	0.20	0.095	ug/l	SW846 7470A
Nickel		7.4 J	10	1.7	ug/l	SW846 6010D
Potassium		40800	10000	200	ug/l	SW846 6010D
Selenium		7.5 J	10	4.9	ug/l	SW846 6010D
Sodium		18100	10000	570	ug/l	SW846 6010D
Vanadium		63.1	50	1.8	ug/l	SW846 6010D
Zinc		757	20	6.9	ug/l	SW846 6010D
JD52003-7F	**GW-23-091422**					
Barium [a]		151 J	2000	130	ug/l	SW846 6010D
Calcium [a]		195000	50000	990	ug/l	SW846 6010D
Iron [a]		3010	1000	320	ug/l	SW846 6010D
Magnesium [a]		50200	50000	1400	ug/l	SW846 6010D
Manganese [a]		575	150	14	ug/l	SW846 6010D
Potassium [a]		42700 J	100000	2000	ug/l	SW846 6010D
Sodium [a]		19400 J	100000	5700	ug/l	SW846 6010D
Zinc [a]		359	200	69	ug/l	SW846 6010D

(a) Elevated sample detection limit due to limited volume.
(b) Elevated detection limit due to dilution required for high interfering element.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: GW-18R-091422
Lab Sample ID: JD52003-1 **Date Sampled:** 09/14/22
Matrix: AQ - Ground Water **Date Received:** 09/16/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P109736.D	1	09/22/22 14:36	JY	09/21/22 14:30	OP41902A	E2P4972
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	1.9	0.61	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		28-118%
321-60-8	2-Fluorobiphenyl	71%		34-116%
1718-51-0	Terphenyl-d14	38%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-18R-091422
Lab Sample ID: JD52003-1
Matrix: AQ - Ground Water
Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	380	200	150	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Antimony	ND	6.0	4.7	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Arsenic	19.2	3.0	2.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Barium	75.2 J	200	13	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Beryllium	ND	1.0	0.50	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Cadmium	1.9 J	3.0	1.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Calcium	190000	5000	99	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Chromium	3.4 J	10	2.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Cobalt	ND	50	2.6	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Copper	6.2 J	10	5.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Iron	5310	100	32	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Lead	18.9	3.0	1.8	ug/l	1	09/23/22	09/26/22	ND	SW846 6010D [2]	SW846 3010A [4]
Magnesium	36100	5000	140	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Manganese	526	15	1.4	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Mercury	ND	0.20	0.095	ug/l	1	09/23/22	09/26/22	LM	SW846 7470A [3]	SW846 7470A [5]
Nickel	1.9 J	10	1.7	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Potassium	23700	10000	200	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Selenium	ND	10	4.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Silver	ND	10	6.1	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Sodium	12400	10000	570	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Thallium	ND	10	1.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Vanadium	6.5 J	50	1.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Zinc	160	20	6.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA53033
(2) Instrument QC Batch: MA53044
(3) Instrument QC Batch: MA53047
(4) Prep QC Batch: MP35295
(5) Prep QC Batch: MP35339

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-18R-091422
Lab Sample ID: JD52003-1F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	ND	2000	1500	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Antimony [a]	ND	60	47	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Arsenic [a]	ND	30	28	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Barium [a]	ND	2000	130	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Beryllium [a]	ND	10	5.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cadmium [a]	ND	30	10	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Calcium [a]	218000	50000	990	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Chromium [a]	ND	100	20	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cobalt [a]	ND	500	26	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Copper [a]	ND	100	59	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Iron [a]	ND	1000	320	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Lead [a]	20.0 J	30	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Magnesium [a]	42000 J	50000	1400	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Manganese [a]	68.0 J	150	14	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	09/26/22	09/26/22	LM	SW846 7470A [2]	SW846 7470A [4]
Nickel [a]	ND	100	17	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Potassium [a]	28300 J	100000	2000	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Selenium [a]	ND	100	49	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Silver [a]	ND	100	61	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Sodium [a]	13700 J	100000	5700	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Thallium [a]	ND	100	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Vanadium [a]	ND	500	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Zinc [a]	192 J	200	69	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA53033
(2) Instrument QC Batch: MA53047
(3) Prep QC Batch: MP35295
(4) Prep QC Batch: MP35341

(a) Elevated sample detection limit due to limited volume.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-19-091422
Lab Sample ID: JD52003-2 **Date Sampled:** 09/14/22
Matrix: AQ - Ground Water **Date Received:** 09/16/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P109737.D	1	09/22/22 15:02	JY	09/21/22 14:30	OP41902A	E2P4972
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	1.9	0.61	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		28-118%
321-60-8	2-Fluorobiphenyl	73%		34-116%
1718-51-0	Terphenyl-d14	56%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-19-091422
Lab Sample ID: JD52003-2
Matrix: AQ - Ground Water
Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	330	200	150	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Antimony [a]	ND	30	24	ug/l	5	09/22/22	09/28/22	ND	SW846 6010D [3]	SW846 3010A [4]
Arsenic	12.8	3.0	2.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Barium	18.3 J	200	13	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Beryllium	1.1	1.0	0.50	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Cadmium	6.0	3.0	1.0	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Calcium	52200	5000	99	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Chromium	4.1 J	10	2.0	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Cobalt	ND	50	2.6	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Copper	13.6	10	5.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Iron	88.9 J	100	32	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Lead [a]	18.0	15	9.0	ug/l	5	09/22/22	09/28/22	ND	SW846 6010D [3]	SW846 3010A [4]
Magnesium	183 J	5000	140	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Manganese	2.2 J	15	1.4	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Mercury	0.097 J	0.20	0.095	ug/l	1	09/23/22	09/26/22	LM	SW846 7470A [2]	SW846 7470A [5]
Nickel	4.2 J	10	1.7	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Potassium	368000	50000	1000	ug/l	5	09/22/22	09/28/22	ND	SW846 6010D [3]	SW846 3010A [4]
Selenium	8.4 J	10	4.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Silver	ND	10	6.1	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Sodium	35900	10000	570	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Thallium	ND	10	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Vanadium	11.9 J	50	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Zinc	126	20	6.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA53029
(2) Instrument QC Batch: MA53047
(3) Instrument QC Batch: MA53060
(4) Prep QC Batch: MP35270
(5) Prep QC Batch: MP35339

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-20-091422
Lab Sample ID: JD52003-3 **Date Sampled:** 09/14/22
Matrix: AQ - Ground Water **Date Received:** 09/16/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P109738.D	1	09/22/22 15:28	JY	09/21/22 14:30	OP41902A	E2P4972
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	1.9	0.61	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	59%		28-118%
321-60-8	2-Fluorobiphenyl	71%		34-116%
1718-51-0	Terphenyl-d14	34%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-20-091422
Lab Sample ID: JD52003-3
Matrix: AQ - Ground Water
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	716	200	150	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Arsenic	6.0	3.0	2.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Barium	49.7 J	200	13	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Beryllium	0.90 J	1.0	0.50	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cadmium	1.2 J	3.0	1.0	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Calcium	76700	5000	99	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Chromium	5.3 J	10	2.0	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Copper	18.9	10	5.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Iron	1170	100	32	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Lead	35.3	3.0	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Magnesium	8870	5000	140	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Manganese	77.7	15	1.4	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	09/23/22	09/26/22	LM	SW846 7470A [2]	SW846 7470A [4]
Nickel	3.5 J	10	1.7	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Potassium	117000	10000	200	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Sodium	24700	10000	570	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Vanadium	9.5 J	50	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Zinc	86.1	20	6.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA53029
(2) Instrument QC Batch: MA53047
(3) Prep QC Batch: MP35270
(4) Prep QC Batch: MP35339

RL = Reporting Limit
MDL = Method Detection Limit

ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-20-FD-091422
Lab Sample ID: JD52003-4 **Date Sampled:** 09/14/22
Matrix: AQ - Ground Water **Date Received:** 09/16/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P109739.D	1	09/22/22 15:53	JY	09/21/22 14:30	OP41902A	E2P4972
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	1.9	0.61	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		28-118%
321-60-8	2-Fluorobiphenyl	75%		34-116%
1718-51-0	Terphenyl-d14	48%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-20-FD-091422
Lab Sample ID: JD52003-4
Matrix: AQ - Ground Water
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	849	200	150	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Arsenic	5.6	3.0	2.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Barium	46.8 J	200	13	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Beryllium	0.90 J	1.0	0.50	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cadmium	1.1 J	3.0	1.0	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Calcium	63600	5000	99	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Chromium	6.5 J	10	2.0	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Copper	19.1	10	5.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Iron	1710	100	32	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Lead	32.5	3.0	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Magnesium	6550	5000	140	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Manganese	66.8	15	1.4	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	09/23/22	09/26/22	LM	SW846 7470A [2]	SW846 7470A [4]
Nickel	2.8 J	10	1.7	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Potassium	120000	10000	200	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Sodium	24200	10000	570	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Vanadium	14.2 J	50	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Zinc	244	20	6.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA53029
(2) Instrument QC Batch: MA53047
(3) Prep QC Batch: MP35270
(4) Prep QC Batch: MP35339

RL = Reporting Limit
MDL = Method Detection Limit

ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-21-091422
Lab Sample ID: JD52003-5 **Date Sampled:** 09/14/22
Matrix: AQ - Ground Water **Date Received:** 09/16/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P109740.D	1	09/22/22 16:19	JY	09/21/22 14:30	OP41902A	E2P4972
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	1.9	0.61	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	51%		28-118%
321-60-8	2-Fluorobiphenyl	66%		34-116%
1718-51-0	Terphenyl-d14	50%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-21-091422
Lab Sample ID: JD52003-5
Matrix: AQ - Ground Water
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	ND	200	150	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Arsenic	2.9 J	3.0	2.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Barium	35.6 J	200	13	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Beryllium	ND	1.0	0.50	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cadmium	1.8 J	3.0	1.0	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Calcium	32600	5000	99	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Iron	549	100	32	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Lead	3.4	3.0	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Magnesium	4790 J	5000	140	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Manganese	19.2	15	1.4	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	09/23/22	09/26/22	LM	SW846 7470A [2]	SW846 7470A [4]
Nickel	ND	10	1.7	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Potassium	14700	10000	200	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Sodium	12700	10000	570	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Vanadium	ND	50	1.8	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Zinc	72.8	20	6.9	ug/l	1	09/22/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA53029
(2) Instrument QC Batch: MA53047
(3) Prep QC Batch: MP35270
(4) Prep QC Batch: MP35339

RL = Reporting Limit
MDL = Method Detection Limit

ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-22-091422
Lab Sample ID: JD52003-6 **Date Sampled:** 09/14/22
Matrix: AQ - Ground Water **Date Received:** 09/16/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P109741.D	1	09/22/22 16:45	JY	09/21/22 14:30	OP41902A	E2P4972
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	1.9	0.61	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	51%		28-118%
321-60-8	2-Fluorobiphenyl	60%		34-116%
1718-51-0	Terphenyl-d14	23%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-22-091422
Lab Sample ID: JD52003-6
Matrix: AQ - Ground Water
Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	7010	200	150	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Antimony [a]	35.0	30	24	ug/l	5	09/23/22	09/26/22	ND	SW846 6010D [2]	SW846 3010A [4]
Arsenic [a]	23.1	15	14	ug/l	5	09/23/22	09/26/22	ND	SW846 6010D [2]	SW846 3010A [4]
Barium	111 J	200	13	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Beryllium	ND	1.0	0.50	ug/l	1	09/23/22	09/26/22	ND	SW846 6010D [2]	SW846 3010A [4]
Cadmium	4.1	3.0	1.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Calcium	353000	25000	500	ug/l	5	09/23/22	09/26/22	ND	SW846 6010D [2]	SW846 3010A [4]
Chromium	21.6	10	2.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Cobalt	5.9 J	50	2.6	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Copper	46.7	10	5.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Iron	21800	100	32	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Lead [a]	51.5	15	9.0	ug/l	5	09/23/22	09/26/22	ND	SW846 6010D [2]	SW846 3010A [4]
Magnesium	147000	5000	140	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Manganese	1080	15	1.4	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Mercury	ND	0.20	0.095	ug/l	1	09/23/22	09/26/22	LM	SW846 7470A [3]	SW846 7470A [5]
Nickel	33.9	10	1.7	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Potassium	28400	10000	200	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Selenium	ND	10	4.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Silver	ND	10	6.1	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Sodium	44600	10000	570	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Thallium	ND	10	1.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Vanadium	15.1 J	50	1.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]
Zinc	249	20	6.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA53033
(2) Instrument QC Batch: MA53044
(3) Instrument QC Batch: MA53047
(4) Prep QC Batch: MP35295
(5) Prep QC Batch: MP35339

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-22-091422
Lab Sample ID: JD52003-6F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	ND	2000	1500	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Antimony [a]	ND	60	47	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Arsenic [a]	ND	30	28	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Barium [a]	142 J	2000	130	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Beryllium [a]	ND	10	5.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cadmium [a]	ND	30	10	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Calcium [a]	197000	50000	990	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Chromium [a]	ND	100	20	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cobalt [a]	ND	500	26	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Copper [a]	ND	100	59	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Iron [a]	913 J	1000	320	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Lead [a]	ND	30	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Magnesium [a]	51800	50000	1400	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Manganese [a]	546	150	14	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	09/26/22	09/26/22	LM	SW846 7470A [2]	SW846 7470A [4]
Nickel [a]	ND	100	17	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Potassium [a]	42200 J	100000	2000	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Selenium [a]	ND	100	49	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Silver [a]	ND	100	61	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Sodium [a]	20700 J	100000	5700	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Thallium [a]	ND	100	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Vanadium [a]	ND	500	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Zinc [a]	ND	200	69	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA53033
(2) Instrument QC Batch: MA53047
(3) Prep QC Batch: MP35295
(4) Prep QC Batch: MP35341

(a) Elevated sample detection limit due to limited volume.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-23-091422
Lab Sample ID: JD52003-7 **Date Sampled:** 09/14/22
Matrix: AQ - Ground Water **Date Received:** 09/16/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P109742.D	1	09/22/22 17:11	JY	09/21/22 14:30	OP41902A	E2P4972
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	1.9	0.61	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	50%		28-118%
321-60-8	2-Fluorobiphenyl	58%		34-116%
1718-51-0	Terphenyl-d14	35%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-23-091422
Lab Sample ID: JD52003-7
Matrix: AQ - Ground Water
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	699	200	150	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Antimony	150	6.0	4.7	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Arsenic	180	3.0	2.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Barium	716	200	13	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Beryllium	0.60 J	1.0	0.50	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cadmium	5.7	3.0	1.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Calcium	194000	5000	99	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Chromium	22.4	10	2.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Copper	311	10	5.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Iron	155000	100	32	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Lead	837	3.0	1.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Magnesium	44800	5000	140	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Manganese	795	15	1.4	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Mercury	0.93	0.20	0.095	ug/l	1	09/23/22	09/26/22	LM	SW846 7470A [2]	SW846 7470A [4]
Nickel	7.4 J	10	1.7	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Potassium	40800	10000	200	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Selenium	7.5 J	10	4.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Sodium	18100	10000	570	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Vanadium	63.1	50	1.8	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Zinc	757	20	6.9	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA53033
(2) Instrument QC Batch: MA53047
(3) Prep QC Batch: MP35295
(4) Prep QC Batch: MP35339

RL = Reporting Limit
MDL = Method Detection Limit

ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-23-091422
Lab Sample ID: JD52003-7F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/14/22
Date Received: 09/16/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	ND	2000	1500	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Antimony [a]	ND	60	47	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Arsenic [a]	ND	30	28	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Barium [a]	151 J	2000	130	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Beryllium [a]	ND	10	5.0	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cadmium [a]	ND	30	10	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Calcium [a]	195000	50000	990	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Chromium [a]	ND	100	20	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Cobalt [a]	ND	500	26	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Copper [a]	ND	100	59	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Iron [a]	3010	1000	320	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Lead [a]	ND	30	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Magnesium [a]	50200	50000	1400	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Manganese [a]	575	150	14	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	09/26/22	09/26/22	LM	SW846 7470A [2]	SW846 7470A [4]
Nickel [a]	ND	100	17	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Potassium [a]	42700 J	100000	2000	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Selenium [a]	ND	100	49	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Silver [a]	ND	100	61	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Sodium [a]	19400 J	100000	5700	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Thallium [a]	ND	100	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Vanadium [a]	ND	500	18	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]
Zinc [a]	359	200	69	ug/l	1	09/23/22	09/23/22	ND	SW846 6010D [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA53033
(2) Instrument QC Batch: MA53047
(3) Prep QC Batch: MP35295
(4) Prep QC Batch: MP35341

(a) Elevated sample detection limit due to limited volume.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: Honeywell Limits

GW

Fedex: 5894-7365-9345

SGS Laboratories
2235 Route 130
Dayton, NJ 08810
(p) 732-239-0200

Chain Of Custody/Analysis Request
Project Name: Buffalo Outer Harbor
Lab Project Name: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

AESI Ref:	38609.59845
COC # :	091422-Outer Harbor
Lab Use Only	
Lab_SDG	
Lab ID	
Job No.	JD52003
	2 coolers

Privileged & Confidential	
EDD To:	Ryan Belcher (ryan.belcher@woodplc.com)
Facility Name:	Outer Harbor
Location of Site:	Buffalo, New York
Site Code:	37971
Sampler:	Benjamin Hendry
Sampling Company:	Jacobs
P O #	A001132428
Analysis Turnaround Time:	
Standard -	Y
Rush Charges Authorized for -	N
Turn Around Time Required -	STANDARD

Client Contact: (name, co., address)
Sasa Jazic
Honeywell International
301 Plainfield Road, Suite 330
Syracuse, New York 13212
Sasa.Jazic@Honeywell.com

Hardcopy Report To: Do Not Send Hardcopy Unless Requested
Invoice To:

Sample Identification

	#	Sys_Loc_Code	Start Depth (ft)	End Depth (ft)	Sys_Sample_Code	Sample Date	Sample Time	Matrix Code	Medium Code	Sample Type	# of Cont.	Composite (Yes/No)	Filter Type (Yes=Filtered, No=Unfiltered)	6010B, 7470A - MTAL	6010B 7470A - MTAL [DISS] **	8270NBN/ -Nitrobenzene ***
												Units				
												Preservative		2	0	0
1F	1	N/A	---	---	GW-18R-091422	09/14/22	1610	GW	WATER	REG	4	N	N**	1	1**	2
2	2	N/A	---	---	GW-19-091422	09/14/22	1340	GW	WATER	REG	3	N	N	1		2
	3	N/A	---	---	GW-20-091422	09/14/22	1730	GW	WATER	REG	3	N	N	1		2
3	4	N/A	---	---	GW-20-MS-091422	09/14/22	1730	WQ	WATER	REG	3	N	N	1		2
	5	N/A	---	---	GW-20-MSD-091422	09/14/22	1730	WQ	WATER	REG	3	N	N	1		2
4	6	N/A	---	---	GW-20-FD-091422	09/14/22	1730	WQ	WATER	REG	3	N	N	1		2
5	7	N/A	---	---	GW-21-091422	09/14/22	1815	GW	WATER	REG	3	N	N	1		2
6F	8	N/A	---	---	GW-22-091422	09/14/22	1540	GW	WATER	REG	4	N	N**	1	1**	2
7F	9	N/A	---	---	GW-23-091422	09/14/22	1410	GW	WATER	REG	4	N	N**	1	1**	2
	10															
	11															
	12															
	13															
	14															
	15															

Lab Sample Numbers

***** Nitrobenzene MDL needs to be less than 0.4 ppb**

**** MTAL[DISS] Samples have been field filtered**

Notes:

Special Instructions:	Sample Location	pH Range	pH	Max Temp (°C)	Temp (°C)	Flow	Cond. (mS/cm)	Other

For COC questions, contact --
Benjamin Hendry
benjamin.hendry@jacobs.com
315-806-4029

Relinquished by	Company	Date/Time	Received by	Company	Date/Time	Condition	Cooler Temp.	Custody Seals Intact
[signature]	Jacobs	09-15-22/1500	FedEx					
FX		9/16/22 10:12	[signature]		9/16/22 10:20			

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn. Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (specify):

2.1

M27 A16 C22

Initial Assessment NA (4A)

Label Verification ______

5.1

5

JD52003: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JD52003 **Client:** HONEYWELL INTERNATIONAL **Project:** HLAME: 37971

Date / Time Received: 9/16/2022 10:12:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.1);

Cooler Temps (Corrected) °C: Cooler 1: (2.7);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

QC Evaluation: Honeywell Limits

Job Number: JD52003
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 09/14/22

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP41902A	SW846 8270E						
OP41902A-BS1	98-95-3	Nitrobenzene	BSP	REC	60	%	40-140
OP41902A-BS1	4165-60-0	Nitrobenzene-d5	BSP	SURR	58	%	30-130
OP41902A-BS1	321-60-8	2-Fluorobiphenyl	BSP	SURR	77	%	30-130
OP41902A-BS1	1718-51-0	Terphenyl-d14	BSP	SURR	72	%	30-130
OP41902A-MS	98-95-3	Nitrobenzene	MS	REC	60	%	40-140
OP41902A-MS	4165-60-0	Nitrobenzene-d5	MS	SURR	56	%	30-130
OP41902A-MS	321-60-8	2-Fluorobiphenyl	MS	SURR	71	%	30-130
OP41902A-MS	1718-51-0	Terphenyl-d14	MS	SURR	49	%	30-130
OP41902A-MSD	98-95-3	Nitrobenzene	MSD	REC	68	%	40-140
OP41902A-MSD	98-95-3	Nitrobenzene	MSD	RPD	13	%	20
OP41902A-MSD	4165-60-0	Nitrobenzene-d5	MSD	SURR	66	%	30-130
OP41902A-MSD	321-60-8	2-Fluorobiphenyl	MSD	SURR	81	%	30-130
OP41902A-MSD	1718-51-0	Terphenyl-d14	MSD	SURR	57	%	30-130
OP41902A-MB1	4165-60-0	Nitrobenzene-d5	MB	SURR	64	%	30-130
OP41902A-MB1	321-60-8	2-Fluorobiphenyl	MB	SURR	74	%	30-130
OP41902A-MB1	1718-51-0	Terphenyl-d14	MB	SURR	72	%	30-130
JD52003-1	4165-60-0	Nitrobenzene-d5	SAMP	SURR	57	%	30-130
JD52003-1	321-60-8	2-Fluorobiphenyl	SAMP	SURR	71	%	30-130
JD52003-1	1718-51-0	Terphenyl-d14	SAMP	SURR	38	%	30-130
JD52003-2	4165-60-0	Nitrobenzene-d5	SAMP	SURR	63	%	30-130
JD52003-2	321-60-8	2-Fluorobiphenyl	SAMP	SURR	73	%	30-130
JD52003-2	1718-51-0	Terphenyl-d14	SAMP	SURR	56	%	30-130
JD52003-3	4165-60-0	Nitrobenzene-d5	SAMP	SURR	59	%	30-130
JD52003-3	321-60-8	2-Fluorobiphenyl	SAMP	SURR	71	%	30-130
JD52003-3	1718-51-0	Terphenyl-d14	SAMP	SURR	34	%	30-130
JD52003-4	4165-60-0	Nitrobenzene-d5	SAMP	SURR	61	%	30-130
JD52003-4	321-60-8	2-Fluorobiphenyl	SAMP	SURR	75	%	30-130
JD52003-4	1718-51-0	Terphenyl-d14	SAMP	SURR	48	%	30-130
JD52003-5	4165-60-0	Nitrobenzene-d5	SAMP	SURR	51	%	30-130
JD52003-5	321-60-8	2-Fluorobiphenyl	SAMP	SURR	66	%	30-130
JD52003-5	1718-51-0	Terphenyl-d14	SAMP	SURR	50	%	30-130
JD52003-6	4165-60-0	Nitrobenzene-d5	SAMP	SURR	51	%	30-130
JD52003-6	321-60-8	2-Fluorobiphenyl	SAMP	SURR	60	%	30-130
JD52003-6	1718-51-0	Terphenyl-d14	SAMP	SURR	23	%	30-130
JD52003-7	4165-60-0	Nitrobenzene-d5	SAMP	SURR	50	%	30-130
JD52003-7	321-60-8	2-Fluorobiphenyl	SAMP	SURR	58	%	30-130
JD52003-7	1718-51-0	Terphenyl-d14	SAMP	SURR	35	%	30-130

* Sample used for QC is not from job JD52003

MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD52003
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41902A-MB1	2P109721.D	1	09/22/22	JY	09/21/22	OP41902A	E2P4972

The QC reported here applies to the following samples: **Method:** SW846 8270E

JD52003-1, JD52003-2, JD52003-3, JD52003-4, JD52003-5, JD52003-6, JD52003-7

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	31%	10-71%
4165-62-2	Phenol-d5	17%	10-58%
118-79-6	2,4,6-Tribromophenol	67%	22-144%
4165-60-0	Nitrobenzene-d5	64%	28-118%
321-60-8	2-Fluorobiphenyl	74%	34-116%
1718-51-0	Terphenyl-d14	72%	10-127%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

Blank Spike Summary

Job Number: JD52003
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41902A-BS1	2P109735.D	1	09/22/22	JY	09/21/22	OP41902A	E2P4972

The QC reported here applies to the following samples: **Method:** SW846 8270E

JD52003-1, JD52003-2, JD52003-3, JD52003-4, JD52003-5, JD52003-6, JD52003-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
98-95-3	Nitrobenzene	50	30.2	60	35-119

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	30%	10-71%
4165-62-2	Phenol-d5	19%	10-58%
118-79-6	2,4,6-Tribromophenol	73%	22-144%
4165-60-0	Nitrobenzene-d5	58%	28-118%
321-60-8	2-Fluorobiphenyl	77%	34-116%
1718-51-0	Terphenyl-d14	72%	10-127%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD52003
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP41902A-MS	2P109743.D	1	09/22/22	JY	09/21/22	OP41902A	E2P4972
OP41902A-MSD	2P109744.D	1	09/22/22	JY	09/21/22	OP41902A	E2P4972
JD52003-3	2P109738.D	1	09/22/22	JY	09/21/22	OP41902A	E2P4972

The QC reported here applies to the following samples: **Method:** SW846 8270E

JD52003-1, JD52003-2, JD52003-3, JD52003-4, JD52003-5, JD52003-6, JD52003-7

CAS No.	Compound	JD52003-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
98-95-3	Nitrobenzene	ND		47.6	28.5	60	47.6	32.6	68	13	18-148/49

CAS No.	Surrogate Recoveries	MS	MSD	JD52003-3	Limits
367-12-4	2-Fluorophenol	30%	29%		10-71%
4165-62-2	Phenol-d5	19%	18%		10-58%
118-79-6	2,4,6-Tribromophenol	62%	69%		22-144%
4165-60-0	Nitrobenzene-d5	56%	66%	59%	28-118%
321-60-8	2-Fluorobiphenyl	71%	81%	71%	34-116%
1718-51-0	Terphenyl-d14	49%	57%	34%	10-127%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JD52003
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample: E2P4946-DFTPP
Lab File ID: 2P109183.D
Instrument ID: GCMS2P
Injection Date: 08/29/22
Injection Time: 20:44

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	62034	38.9		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	82733	51.9		Pass
70	Less than 2.0% of mass 69	453	0.28	(0.55) [a]	Pass
127	40.0 - 60.0% of mass 198	83848	52.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	159392	100.0		Pass
199	5.0 - 9.0% of mass 198	10879	6.83		Pass
275	10.0 - 30.0% of mass 198	40188	25.2		Pass
365	1.0 - 100.0% of mass 198	4660	2.92		Pass
441	Present, but less than mass 443	18094	11.4	(91.9) [b]	Pass
442	40.0 - 100.0% of mass 198	104035	65.3		Pass
443	17.0 - 23.0% of mass 442	19687	12.4	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2P4946-IC4946	2P109184.D	08/29/22	21:04	00:20	Initial cal 100
E2P4946-IC4946	2P109185.D	08/29/22	21:30	00:46	Initial cal 1
E2P4946-IC4946	2P109186.D	08/29/22	21:56	01:12	Initial cal 80
E2P4946-IC4946	2P109187.D	08/29/22	22:21	01:37	Initial cal 2
E2P4946-ICC4946	2P109188.D	08/29/22	22:47	02:03	Initial cal 50
E2P4946-IC4946	2P109189.D	08/29/22	23:13	02:29	Initial cal 5
E2P4946-IC4946	2P109190.D	08/29/22	23:39	02:55	Initial cal 25
E2P4946-IC4946	2P109191.D	08/30/22	00:05	03:21	Initial cal 10
E2P4946-ICV4946	2P109192.D	08/30/22	00:30	03:46	Initial cal verification 50
E2P4946-ICV4946	2P109193.D	08/30/22	00:56	04:12	Initial cal verification 50
E2P4946-ICV4946	2P109194.D	08/30/22	01:21	04:37	Initial cal verification 50
E2P4946-ICV4946	2P109195.D	08/30/22	01:46	05:02	Initial cal verification 50
E2P4946-ICV4946	2P109196.D	08/30/22	02:12	05:28	Initial cal verification 50
E2P4946-ICV4946	2P109197.D	08/30/22	02:38	05:54	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JD52003
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample: E2P4947-DFTPP
Lab File ID: 2P109198.D
Instrument ID: GCMS2P
Injection Date: 08/30/22
Injection Time: 03:00

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	59735	35.8		Pass
68	Less than 2.0% of mass 69	351	0.21	(0.43) [a]	Pass
69	Mass 69 relative abundance	80744	48.3		Pass
70	Less than 2.0% of mass 69	298	0.18	(0.37) [a]	Pass
127	40.0 - 60.0% of mass 198	82811	49.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	167003	100.0		Pass
199	5.0 - 9.0% of mass 198	11148	6.68		Pass
275	10.0 - 30.0% of mass 198	44276	26.5		Pass
365	1.0 - 100.0% of mass 198	5391	3.23		Pass
441	Present, but less than mass 443	21613	12.9	(91.5) [b]	Pass
442	40.0 - 100.0% of mass 198	122715	73.5		Pass
443	17.0 - 23.0% of mass 442	23630	14.1	(19.3) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2P4947-IC4947	2P109199.D	08/30/22	03:11	00:11	Initial cal 100
E2P4947-IC4947	2P109200.D	08/30/22	03:37	00:37	Initial cal 80
E2P4947-ICC4947	2P109201.D	08/30/22	04:04	01:04	Initial cal 50
E2P4947-IC4947	2P109202A.D	08/30/22	04:35	01:35	Initial cal 25
E2P4947-IC4947	2P109203.D	08/30/22	05:01	02:01	Initial cal 10
E2P4947-IC4947	2P109204.D	08/30/22	05:27	02:27	Initial cal 5
E2P4947-IC4947	2P109205.D	08/30/22	05:53	02:53	Initial cal 2
E2P4947-IC4947	2P109206.D	08/30/22	06:20	03:20	Initial cal 1
E2P4947-ICV4947	2P109207.D	08/30/22	06:46	03:46	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JD52003
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample: E2P4972-DFTPP
Lab File ID: 2P109717.D
Instrument ID: GCMS2P
Injection Date: 09/22/22
Injection Time: 09:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	80183	34.8		Pass
68	Less than 2.0% of mass 69	728	0.32	(0.77) [a]	Pass
69	Mass 69 relative abundance	94666	41.1		Pass
70	Less than 2.0% of mass 69	663	0.29	(0.70) [a]	Pass
127	40.0 - 60.0% of mass 198	122276	53.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	230184	100.0		Pass
199	5.0 - 9.0% of mass 198	15960	6.93		Pass
275	10.0 - 30.0% of mass 198	50555	22.0		Pass
365	1.0 - 100.0% of mass 198	6694	2.91		Pass
441	Present, but less than mass 443	17059	7.41	(94.7) [b]	Pass
442	40.0 - 100.0% of mass 198	94877	41.2		Pass
443	17.0 - 23.0% of mass 442	18014	7.83	(19.0) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E2P4972-CC4946	2P109718.D	09/22/22	09:27	00:10	Continuing cal 50
E2P4972-CC4947	2P109719.D	09/22/22	09:53	00:36	Continuing cal 50
OP41902A-MB1	2P109721.D	09/22/22	12:03	02:46	Method Blank
OP41902A-BS1	2P109735.D	09/22/22	13:20	04:03	Blank Spike
JD52003-1	2P109736.D	09/22/22	14:36	05:19	GW-18R-091422
JD52003-2	2P109737.D	09/22/22	15:02	05:45	GW-19-091422
JD52003-3	2P109738.D	09/22/22	15:28	06:11	GW-20-091422
JD52003-4	2P109739.D	09/22/22	15:53	06:36	GW-20-FD-091422
JD52003-5	2P109740.D	09/22/22	16:19	07:02	GW-21-091422
JD52003-6	2P109741.D	09/22/22	16:45	07:28	GW-22-091422
JD52003-7	2P109742.D	09/22/22	17:11	07:54	GW-23-091422
OP41902A-MS	2P109743.D	09/22/22	17:36	08:19	Matrix Spike
OP41902A-MSD	2P109744.D	09/22/22	18:02	08:45	Matrix Spike Duplicate

Surrogate Recovery Summary

Job Number: JD52003
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Method: SW846 8270E **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JD52003-1	2P109736.D	57	71	38
JD52003-2	2P109737.D	63	73	56
JD52003-3	2P109738.D	59	71	34
JD52003-4	2P109739.D	61	75	48
JD52003-5	2P109740.D	51	66	50
JD52003-6	2P109741.D	51	60	23
JD52003-7	2P109742.D	50	58	35
OP41902A-BS1	2P109735.D	58	77	72
OP41902A-MB1	2P109721.D	64	74	72
OP41902A-MS	2P109743.D	56	71	49
OP41902A-MSD	2P109744.D	66	81	57

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	28-118%
S2 = 2-Fluorobiphenyl	34-116%
S3 = Terphenyl-d14	10-127%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	17	150	19.1	<200
Antimony	6.0	1.7	4.7	-1.3	<6.0
Arsenic	3.0	2.1	2.8	0.40	<3.0
Barium	200	.8	13	-0.20	<200
Beryllium	1.0	.3	.5	0.0	<1.0
Bismuth	20	2.3	8.6		
Boron	100	2.3	10		
Cadmium	3.0	.3	1	0.0	<3.0
Calcium	5000	6.6	99	46.0	<5000
Cerium	100				
Chromium	10	.3	2	0.10	<10
Cobalt	50	.4	2.6	0.0	<50
Copper	10	.8	5.9	0.90	<10
Iron	100	5.3	32	6.3	<100
Lead	3.0	1.1	1.8	-0.10	<3.0
Lithium	50	4.8	7.3		
Magnesium	5000	32	140	2.7	<5000
Manganese	15	.1	1.4	0.20	<15
Molybdenum	20	.6	3.6		
Nickel	10	.4	1.7	0.50	<10
Phosphorus	50	1.2	18		
Potassium	10000	77	200	12.2	<10000
Selenium	10	3.2	4.9	-1.0	<10
Silicon	200	1.7	32		
Silver	10	1	6.1	0.60	<10
Sodium	10000	34	570	66.9	<10000
Strontium	10	.3	2.7		
Sulfur	50	3	45		
Thallium	10	1.8	1.8	0.70	<10
Tin	10	.8	3.7		
Titanium	10	.5	2.5		
Tungsten	50	2.6	40		
Vanadium	50	.6	1.8	-0.20	<50

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/22/22

Metal	RL	IDL	MDL	MB raw	final
Zinc	20	.1	6.9	5.3	<20
Zirconium	10	.3	4.1		

Associated samples MP35270: JD52003-2, JD52003-3, JD52003-4, JD52003-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	JD52003-3 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	716	23200	25000	89.9	75-125
Antimony	3.2	1810	2000	90.3	75-125
Arsenic	6.0	1790	2000	89.2	75-125
Barium	49.7	1760	2000	85.5	75-125
Beryllium	0.90	1740	2000	87.0	75-125
Bismuth					
Boron					
Cadmium	1.2	1800	2000	89.9	75-125
Calcium	76700	93900	25000	68.8N(a)	75-125
Cerium					
Chromium	5.3	1720	2000	85.7	75-125
Cobalt	0.0	1670	2000	83.5	75-125
Copper	18.9	1680	2000	83.1	75-125
Iron	1170	23700	25000	90.1	75-125
Lead	35.3	1750	2000	85.7	75-125
Lithium					
Magnesium	8870	30200	25000	85.3	75-125
Manganese	77.7	1840	2000	88.1	75-125
Molybdenum					
Nickel	3.5	1740	2000	86.8	75-125
Phosphorus					
Potassium	117000	133000	25000	64.0 (b)	75-125
Selenium	4.8	1730	2000	86.3	75-125
Silicon					
Silver	1.0	216	250	86.0	75-125
Sodium	24700	45800	25000	84.4	75-125
Strontium					
Sulfur					
Thallium	0.0	1710	2000	85.5	75-125
Tin					
Titanium					
Tungsten					
Vanadium	9.5	1760	2000	87.5	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	JD52003-3 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Zinc	86.1	1980	2000	94.7	75-125
Zirconium					

Associated samples MP35270: JD52003-2, JD52003-3, JD52003-4, JD52003-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	JD52003-3 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	716	24300	25000	94.3	4.6	20
Antimony	3.2	1910	2000	95.3	5.4	20
Arsenic	6.0	1910	2000	95.2	6.5	20
Barium	49.7	1860	2000	90.5	5.5	20
Beryllium	0.90	1830	2000	91.5	5.0	20
Bismuth						
Boron						
Cadmium	1.2	1900	2000	94.9	5.4	20
Calcium	76700	105000	25000	113.2	11.2	20
Cerium						
Chromium	5.3	1820	2000	90.7	5.6	20
Cobalt	0.0	1770	2000	88.5	5.8	20
Copper	18.9	1780	2000	88.1	5.8	20
Iron	1170	24600	25000	93.7	3.7	20
Lead	35.3	1860	2000	91.2	6.1	20
Lithium						
Magnesium	8870	32300	25000	93.7	6.7	20
Manganese	77.7	1940	2000	93.1	5.3	20
Molybdenum						
Nickel	3.5	1840	2000	91.8	5.6	20
Phosphorus						
Potassium	117000	149000	25000	128.0(a)	11.3	20
Selenium	4.8	1830	2000	91.3	5.6	20
Silicon						
Silver	1.0	227	250	90.4	5.0	20
Sodium	24700	49900	25000	100.8	8.6	20
Strontium						
Sulfur						
Thallium	0.0	1830	2000	91.5	6.8	20
Tin						
Titanium						
Tungsten						
Vanadium	9.5	1860	2000	92.5	5.5	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	JD52003-3 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zinc	86.1	2000	2000	95.7	1.0	20
Zirconium						

Associated samples MP35270: JD52003-2, JD52003-3, JD52003-4, JD52003-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	25400	25000	101.6	80-120
Antimony	2000	2000	100.0	80-120
Arsenic	1950	2000	97.5	80-120
Barium	1950	2000	97.5	80-120
Beryllium	1980	2000	99.0	80-120
Bismuth				
Boron				
Cadmium	2010	2000	100.5	80-120
Calcium	24900	25000	99.6	80-120
Cerium				
Chromium	1970	2000	98.5	80-120
Cobalt	1880	2000	94.0	80-120
Copper	1910	2000	95.5	80-120
Iron	25400	25000	101.6	80-120
Lead	1960	2000	98.0	80-120
Lithium				
Magnesium	25100	25000	100.4	80-120
Manganese	2020	2000	101.0	80-120
Molybdenum				
Nickel	1960	2000	98.0	80-120
Phosphorus				
Potassium	25400	25000	101.6	80-120
Selenium	1930	2000	96.5	80-120
Silicon				
Silver	241	250	96.4	80-120
Sodium	25600	25000	102.4	80-120
Strontium				
Sulfur				
Thallium	2000	2000	100.0	80-120
Tin				
Titanium				
Tungsten				
Vanadium	1990	2000	99.5	80-120

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zinc	2020	2000	101.0	80-120
Zirconium				

Associated samples MP35270: JD52003-2, JD52003-3, JD52003-4, JD52003-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	JD52003-3 Original	SDL 1:5	%DIF	QC Limits
Aluminum	716	906	26.5 (a)	0-10
Antimony	3.20	0.00	100.0(a)	0-10
Arsenic	6.00	0.00	100.0(a)	0-10
Barium	49.7	53.5	7.6	0-10
Beryllium	0.900	0.00	100.0(a)	0-10
Bismuth				
Boron				
Cadmium	1.20	0.00	100.0(a)	0-10
Calcium	76700	82800	8.0	0-10
Cerium				
Chromium	5.30	6.10	15.1 (a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	18.9	26.4	39.7 (a)	0-10
Iron	1170	1270	8.1	0-10
Lead	35.3	37.8	7.1	0-10
Lithium				
Magnesium	8870	9600	8.2	0-10
Manganese	77.7	85.7	10.3*(b)	0-10
Molybdenum				
Nickel	3.50	3.30	5.7	0-10
Phosphorus				
Potassium	117000	126000	8.1	0-10
Selenium	4.80	0.00	100.0(a)	0-10
Silicon				
Silver	1.00	0.00	100.0(a)	0-10
Sodium	24700	26800	8.7	0-10
Strontium				
Sulfur				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	9.50	10.3	8.4	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35270
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/22/22

Metal	JD52003-3 Original	SDL 1:5	%DIF	QC Limits
Zinc	86.1	103	19.4*(b)	0-10
Zirconium				

Associated samples MP35270: JD52003-2, JD52003-3, JD52003-4, JD52003-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:				09/23/22		09/23/22	
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	200	16	150	21.1	<200	5.1	<200
Antimony	6.0	1.7	4.7	-0.10	<6.0	-0.40	<6.0
Arsenic	3.0	2	2.8	-1.4	<3.0	-0.40	<3.0
Barium	200	.4	13	-0.10	<200	-0.10	<200
Beryllium	1.0	.1	.5	0.0	<1.0	0.0	<1.0
Bismuth	20	2.3	8.6				
Boron	100	1.9	10				
Cadmium	3.0	.3	1	0.10	<3.0	0.0	<3.0
Calcium	5000	5.6	99	22.4	<5000	15.0	<5000
Cerium	100						
Chromium	10	.3	2	0.0	<10	0.0	<10
Cobalt	50	.4	2.6	0.0	<50	-0.10	<50
Copper	10	.8	5.9	1.3	<10	0.80	<10
Iron	100	5.3	32	5.7	<100	1.0	<100
Lead	3.0	1.1	1.8	0.90	<3.0	0.40	<3.0
Lithium	50	2.3	7.3				
Magnesium	5000	32	140	4.9	<5000	-5.9	<5000
Manganese	15	.1	1.4	0.10	<15	0.20	<15
Molybdenum	20	.4	3.6				
Nickel	10	.3	1.7	0.0	<10	-0.40	<10
Phosphorus	50	1.2	18				
Potassium	10000	55	200	-4.2	<10000	40.5	<10000
Selenium	10	3.2	4.9	0.30	<10	1.2	<10
Silicon	200	1.6	32				
Silver	10	1	6.1	-0.10	<10	0.30	<10
Sodium	10000	11	570	38.0	<10000	21.6	<10000
Strontium	10	.1	2.7				
Sulfur	50	3	45				
Thallium	10	1.8	1.8	0.60	<10	0.90	<10
Tin	10	.8	3.7				
Titanium	10	.4	2.5				
Tungsten	50	2.6	40				
Vanadium	50	.6	1.8	0.10	<50	0.20	<50

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/23/22 09/23/22

Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Zinc	20	.1	6.9	3.1	<20	1.3	<20
Zirconium	10	.3	4.1				

Associated samples MP35295: JD52003-1, JD52003-6, JD52003-7, JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/23/22

Metal	JD52180-1F Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	0.0	25300	25000	101.2	75-125
Antimony	0.0	1950	2000	97.5	75-125
Arsenic	0.0	1900	2000	95.0	75-125
Barium	23.5	1870	2000	92.3	75-125
Beryllium	0.0	1880	2000	94.0	75-125
Bismuth					
Boron					
Cadmium	0.0	1890	2000	94.5	75-125
Calcium	31500	57000	25000	102.0	75-125
Cerium					
Chromium	0.80	1820	2000	91.0	75-125
Cobalt	0.0	1830	2000	91.5	75-125
Copper	0.0	1840	2000	92.0	75-125
Iron	46900	72000	25000	100.4	75-125
Lead	0.0	1850	2000	92.5	75-125
Lithium					
Magnesium	4400	29200	25000	99.2	75-125
Manganese	849	2710	2000	93.1	75-125
Molybdenum					
Nickel	0.0	1840	2000	92.0	75-125
Phosphorus					
Potassium	4040	29000	25000	99.8	75-125
Selenium	0.0	1860	2000	93.0	75-125
Silicon					
Silver	0.0	229	250	91.6	75-125
Sodium	14000	39400	25000	101.6	75-125
Strontium					
Sulfur					
Thallium	0.0	1900	2000	95.0	75-125
Tin					
Titanium					
Tungsten					
Vanadium	0.60	1860	2000	93.0	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/23/22

Metal	JD52180-1F Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Zinc	4.5	1860	2000	92.8	75-125
Zirconium					

Associated samples MP35295: JD52003-1, JD52003-6, JD52003-7, JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/23/22

Metal	JD52180-1F Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	0.0	24600	25000	98.4	2.8	20
Antimony	0.0	1950	2000	97.5	0.0	20
Arsenic	0.0	1900	2000	95.0	0.0	20
Barium	23.5	1870	2000	92.3	0.0	20
Beryllium	0.0	1870	2000	93.5	0.5	20
Bismuth						
Boron						
Cadmium	0.0	1880	2000	94.0	0.5	20
Calcium	31500	56200	25000	98.8	1.4	20
Cerium						
Chromium	0.80	1810	2000	90.5	0.6	20
Cobalt	0.0	1820	2000	91.0	0.5	20
Copper	0.0	1840	2000	92.0	0.0	20
Iron	46900	71100	25000	96.8	1.3	20
Lead	0.0	1840	2000	92.0	0.5	20
Lithium						
Magnesium	4400	28500	25000	96.4	2.4	20
Manganese	849	2700	2000	92.6	0.4	20
Molybdenum						
Nickel	0.0	1830	2000	91.5	0.5	20
Phosphorus						
Potassium	4040	28400	25000	97.4	2.1	20
Selenium	0.0	1850	2000	92.5	0.5	20
Silicon						
Silver	0.0	228	250	91.2	0.4	20
Sodium	14000	38800	25000	99.2	1.5	20
Strontium						
Sulfur						
Thallium	0.0	1900	2000	95.0	0.0	20
Tin						
Titanium						
Tungsten						
Vanadium	0.60	1850	2000	92.5	0.5	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/23/22

Metal	JD52180-1F Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zinc	4.5	1870	2000	93.3	0.5	20
Zirconium						

Associated samples MP35295: JD52003-1, JD52003-6, JD52003-7, JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:			09/23/22				09/23/22	
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	24400	25000	97.6	80-120	22800	25000	91.2	80-120
Antimony	1930	2000	96.5	80-120	1840	2000	92.0	80-120
Arsenic	1930	2000	96.5	80-120	1840	2000	92.0	80-120
Barium	1870	2000	93.5	80-120	1770	2000	88.5	80-120
Beryllium	1880	2000	94.0	80-120	1780	2000	89.0	80-120
Bismuth								
Boron								
Cadmium	1880	2000	94.0	80-120	1780	2000	89.0	80-120
Calcium	24900	25000	99.6	80-120	23200	25000	92.8	80-120
Cerium								
Chromium	1880	2000	94.0	80-120	1780	2000	89.0	80-120
Cobalt	1880	2000	94.0	80-120	1800	2000	90.0	80-120
Copper	1890	2000	94.5	80-120	1790	2000	89.5	80-120
Iron	24700	25000	98.8	80-120	23100	25000	92.4	80-120
Lead	1860	2000	93.0	80-120	1760	2000	88.0	80-120
Lithium								
Magnesium	25000	25000	100.0	80-120	23300	25000	93.2	80-120
Manganese	1900	2000	95.0	80-120	1830	2000	91.5	80-120
Molybdenum								
Nickel	1860	2000	93.0	80-120	1790	2000	89.5	80-120
Phosphorus								
Potassium	24400	25000	97.6	80-120	22700	25000	90.8	80-120
Selenium	1850	2000	92.5	80-120	1750	2000	87.5	80-120
Silicon								
Silver	225	250	90.0	80-120	215	250	86.0	80-120
Sodium	24700	25000	98.8	80-120	23000	25000	92.0	80-120
Strontium								
Sulfur								
Thallium	1920	2000	96.0	80-120	1850	2000	92.5	80-120
Tin								
Titanium								
Tungsten								
Vanadium	1880	2000	94.0	80-120	1790	2000	89.5	80-120

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:			09/23/22				09/23/22	
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zinc	1900	2000	95.0	80-120	1830	2000	91.5	80-120
Zirconium								

Associated samples MP35295: JD52003-1, JD52003-6, JD52003-7, JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/23/22

Metal	JD52180-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum	0.00	0.00	NC	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	23.5	22.8	3.0	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	31500	31800	1.2	0-10
Cerium				
Chromium	0.800	0.00	100.0(a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.00	0.00	NC	0-10
Iron	46900	47400	1.2	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	4400	4430	0.6	0-10
Manganese	849	857	1.0	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Phosphorus				
Potassium	4040	4230	4.5	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	14000	13900	0.4	0-10
Strontium				
Sulfur				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	0.600	0.00	100.0(a)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35295
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 09/23/22

Metal	JD52180-1F Original	SDL 1:5	%DIF	QC Limits
Zinc	4.50	8.60	91.1 (a)	0-10
Zirconium				

Associated samples MP35295: JD52003-1, JD52003-6, JD52003-7, JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35339 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/23/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.024	.095	-0.037	<0.20

Associated samples MP35339: JD52003-1, JD52003-2, JD52003-3, JD52003-4, JD52003-5, JD52003-6, JD52003-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35339
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/23/22

Metal	JD52003-3 Original	MS	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.035	2.1	2	103.3	75-125

Associated samples MP35339: JD52003-1, JD52003-2, JD52003-3, JD52003-4, JD52003-5, JD52003-6, JD52003-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35339
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/23/22

Metal	JD52003-3 Original	MSD	Spikelot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.035	2.2	2	108.3	4.7	20

Associated samples MP35339: JD52003-1, JD52003-2, JD52003-3, JD52003-4, JD52003-5, JD52003-6, JD52003-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35339
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/23/22

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	2.0	2	100.0	80-120

Associated samples MP35339: JD52003-1, JD52003-2, JD52003-3, JD52003-4, JD52003-5, JD52003-6, JD52003-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35341 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/26/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.024	.095	-0.032	<0.20

Associated samples MP35341: JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35341
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/26/22

Metal	JD52296-1 Original	MS	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.0	1.9	2	95.0	75-125

Associated samples MP35341: JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35341
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/26/22

Metal	JD52296-1 Original	MSD	Spikelot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.0	1.9	2	95.0	0.0	20

Associated samples MP35341: JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD52003
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35341
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/26/22

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	1.9	2	95.0	80-120

Associated samples MP35341: JD52003-1F, JD52003-6F, JD52003-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

Honeywell International Inc. OMM work

HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

R37971 PO#A001132428

SGS Job Number: JD54274

Sampling Date: 10/20/22

Report to:

Wood Environment & Infrastructure Soln.
511 Congress Street
Portland, ME 04112
Ryan.Belcher@amecfw.com; HTS-RES-LAB@Honeywell.com

ATTN: Ryan Belcher

Total number of pages in report: 83

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

David Chastain
General Manager

Client Service contact: Jadon Schiller 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA(68-00408), RI, SC, TX, UT, VA, WV

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7.1: Prep QC MP35945: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na, Tl,V,Zn 50
7.2: Prep QC MP35954: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na, Tl,V,Zn 64
7.3: Prep QC MP35974: Hg 74
7.4: Prep QC MP35996: Hg 80

SGS North America Inc.

Sample Summary

Honeywell International Inc. OMM work

Job No: JD54274

HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Project No: R37971 PO#A001132428

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
This report contains results reported as ND = Not detected. The following applies:							
Organics ND	= Not detected above the MDL						
Metals ND	= Not detected above the MDL						
JD54274-1	10/20/22	10:20	BH	10/21/22	AQ	Ground Water	GW-18R-102022
JD54274-1F	10/20/22	10:20	BH	10/21/22	AQ	Groundwater Filtered	GW-18R-102022
JD54274-2	10/20/22	09:45	BH	10/21/22	AQ	Ground Water	GW-19-102022
JD54274-2F	10/20/22	09:45	BH	10/21/22	AQ	Groundwater Filtered	GW-19-102022
JD54274-3	10/20/22	08:15	BH	10/21/22	AQ	Ground Water	GW-20-102022
JD54274-3D	10/20/22	08:15	BH	10/21/22	AQ	Water Dup/MSD	GW-20-MSD-102022
JD54274-3F	10/20/22	08:15	BH	10/21/22	AQ	Groundwater Filtered	GW-20-102022
JD54274-3FD	10/20/22	08:15	BH	10/21/22	AQ	Water Dup/MSD	GW-20-MSD-102022
JD54274-3FS	10/20/22	08:15	BH	10/21/22	AQ	Water Matrix Spike	GW-20-MS-102022
JD54274-3S	10/20/22	08:15	BH	10/21/22	AQ	Water Matrix Spike	GW-20-MS-102022
JD54274-4	10/20/22	08:15	BH	10/21/22	AQ	Ground Water	GW-20-FD-102022
JD54274-4F	10/20/22	08:15	BH	10/21/22	AQ	Groundwater Filtered	GW-20-FD-102022

Sample Summary
(continued)

Honeywell International Inc. OMM work

Job No: JD54274

HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Project No: R37971 PO#A001132428

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD54274-5	10/20/22	09:20	BH	10/21/22	AQ	Ground Water	GW-21-102022
JD54274-5F	10/20/22	09:20	BH	10/21/22	AQ	Groundwater Filtered	GW-21-102022
JD54274-6	10/20/22	10:40	BH	10/21/22	AQ	Ground Water	GW-22-102022
JD54274-6F	10/20/22	10:40	BH	10/21/22	AQ	Groundwater Filtered	GW-22-102022
JD54274-7	10/20/22	10:00	BH	10/21/22	AQ	Ground Water	GW-23-102022
JD54274-7F	10/20/22	10:00	BH	10/21/22	AQ	Groundwater Filtered	GW-23-102022

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Honeywell International Inc. OMM work	**Job No:**	JD54274
Site:	HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, B	**Report Date**	11/1/2022 1:30:41 PM

On 10/21/2022, 7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD54274 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

MS Semi-volatiles By Method SW846 8270E

Matrix: AQ **Batch ID:** OP42711

- All samples were extracted within the recommended method holding time.
- Sample(s) JD54274-3MS, JD54274-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals Analysis By Method SW846 6010D

Matrix: AQ **Batch ID:** MP35945

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54274-3FMS, JD54274-3FMSD, JD54274-3FSDL, JD54274-3MS, JD54274-3MSD, JD54274-3SDL were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Calcium are outside control limits. Spike recovery indicates possible matrix interference.
- Matrix Spike Duplicate Recovery(s) for Calcium are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Recovery(s) for Potassium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Aluminum, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel, Silver, Zinc, Aluminum, Antimony, Thallium, Vanadium are outside control limits for sample MP35945-SD1, MP35945-SD2. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- Samples(s) JD54274-1, JD54274-1F, JD54274-2, JD54274-2F, JD54274-3, JD54274-3F, JD54274-4, JD54274-4F, JD54274-5, JD54274-5F, JD54274-7, JD54274-7F: New York does not offer 3010A certification for antimony and silver. The laboratory is certified for method 3010A (Acid Digestion for Total Metals) for all other metals and is certified for the associated analytical methods of 6010C (ICP Analysis) and 6020A (ICP-MS Analysis). New York does certify for method 3005A (Acid Digestion for Total Recoverable or Dissolved Metals) for antimony and silver and the laboratory holds that certification, but that provides total recoverable rather than total metals results.
- MP35945-SD1 for Zinc: Serial dilution indicates possible matrix interference.
- MP35945-SD2 for Zinc: Serial dilution indicates possible matrix interference.

Matrix: AQ **Batch ID:** MP35954

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD53991-1FMSD, JD53991-1FSDL, JD53991-1FMS, JD53991-1FMSD were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Sodium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Aluminum, Cadmium, Chromium, Cobalt, Copper, Nickel, Vanadium, Zinc are outside control limits for sample MP35954-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- Samples(s) JD54274-6, JD54274-6F: New York does not offer 3010A certification for antimony and silver. The laboratory is certified for method 3010A (Acid Digestion for Total Metals) for all other metals and is certified for the associated analytical methods of 6010C (ICP Analysis) and 6020A (ICP-MS Analysis). New York does certify for method 3005A (Acid Digestion for Total Recoverable or Dissolved Metals) for antimony and silver and the laboratory holds that certification, but that provides total recoverable rather than total metals results.
- JD54274-6F for Beryllium: Elevated detection limit due to dilution required for high interfering element.
- JD54274-6F for Arsenic: Elevated detection limit due to dilution required for high interfering element.
- JD54274-6F for Antimony: Elevated detection limit due to dilution required for high interfering element.
- JD54274-6 for Beryllium: Elevated detection limit due to dilution required for high interfering element.
- JD54274-6 for Arsenic: Elevated detection limit due to dilution required for high interfering element.
- JD54274-6 for Antimony: Elevated detection limit due to dilution required for high interfering element.

Metals Analysis By Method SW846 7470A

Matrix: AQ **Batch ID:** MP35974

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54274-3FMS, JD54274-3FMSD, JD54274-3MS, JD54274-3MSD were used as the QC samples for metals.

Matrix: AQ **Batch ID:** MP35996

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54351-3MS, JD54351-3MSD were used as the QC samples for metals.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD54274
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD54274-1	**GW-18R-102022**					
Aluminum		209	200	150	ug/l	SW846 6010D
Antimony		6.5	6.0	4.7	ug/l	SW846 6010D
Arsenic		10.3	3.0	2.8	ug/l	SW846 6010D
Barium		79.9 J	200	13	ug/l	SW846 6010D
Cadmium		1.9 J	3.0	1.0	ug/l	SW846 6010D
Calcium		176000	5000	99	ug/l	SW846 6010D
Iron		3060	100	32	ug/l	SW846 6010D
Lead		22.9	3.0	1.8	ug/l	SW846 6010D
Magnesium		33000	5000	140	ug/l	SW846 6010D
Manganese		412	15	1.4	ug/l	SW846 6010D
Mercury		0.10 J	0.20	0.095	ug/l	SW846 7470A
Nickel		3.3 J	10	1.7	ug/l	SW846 6010D
Potassium		25000	10000	200	ug/l	SW846 6010D
Sodium		13700	10000	570	ug/l	SW846 6010D
Vanadium		3.0 J	50	1.8	ug/l	SW846 6010D
Zinc		203	20	6.9	ug/l	SW846 6010D
JD54274-1F	**GW-18R-102022**					
Antimony		5.7 J	6.0	4.7	ug/l	SW846 6010D
Arsenic		5.2	3.0	2.8	ug/l	SW846 6010D
Barium		77.3 J	200	13	ug/l	SW846 6010D
Cadmium		1.6 J	3.0	1.0	ug/l	SW846 6010D
Calcium		176000	5000	99	ug/l	SW846 6010D
Iron		887	100	32	ug/l	SW846 6010D
Lead		3.6	3.0	1.8	ug/l	SW846 6010D
Magnesium		32700	5000	140	ug/l	SW846 6010D
Manganese		411	15	1.4	ug/l	SW846 6010D
Nickel		2.5 J	10	1.7	ug/l	SW846 6010D
Potassium		26200	10000	200	ug/l	SW846 6010D
Sodium		15100	10000	570	ug/l	SW846 6010D
Zinc		62.2	20	6.9	ug/l	SW846 6010D
JD54274-2	**GW-19-102022**					
Aluminum		494	200	150	ug/l	SW846 6010D
Antimony		8.4	6.0	4.7	ug/l	SW846 6010D
Arsenic		8.5	3.0	2.8	ug/l	SW846 6010D
Barium		17.6 J	200	13	ug/l	SW846 6010D
Beryllium		1.1	1.0	0.50	ug/l	SW846 6010D
Cadmium		4.7	3.0	1.0	ug/l	SW846 6010D
Calcium		53200	5000	99	ug/l	SW846 6010D
Chromium		3.3 J	10	2.0	ug/l	SW846 6010D

Summary of Hits

Job Number: JD54274
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Copper		17.9	10	5.9	ug/l	SW846 6010D
Iron		72.9 J	100	32	ug/l	SW846 6010D
Lead		13.3 J	15	9.0	ug/l	SW846 6010D
Magnesium		462 J	5000	140	ug/l	SW846 6010D
Manganese		6.3 J	15	1.4	ug/l	SW846 6010D
Mercury		0.20	0.20	0.095	ug/l	SW846 7470A
Nickel		4.2 J	10	1.7	ug/l	SW846 6010D
Potassium		327000	50000	1000	ug/l	SW846 6010D
Selenium		5.5 J	10	4.9	ug/l	SW846 6010D
Sodium		29900	10000	570	ug/l	SW846 6010D
Vanadium		44.2 J	50	1.8	ug/l	SW846 6010D
JD54274-2F	**GW-19-102022**					
Aluminum		221	200	150	ug/l	SW846 6010D
Antimony		8.0	6.0	4.7	ug/l	SW846 6010D
Arsenic		7.9	3.0	2.8	ug/l	SW846 6010D
Barium		15.8 J	200	13	ug/l	SW846 6010D
Beryllium		1.0	1.0	0.50	ug/l	SW846 6010D
Cadmium		4.8	3.0	1.0	ug/l	SW846 6010D
Calcium		50800	5000	99	ug/l	SW846 6010D
Chromium		3.1 J	10	2.0	ug/l	SW846 6010D
Copper		16.8	10	5.9	ug/l	SW846 6010D
Mercury		0.19 J	0.20	0.095	ug/l	SW846 7470A
Nickel		3.9 J	10	1.7	ug/l	SW846 6010D
Potassium		325000	50000	1000	ug/l	SW846 6010D
Selenium		8.0 J	10	4.9	ug/l	SW846 6010D
Sodium		30700	10000	570	ug/l	SW846 6010D
Vanadium		55.9	50	1.8	ug/l	SW846 6010D
Zinc		12.0 J	20	6.9	ug/l	SW846 6010D
JD54274-3	**GW-20-102022**					
Aluminum		300	200	150	ug/l	SW846 6010D
Arsenic		4.3	3.0	2.8	ug/l	SW846 6010D
Barium		34.9 J	200	13	ug/l	SW846 6010D
Beryllium		1.0	1.0	0.50	ug/l	SW846 6010D
Cadmium		1.0 J	3.0	1.0	ug/l	SW846 6010D
Calcium		65100	5000	99	ug/l	SW846 6010D
Iron		349	100	32	ug/l	SW846 6010D
Lead		9.6	3.0	1.8	ug/l	SW846 6010D
Magnesium		8730	5000	140	ug/l	SW846 6010D
Manganese		38.8	15	1.4	ug/l	SW846 6010D
Mercury		0.29	0.20	0.095	ug/l	SW846 7470A
Nickel		1.7 J	10	1.7	ug/l	SW846 6010D

Summary of Hits

Job Number: JD54274
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Potassium		106000	10000	200	ug/l	SW846 6010D
Sodium		22600	10000	570	ug/l	SW846 6010D
Vanadium		7.3 J	50	1.8	ug/l	SW846 6010D
Zinc		22.3	20	6.9	ug/l	SW846 6010D
JD54274-3F	**GW-20-102022**					
Arsenic		5.0	3.0	2.8	ug/l	SW846 6010D
Barium		30.2 J	200	13	ug/l	SW846 6010D
Beryllium		1.1	1.0	0.50	ug/l	SW846 6010D
Calcium		59100	5000	99	ug/l	SW846 6010D
Iron		71.0 J	100	32	ug/l	SW846 6010D
Magnesium		7910	5000	140	ug/l	SW846 6010D
Manganese		18.6	15	1.4	ug/l	SW846 6010D
Mercury		0.14 J	0.20	0.095	ug/l	SW846 7470A
Potassium		118000	10000	200	ug/l	SW846 6010D
Sodium		24700	10000	570	ug/l	SW846 6010D
Thallium		1.8 J	10	1.8	ug/l	SW846 6010D
Vanadium		6.9 J	50	1.8	ug/l	SW846 6010D
Zinc		10.2 J	20	6.9	ug/l	SW846 6010D
JD54274-4	**GW-20-FD-102022**					
Aluminum		482	200	150	ug/l	SW846 6010D
Arsenic		5.0	3.0	2.8	ug/l	SW846 6010D
Barium		36.9 J	200	13	ug/l	SW846 6010D
Beryllium		0.90 J	1.0	0.50	ug/l	SW846 6010D
Cadmium		1.0 J	3.0	1.0	ug/l	SW846 6010D
Calcium		66400	5000	99	ug/l	SW846 6010D
Iron		429	100	32	ug/l	SW846 6010D
Lead		10.4	3.0	1.8	ug/l	SW846 6010D
Magnesium		8690	5000	140	ug/l	SW846 6010D
Manganese		45.1	15	1.4	ug/l	SW846 6010D
Potassium		106000	10000	200	ug/l	SW846 6010D
Sodium		22600	10000	570	ug/l	SW846 6010D
Vanadium		7.8 J	50	1.8	ug/l	SW846 6010D
Zinc		22.7	20	6.9	ug/l	SW846 6010D
JD54274-4F	**GW-20-FD-102022**					
Aluminum		751	200	150	ug/l	SW846 6010D
Arsenic		4.7	3.0	2.8	ug/l	SW846 6010D
Barium		29.7 J	200	13	ug/l	SW846 6010D
Beryllium		1.0	1.0	0.50	ug/l	SW846 6010D
Calcium		57500	5000	99	ug/l	SW846 6010D

Summary of Hits

Job Number: JD54274
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Iron		48.7 J	100	32	ug/l	SW846 6010D
Magnesium		7420	5000	140	ug/l	SW846 6010D
Manganese		16.6	15	1.4	ug/l	SW846 6010D
Potassium		121000	10000	200	ug/l	SW846 6010D
Sodium		25200	10000	570	ug/l	SW846 6010D
Vanadium		6.7 J	50	1.8	ug/l	SW846 6010D
Zinc		13.1 J	20	6.9	ug/l	SW846 6010D
JD54274-5	**GW-21-102022**					
Arsenic		4.0	3.0	2.8	ug/l	SW846 6010D
Barium		27.6 J	200	13	ug/l	SW846 6010D
Beryllium		0.50 J	1.0	0.50	ug/l	SW846 6010D
Cadmium		2.0 J	3.0	1.0	ug/l	SW846 6010D
Calcium		29100	5000	99	ug/l	SW846 6010D
Iron		170	100	32	ug/l	SW846 6010D
Lead		3.1	3.0	1.8	ug/l	SW846 6010D
Magnesium		2420 J	5000	140	ug/l	SW846 6010D
Manganese		11.6 J	15	1.4	ug/l	SW846 6010D
Potassium		14900	10000	200	ug/l	SW846 6010D
Sodium		11400	10000	570	ug/l	SW846 6010D
Zinc		18.1 J	20	6.9	ug/l	SW846 6010D
JD54274-5F	**GW-21-102022**					
Arsenic		4.6	3.0	2.8	ug/l	SW846 6010D
Barium		21.8 J	200	13	ug/l	SW846 6010D
Cadmium		1.9 J	3.0	1.0	ug/l	SW846 6010D
Calcium		23000	5000	99	ug/l	SW846 6010D
Magnesium		2410 J	5000	140	ug/l	SW846 6010D
Manganese		3.4 J	15	1.4	ug/l	SW846 6010D
Potassium		15400	10000	200	ug/l	SW846 6010D
Sodium		11700	10000	570	ug/l	SW846 6010D
JD54274-6	**GW-22-102022**					
Aluminum		1050	200	150	ug/l	SW846 6010D
Barium		84.4 J	200	13	ug/l	SW846 6010D
Cadmium		2.3 J	3.0	1.0	ug/l	SW846 6010D
Calcium		415000	25000	500	ug/l	SW846 6010D
Chromium		7.0 J	10	2.0	ug/l	SW846 6010D
Cobalt		8.7 J	50	2.6	ug/l	SW846 6010D
Copper		42.4	10	5.9	ug/l	SW846 6010D
Iron		7300	100	32	ug/l	SW846 6010D
Lead		79.6	3.0	1.8	ug/l	SW846 6010D

Summary of Hits

Job Number: JD54274
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Magnesium		147000	5000	140	ug/l	SW846 6010D
Manganese		1920	15	1.4	ug/l	SW846 6010D
Mercury		0.20	0.20	0.095	ug/l	SW846 7470A
Nickel		44.2	10	1.7	ug/l	SW846 6010D
Potassium		30700	10000	200	ug/l	SW846 6010D
Selenium		6.9 J	10	4.9	ug/l	SW846 6010D
Sodium		40700	10000	570	ug/l	SW846 6010D
Vanadium		5.5 J	50	1.8	ug/l	SW846 6010D
Zinc		357	20	6.9	ug/l	SW846 6010D
JD54274-6F	**GW-22-102022**					
Barium		72.9 J	200	13	ug/l	SW846 6010D
Cadmium		1.7 J	3.0	1.0	ug/l	SW846 6010D
Calcium		363000	25000	500	ug/l	SW846 6010D
Cobalt		5.8 J	50	2.6	ug/l	SW846 6010D
Copper		7.0 J	10	5.9	ug/l	SW846 6010D
Iron		130	100	32	ug/l	SW846 6010D
Magnesium		143000	5000	140	ug/l	SW846 6010D
Manganese		1440	15	1.4	ug/l	SW846 6010D
Nickel		35.1	10	1.7	ug/l	SW846 6010D
Potassium		32800	10000	200	ug/l	SW846 6010D
Sodium		44600	10000	570	ug/l	SW846 6010D
Zinc		175	20	6.9	ug/l	SW846 6010D
JD54274-7	**GW-23-102022**					
Antimony		4.8 J	6.0	4.7	ug/l	SW846 6010D
Arsenic		21.2	3.0	2.8	ug/l	SW846 6010D
Barium		257	200	13	ug/l	SW846 6010D
Beryllium		0.60 J	1.0	0.50	ug/l	SW846 6010D
Cadmium		1.9 J	3.0	1.0	ug/l	SW846 6010D
Calcium		198000	5000	99	ug/l	SW846 6010D
Chromium		2.2 J	10	2.0	ug/l	SW846 6010D
Copper		35.3	10	5.9	ug/l	SW846 6010D
Iron		14000	100	32	ug/l	SW846 6010D
Lead		101	3.0	1.8	ug/l	SW846 6010D
Magnesium		34600	5000	140	ug/l	SW846 6010D
Manganese		793	15	1.4	ug/l	SW846 6010D
Mercury		0.099 J	0.20	0.095	ug/l	SW846 7470A
Nickel		3.1 J	10	1.7	ug/l	SW846 6010D
Potassium		46800	10000	200	ug/l	SW846 6010D
Sodium		9500 J	10000	570	ug/l	SW846 6010D
Vanadium		4.0 J	50	1.8	ug/l	SW846 6010D
Zinc		128	20	6.9	ug/l	SW846 6010D

Summary of Hits

Job Number: JD54274
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD54274-7F	**GW-23-102022**					
Antimony		5.2 J	6.0	4.7	ug/l	SW846 6010D
Arsenic		22.0	3.0	2.8	ug/l	SW846 6010D
Barium		248	200	13	ug/l	SW846 6010D
Beryllium		0.50 J	1.0	0.50	ug/l	SW846 6010D
Cadmium		1.7 J	3.0	1.0	ug/l	SW846 6010D
Calcium		239000	10000	200	ug/l	SW846 6010D
Iron		11200	100	32	ug/l	SW846 6010D
Lead		13.9	3.0	1.8	ug/l	SW846 6010D
Magnesium		38000	5000	140	ug/l	SW846 6010D
Manganese		861	15	1.4	ug/l	SW846 6010D
Mercury		0.096 J	0.20	0.095	ug/l	SW846 7470A
Nickel		2.5 J	10	1.7	ug/l	SW846 6010D
Potassium		52200	10000	200	ug/l	SW846 6010D
Sodium		10900	10000	570	ug/l	SW846 6010D
Zinc		77.5	20	6.9	ug/l	SW846 6010D

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: GW-18R-102022
Lab Sample ID: JD54274-1 **Date Sampled:** 10/20/22
Matrix: AQ - Ground Water **Date Received:** 10/21/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F210536.D	1	10/29/22 15:57	HL	10/26/22 14:00	OP42711	EF9283
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	0.50 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	0.95	0.31	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		28-118%
321-60-8	2-Fluorobiphenyl	64%		34-116%
1718-51-0	Terphenyl-d14	30%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-18R-102022
Lab Sample ID: JD54274-1
Matrix: AQ - Ground Water
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	209	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	6.5	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	10.3	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	79.9 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	ND	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	1.9 J	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	176000	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	3060	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	22.9	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	33000	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	412	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	0.10 J	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	3.3 J	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	25000	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	13700	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	3.0 J	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	203	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-18R-102022
Lab Sample ID: JD54274-1F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	ND	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	5.7 J	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	5.2	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	77.3 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	ND	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	1.6 J	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	176000	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	887	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	3.6	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	32700	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	411	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	2.5 J	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	26200	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	15100	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	ND	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	62.2	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-19-102022
Lab Sample ID: JD54274-2 **Date Sampled:** 10/20/22
Matrix: AQ - Ground Water **Date Received:** 10/21/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F210537.D	1	10/29/22 16:22	HL	10/26/22 14:00	OP42711	EF9283
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	0.50 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	0.95	0.31	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		28-118%
321-60-8	2-Fluorobiphenyl	61%		34-116%
1718-51-0	Terphenyl-d14	33%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-19-102022
Lab Sample ID: JD54274-2
Matrix: AQ - Ground Water
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	494	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	8.4	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	8.5	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	17.6 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	1.1	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	4.7	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	53200	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	3.3 J	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	17.9	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	72.9 J	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	13.3 J	15	9.0	ug/l	5	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	462 J	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	6.3 J	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	0.20	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	4.2 J	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	327000	50000	1000	ug/l	5	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	5.5 J	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	29900	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	44.2 J	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	ND	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-19-102022
Lab Sample ID: JD54274-2F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	221	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	8.0	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	7.9	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	15.8 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	1.0	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	4.8	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	50800	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	3.1 J	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	16.8	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	ND	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	ND	15	9.0	ug/l	5	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	ND	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	ND	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	0.19 J	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	3.9 J	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	325000	50000	1000	ug/l	5	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	8.0 J	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	30700	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	55.9	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	12.0 J	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-20-102022
Lab Sample ID: JD54274-3 **Date Sampled:** 10/20/22
Matrix: AQ - Ground Water **Date Received:** 10/21/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F210538.D	1	10/29/22 16:48	HL	10/26/22 14:00	OP42711	EF9283
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	0.50 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	0.95	0.31	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		28-118%
321-60-8	2-Fluorobiphenyl	63%		34-116%
1718-51-0	Terphenyl-d14	31%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-20-102022
Lab Sample ID: JD54274-3
Matrix: AQ - Ground Water
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	300	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	4.3	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	34.9 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	1.0	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	1.0 J	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	65100	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	349	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	9.6	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	8730	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	38.8	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	0.29	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	1.7 J	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	106000	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	22600	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	7.3 J	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	22.3	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-20-102022
Lab Sample ID: JD54274-3F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	ND	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	5.0	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	30.2 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	1.1	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	ND	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	59100	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	71.0 J	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	ND	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	7910	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	18.6	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	0.14 J	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	ND	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	118000	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	24700	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	1.8 J	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	6.9 J	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	10.2 J	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-20-FD-102022
Lab Sample ID: JD54274-4 **Date Sampled:** 10/20/22
Matrix: AQ - Ground Water **Date Received:** 10/21/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F210539.D	1	10/29/22 17:13	HL	10/26/22 14:00	OP42711	EF9283
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	0.50 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	0.95	0.31	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	58%		28-118%
321-60-8	2-Fluorobiphenyl	57%		34-116%
1718-51-0	Terphenyl-d14	32%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-20-FD-102022
Lab Sample ID: JD54274-4
Matrix: AQ - Ground Water
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	482	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	5.0	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	36.9 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	0.90 J	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	1.0 J	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	66400	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	429	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	10.4	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	8690	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	45.1	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	ND	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	106000	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	22600	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	7.8 J	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	22.7	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-20-FD-102022
Lab Sample ID: JD54274-4F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	751	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	4.7	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	29.7 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	1.0	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	ND	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	57500	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	48.7 J	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	ND	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	7420	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	16.6	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	ND	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	121000	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	25200	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	6.7 J	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	13.1 J	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-21-102022
Lab Sample ID: JD54274-5 **Date Sampled:** 10/20/22
Matrix: AQ - Ground Water **Date Received:** 10/21/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F210540.D	1	10/29/22 17:38	HL	10/26/22 14:00	OP42711	EF9283
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	0.50 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	1.0	0.32	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		28-118%
321-60-8	2-Fluorobiphenyl	68%		34-116%
1718-51-0	Terphenyl-d14	28%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-21-102022
Lab Sample ID: JD54274-5
Matrix: AQ - Ground Water
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	ND	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	4.0	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	27.6 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	0.50 J	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	2.0 J	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	29100	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	170	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	3.1	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	2420 J	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	11.6 J	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	ND	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	14900	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	11400	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	ND	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	18.1 J	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-21-102022
Lab Sample ID: JD54274-5F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	ND	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	ND	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	4.6	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	21.8 J	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	ND	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	1.9 J	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	23000	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	ND	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	ND	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	2410 J	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	3.4 J	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	ND	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	ND	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	15400	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	11700	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	ND	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	ND	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-22-102022
Lab Sample ID: JD54274-6 **Date Sampled:** 10/20/22
Matrix: AQ - Ground Water **Date Received:** 10/21/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F210541.D	1	10/29/22 18:03	HL	10/26/22 14:00	OP42711	EF9283
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	0.50 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	0.95	0.31	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		28-118%
321-60-8	2-Fluorobiphenyl	59%		34-116%
1718-51-0	Terphenyl-d14	24%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-22-102022
Lab Sample ID: JD54274-6
Matrix: AQ - Ground Water
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	1050	200	150	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Antimony [a]	ND	30	24	ug/l	5	10/27/22	10/31/22	ND	SW846 6010D [3]	SW846 3010A [4]
Arsenic [a]	ND	15	14	ug/l	5	10/27/22	10/31/22	ND	SW846 6010D [3]	SW846 3010A [4]
Barium	84.4 J	200	13	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Beryllium [a]	ND	5.0	2.5	ug/l	5	10/27/22	10/31/22	ND	SW846 6010D [3]	SW846 3010A [4]
Cadmium	2.3 J	3.0	1.0	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Calcium	415000	25000	500	ug/l	5	10/27/22	10/31/22	ND	SW846 6010D [3]	SW846 3010A [4]
Chromium	7.0 J	10	2.0	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Cobalt	8.7 J	50	2.6	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Copper	42.4	10	5.9	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Iron	7300	100	32	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Lead	79.6	3.0	1.8	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Magnesium	147000	5000	140	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Manganese	1920	15	1.4	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Mercury	0.20	0.20	0.095	ug/l	1	10/28/22	10/28/22	LM	SW846 7470A [1]	SW846 7470A [5]
Nickel	44.2	10	1.7	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Potassium	30700	10000	200	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Selenium	6.9 J	10	4.9	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Silver	ND	10	6.1	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Sodium	40700	10000	570	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Thallium	ND	10	1.8	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Vanadium	5.5 J	50	1.8	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Zinc	357	20	6.9	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA53223
(2) Instrument QC Batch: MA53226
(3) Instrument QC Batch: MA53238
(4) Prep QC Batch: MP35954
(5) Prep QC Batch: MP35996

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-22-102022
Lab Sample ID: JD54274-6F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	ND	200	150	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Antimony [a]	ND	30	24	ug/l	5	10/27/22	10/31/22	ND	SW846 6010D [3]	SW846 3010A [4]
Arsenic [a]	ND	15	14	ug/l	5	10/27/22	10/31/22	ND	SW846 6010D [3]	SW846 3010A [4]
Barium	72.9 J	200	13	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Beryllium [a]	ND	5.0	2.5	ug/l	5	10/27/22	10/31/22	ND	SW846 6010D [3]	SW846 3010A [4]
Cadmium	1.7 J	3.0	1.0	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Calcium	363000	25000	500	ug/l	5	10/27/22	10/31/22	ND	SW846 6010D [3]	SW846 3010A [4]
Chromium	ND	10	2.0	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Cobalt	5.8 J	50	2.6	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Copper	7.0 J	10	5.9	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Iron	130	100	32	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Lead	ND	3.0	1.8	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Magnesium	143000	5000	140	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Manganese	1440	15	1.4	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Mercury	ND	0.20	0.095	ug/l	1	10/28/22	10/28/22	LM	SW846 7470A [1]	SW846 7470A [5]
Nickel	35.1	10	1.7	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Potassium	32800	10000	200	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Selenium	ND	10	4.9	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Silver	ND	10	6.1	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Sodium	44600	10000	570	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Thallium	ND	10	1.8	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Vanadium	ND	50	1.8	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]
Zinc	175	20	6.9	ug/l	1	10/27/22	10/28/22	ND	SW846 6010D [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA53223
(2) Instrument QC Batch: MA53226
(3) Instrument QC Batch: MA53238
(4) Prep QC Batch: MP35954
(5) Prep QC Batch: MP35996

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-23-102022
Lab Sample ID: JD54274-7 **Date Sampled:** 10/20/22
Matrix: AQ - Ground Water **Date Received:** 10/21/22
Method: SW846 8270E SW846 3510C **Percent Solids:** n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F210542.D	1	10/29/22 18:28	HL	10/26/22 14:00	OP42711	EF9283
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	0.50 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	0.95	0.31	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	45%		28-118%
321-60-8	2-Fluorobiphenyl	44%		34-116%
1718-51-0	Terphenyl-d14	28%		10-127%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: GW-23-102022
Lab Sample ID: JD54274-7
Matrix: AQ - Ground Water
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	ND	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Antimony	4.8 J	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Arsenic	21.2	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Barium	257	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Beryllium	0.60 J	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cadmium	1.9 J	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Calcium	198000	5000	99	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Chromium	2.2 J	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Copper	35.3	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Iron	14000	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Lead	101	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Magnesium	34600	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Manganese	793	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Mercury	0.099 J	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	3.1 J	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Potassium	46800	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Sodium	9500 J	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Vanadium	4.0 J	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]
Zinc	128	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Prep QC Batch: MP35945
(4) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Report of Analysis

Client Sample ID: GW-23-102022
Lab Sample ID: JD54274-7F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/20/22
Date Received: 10/21/22
Percent Solids: n/a
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Dissolved Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	ND	200	150	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Antimony	5.2 J	6.0	4.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Arsenic	22.0	3.0	2.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Barium	248	200	13	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Beryllium	0.50 J	1.0	0.50	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Cadmium	1.7 J	3.0	1.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Calcium	239000	10000	200	ug/l	2	10/26/22	10/28/22	ND	SW846 6010D [3]	SW846 3010A [4]
Chromium	ND	10	2.0	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Cobalt	ND	50	2.6	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Copper	ND	10	5.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Iron	11200	100	32	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Lead	13.9	3.0	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Magnesium	38000	5000	140	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Manganese	861	15	1.4	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Mercury	0.096 J	0.20	0.095	ug/l	1	10/27/22	10/27/22	LM	SW846 7470A [1]	SW846 7470A [5]
Nickel	2.5 J	10	1.7	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Potassium	52200	10000	200	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Selenium	ND	10	4.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Silver	ND	10	6.1	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Sodium	10900	10000	570	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Thallium	ND	10	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Vanadium	ND	50	1.8	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]
Zinc	77.5	20	6.9	ug/l	1	10/26/22	10/27/22	ND	SW846 6010D [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA53215
(2) Instrument QC Batch: MA53218
(3) Instrument QC Batch: MA53226
(4) Prep QC Batch: MP35945
(5) Prep QC Batch: MP35974

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not detected
J = Indicates a result >= MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: Honeywell Limits

GW F

PREM- JS-101422-272

SGS Laboratories
2235 Route 130
Dayton, NJ 08810
(p) 732-239-0200

Chain Of Custody/Analysis Request JD54274
Project Name: Buffalo Outer Harbor
Lab Project Name: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

AESI Ref: 38609.59845
COC #: 102022-Outer Harbor
Lab Use Only
Lab_SDG
Lab ID

Privileged & Confidential	
EDD To:	Ryan Belcher (ryan.belcher@woodplc.com)
Facility Name:	Outer Harbor
Location of Site:	Buffalo, New York
Site Code:	37971
Sampler:	Benjamin Hendry
Sampling Company:	Jacobs
P O #	A001132428
Analysis Turnaround Time:	5 DAY
Standard	Y
Rush Charges Authorized for	Y
Turn Around Time Required	5 DAY

Client Contact: (name, co., address)
Sasa Jazic
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Hardcopy Report To: Do Not Send Hardcopy Unless Requested
Invoice To:

Job No

2 COOLERS

Preservative: 2 (7470A - MTAL), 0 (7470A - MTAL [DISS] (LF) **), 0 (8270SIM - Nitrobenzene ***)

Sample Identification

#	Sys_Loc_Code		Start Depth (ft)	End Depth (ft)	Sys_Sample_Code	Sample Date	Sample Time	Matrix Code	Medium Code	Sample Type	# of Cont.	Composite (Yes/No)	Filter Type (Yes=Filtered, No=Unfiltered)	7470A - MTAL	7470A - MTAL [DISS] (LF) **	8270SIM - Nitrobenzene ***
1	N/A	1F	---	---	GW-18R-102022	10/20/2022	1020	GW	WATER	REG	4	N	N	1	1	2
2	N/A	2F	---	---	GW-19-102022	10/20/2022	0945	GW	WATER	REG	4	N	N	1	1	2
3	N/A		---	---	GW-20-102022	10/20/2022	0815	GW	WATER	REG	4	N	N	1	1	2
4	N/A	3F	---	---	GW-20-MS-102022	10/20/2022	0815	WQ	WATER	REG	4	N	N	1	1	2
5	N/A		---	---	GW-20-MSD-102022	10/20/2022	0815	WQ	WATER	REG	4	N	N	1	1	2
6	N/A	4F	---	---	GW-20-FD-102022	10/20/2022	0815	WQ	WATER	REG	4	N	N	1	1	2
7	N/A	5F	---	---	GW-21-102022	10/20/2022	0920	GW	WATER	REG	4	N	N	1	1	2
8	N/A	6F	---	---	GW-22-102022	10/20/2022	1040	GW	WATER	REG	4	N	N	1	1	2
9	N/A	7F	---	---	GW-23-102022	10/20/2022	1000	GW	WATER	REG	4	N	N	1	1	2
10																
11																
12																
13																
14																
15																

Lab Sample Numbers

*** Nitrobenzene MDL needs to be less than 0.4 ppb

MAO Al Eng

** MTAL[DISS] Samples to be lab filtered

Notes:

Special Instructions:	Sample Location	pH Range	pH	Max Temp (°C)	Temp (°C)	Flow	Cond. (mS/cm)	Other

For COC questions, contact – Benjamin Hendry benjamin.hendry@jacobs.com 315-806-4029

Relinquished by: [signature]	Company: Jacobs	Received by: FEDEX	Company:	Condition:	Custody Seals Intact
	Date/Time: 10-20-2022/1630		Date/Time: 10/21/22	Cooler Temp:	
Relinquished by:	Company:	Received by:	Company:	Condition:	Custody Seals Intact
	Date/Time:		Date/Time: 9:50	Cooler Temp: 4.0	

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn. Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (specify):

5894 7367 8487   3.5

Initial Assessment 2A MS
Label Verification ______

JD54274: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JD54274 **Client:** WOOD ENVIRONMENT & INFRASTRUCT **Project:** HLAME: 37971-BUFFALO OUTER HARBO

Date / Time Received: 10/21/2022 9:50:00 AM **Delivery Method:** FEDEX **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (4.0); Cooler 2: (3.5);

Cooler Temps (Corrected) °C: Cooler 1: (4.0); Cooler 2: (3.5);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

QC Evaluation: Honeywell Limits

Job Number: JD54274
Account: Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY
Collected: 10/20/22

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP42711	SW846 8270E						
OP42711-BS1	98-95-3	Nitrobenzene	BSP	REC	54	%	40-140
OP42711-BS1	4165-60-0	Nitrobenzene-d5	BSP	SURR	55	%	30-130
OP42711-BS1	321-60-8	2-Fluorobiphenyl	BSP	SURR	64	%	30-130
OP42711-BS1	1718-51-0	Terphenyl-d14	BSP	SURR	60	%	30-130
OP42711-MS	98-95-3	Nitrobenzene	MS	REC	54	%	40-140
OP42711-MS	4165-60-0	Nitrobenzene-d5	MS	SURR	54	%	30-130
OP42711-MS	321-60-8	2-Fluorobiphenyl	MS	SURR	55	%	30-130
OP42711-MS	1718-51-0	Terphenyl-d14	MS	SURR	33	%	30-130
OP42711-MSD	98-95-3	Nitrobenzene	MSD	REC	52	%	40-140
OP42711-MSD	98-95-3	Nitrobenzene	MSD	RPD	3	%	20
OP42711-MSD	4165-60-0	Nitrobenzene-d5	MSD	SURR	54	%	30-130
OP42711-MSD	321-60-8	2-Fluorobiphenyl	MSD	SURR	55	%	30-130
OP42711-MSD	1718-51-0	Terphenyl-d14	MSD	SURR	34	%	30-130
OP42711-MB1	4165-60-0	Nitrobenzene-d5	MB	SURR	61	%	30-130
OP42711-MB1	321-60-8	2-Fluorobiphenyl	MB	SURR	62	%	30-130
OP42711-MB1	1718-51-0	Terphenyl-d14	MB	SURR	57	%	30-130
JD54274-1	4165-60-0	Nitrobenzene-d5	SAMP	SURR	62	%	30-130
JD54274-1	321-60-8	2-Fluorobiphenyl	SAMP	SURR	64	%	30-130
JD54274-1	1718-51-0	Terphenyl-d14	SAMP	SURR	30	%	30-130
JD54274-2	4165-60-0	Nitrobenzene-d5	SAMP	SURR	62	%	30-130
JD54274-2	321-60-8	2-Fluorobiphenyl	SAMP	SURR	61	%	30-130
JD54274-2	1718-51-0	Terphenyl-d14	SAMP	SURR	33	%	30-130
JD54274-3	4165-60-0	Nitrobenzene-d5	SAMP	SURR	64	%	30-130
JD54274-3	321-60-8	2-Fluorobiphenyl	SAMP	SURR	63	%	30-130
JD54274-3	1718-51-0	Terphenyl-d14	SAMP	SURR	31	%	30-130
JD54274-4	4165-60-0	Nitrobenzene-d5	SAMP	SURR	58	%	30-130
JD54274-4	321-60-8	2-Fluorobiphenyl	SAMP	SURR	57	%	30-130
JD54274-4	1718-51-0	Terphenyl-d14	SAMP	SURR	32	%	30-130
JD54274-5	4165-60-0	Nitrobenzene-d5	SAMP	SURR	67	%	30-130
JD54274-5	321-60-8	2-Fluorobiphenyl	SAMP	SURR	68	%	30-130
JD54274-5	1718-51-0	Terphenyl-d14	SAMP	SURR	28	%	30-130
JD54274-6	4165-60-0	Nitrobenzene-d5	SAMP	SURR	61	%	30-130
JD54274-6	321-60-8	2-Fluorobiphenyl	SAMP	SURR	59	%	30-130
JD54274-6	1718-51-0	Terphenyl-d14	SAMP	SURR	24	%	30-130
JD54274-7	4165-60-0	Nitrobenzene-d5	SAMP	SURR	45	%	30-130
JD54274-7	321-60-8	2-Fluorobiphenyl	SAMP	SURR	44	%	30-130
JD54274-7	1718-51-0	Terphenyl-d14	SAMP	SURR	28	%	30-130

* Sample used for QC is not from job JD54274

MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JD54274
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42711-MB1	F210534.D	1	10/29/22	HL	10/26/22	OP42711	EF9283

The QC reported here applies to the following samples: **Method:** SW846 8270E

JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-6, JD54274-7

CAS No.	Compound	Result	RL	MDL	Units	Q
98-95-3	Nitrobenzene	ND	2.0	0.64	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	24%	10-71%
4165-62-2	Phenol-d5	16%	10-58%
118-79-6	2,4,6-Tribromophenol	60%	22-144%
4165-60-0	Nitrobenzene-d5	61%	28-118%
321-60-8	2-Fluorobiphenyl	62%	34-116%
1718-51-0	Terphenyl-d14	57%	10-127%

Blank Spike Summary

Job Number: JD54274
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42711-BS1	F210535.D	1	10/29/22	HL	10/26/22	OP42711	EF9283

The QC reported here applies to the following samples: **Method:** SW846 8270E

JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-6, JD54274-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
98-95-3	Nitrobenzene	50	27.1	54	35-119

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	22%	10-71%
4165-62-2	Phenol-d5	17%	10-58%
118-79-6	2,4,6-Tribromophenol	55%	22-144%
4165-60-0	Nitrobenzene-d5	55%	28-118%
321-60-8	2-Fluorobiphenyl	64%	34-116%
1718-51-0	Terphenyl-d14	60%	10-127%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD54274
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP42711-MS	F210543.D	1	10/29/22	HL	10/26/22	OP42711	EF9283
OP42711-MSD	F210544.D	1	10/29/22	HL	10/26/22	OP42711	EF9283
JD54274-3	F210538.D	1	10/29/22	HL	10/26/22	OP42711	EF9283

The QC reported here applies to the following samples: **Method:** SW846 8270E

JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-6, JD54274-7

CAS No.	Compound	JD54274-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
98-95-3	Nitrobenzene	ND		50	26.9	54	50	26.2	52	3	18-148/49

CAS No.	Surrogate Recoveries	MS	MSD	JD54274-3	Limits
367-12-4	2-Fluorophenol	20%	17%		10-71%
4165-62-2	Phenol-d5	16%	13%		10-58%
118-79-6	2,4,6-Tribromophenol	51%	52%		22-144%
4165-60-0	Nitrobenzene-d5	54%	54%	64%	28-118%
321-60-8	2-Fluorobiphenyl	55%	55%	63%	34-116%
1718-51-0	Terphenyl-d14	33%	34%	31%	10-127%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JD54274
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample: EF9252-DFTPP
Lab File ID: F209858.D
Instrument ID: GCMSF
Injection Date: 09/24/22
Injection Time: 11:53

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	20239	34.1		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	29180	49.1		Pass
70	Less than 2.0% of mass 69	152	0.26	(0.52) [a]	Pass
127	40.0 - 60.0% of mass 198	30498	51.4		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	59389	100.0		Pass
199	5.0 - 9.0% of mass 198	4267	7.18		Pass
275	10.0 - 30.0% of mass 198	14814	24.9		Pass
365	1.0 - 100.0% of mass 198	1669	2.81		Pass
441	Present, but less than mass 443	4845	8.16	(86.6) [b]	Pass
442	40.0 - 100.0% of mass 198	31052	52.3		Pass
443	17.0 - 23.0% of mass 442	5593	9.42	(18.0) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF9252-IC9252	F209861.D	09/24/22	13:26	01:33	Initial cal 100
EF9252-IC9252	F209862.D	09/24/22	14:03	02:10	Initial cal 1
EF9252-IC9252	F209863.D	09/24/22	14:29	02:36	Initial cal 80
EF9252-IC9252	F209864.D	09/24/22	14:54	03:01	Initial cal 2
EF9252-ICC9252	F209865.D	09/24/22	15:20	03:27	Initial cal 50
EF9252-IC9252	F209866.D	09/24/22	15:45	03:52	Initial cal 5
EF9252-IC9252	F209867.D	09/24/22	16:11	04:18	Initial cal 25
EF9252-IC9252	F209868.D	09/24/22	16:36	04:43	Initial cal 10

Instrument Performance Check (DFTPP)

Job Number: JD54274
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample: EF9253-DFTPP
Lab File ID: F209869.D
Instrument ID: GCMSF
Injection Date: 09/24/22
Injection Time: 19:24

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	19362	33.3		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	28875	49.6		Pass
70	Less than 2.0% of mass 69	187	0.32	(0.65) [a]	Pass
127	40.0 - 60.0% of mass 198	29885	51.3		Pass
197	Less than 1.0% of mass 198	326	0.56		Pass
198	Base peak, 100% relative abundance	58229	100.0		Pass
199	5.0 - 9.0% of mass 198	4056	6.97		Pass
275	10.0 - 30.0% of mass 198	14406	24.7		Pass
365	1.0 - 100.0% of mass 198	1967	3.38		Pass
441	Present, but less than mass 443	5036	8.65	(79.3) [b]	Pass
442	40.0 - 100.0% of mass 198	32309	55.5		Pass
443	17.0 - 23.0% of mass 442	6351	10.9	(19.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF9253-IC9253	F209870A.D	09/24/22	20:13	00:49	Initial cal 100
EF9253-IC9253	F209871.D	09/24/22	20:38	01:14	Initial cal 80
EF9253-ICC9253	F209872.D	09/24/22	21:02	01:38	Initial cal 50
EF9253-IC9253	F209873.D	09/24/22	21:27	02:03	Initial cal 25
EF9253-IC9253	F209874.D	09/24/22	21:52	02:28	Initial cal 10
EF9253-IC9253	F209875.D	09/24/22	22:17	02:53	Initial cal 5
EF9253-IC9253	F209876.D	09/24/22	22:42	03:18	Initial cal 2
EF9253-IC9253	F209877.D	09/24/22	23:07	03:43	Initial cal 1
EF9253-ICV9253	F209878.D	09/24/22	23:31	04:07	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JD54274
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample: EF9254-DFTPP
Lab File ID: F209879.D
Instrument ID: GCMSF
Injection Date: 09/27/22
Injection Time: 04:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	21235	32.6		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	30925	47.5		Pass
70	Less than 2.0% of mass 69	206	0.32	(0.67) [a]	Pass
127	40.0 - 60.0% of mass 198	33525	51.5		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	65058	100.0		Pass
199	5.0 - 9.0% of mass 198	4354	6.69		Pass
275	10.0 - 30.0% of mass 198	15693	24.1		Pass
365	1.0 - 100.0% of mass 198	2110	3.24		Pass
441	Present, but less than mass 443	5384	8.28	(80.6) [b]	Pass
442	40.0 - 100.0% of mass 198	34053	52.3		Pass
443	17.0 - 23.0% of mass 442	6684	10.3	(19.6) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF9254-IC9254	F209880.D	09/27/22	04:37	00:20	Initial cal 100
EF9254-IC9254	F209881.D	09/27/22	05:03	00:46	Initial cal 80
EF9254-ICC9254	F209882.D	09/27/22	05:29	01:12	Initial cal 50
EF9254-IC9254	F209883.D	09/27/22	05:54	01:37	Initial cal 25
EF9254-IC9254	F209884.D	09/27/22	06:20	02:03	Initial cal 10
EF9254-IC9254	F209885.D	09/27/22	06:45	02:28	Initial cal 5
EF9254-IC9254	F209886.D	09/27/22	07:11	02:54	Initial cal 2
EF9254-IC9254	F209887.D	09/27/22	07:36	03:19	Initial cal 1
EF9254-ICV9254	F209888.D	09/27/22	08:02	03:45	Initial cal verification 50
EF9254-ICV9254	F209889.D	09/27/22	08:27	04:10	Initial cal verification 50
EF9254-ICV9254	F209890.D	09/27/22	08:53	04:36	Initial cal verification 50
EF9254-ICV9254	F209891.D	09/27/22	09:18	05:01	Initial cal verification 50
EF9254-ICV9252	F209892.D	09/27/22	09:44	05:27	Initial cal verification 50
EF9254-ICV9252	F209893.D	09/27/22	10:10	05:53	Initial cal verification 50
EF9254-ICV9252	F209894.D	09/27/22	10:35	06:18	Initial cal verification 50
EF9254-ICV9252	F209895.D	09/27/22	11:01	06:44	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JD54274
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Sample: EF9283-DFTPP
Lab File ID: F210530.D
Instrument ID: GCMSF
Injection Date: 10/29/22
Injection Time: 13:19

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	32700	34.1		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	50551	52.7		Pass
70	Less than 2.0% of mass 69	222	0.23	(0.44) [a]	Pass
127	40.0 - 60.0% of mass 198	51803	54.0		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	95931	100.0		Pass
199	5.0 - 9.0% of mass 198	6151	6.41		Pass
275	10.0 - 30.0% of mass 198	22991	24.0		Pass
365	1.0 - 100.0% of mass 198	3187	3.32		Pass
441	Present, but less than mass 443	8763	9.13	(85.4) [b]	Pass
442	40.0 - 100.0% of mass 198	55429	57.8		Pass
443	17.0 - 23.0% of mass 442	10266	10.7	(18.5) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EF9283-CC9252	F210531.D	10/29/22	13:32	00:13	Continuing cal 50
EF9283-CC9253	F210532.D	10/29/22	14:07	00:48	Continuing cal 50
OP42711-MB1	F210534.D	10/29/22	15:08	01:49	Method Blank
OP42711-BS1	F210535.D	10/29/22	15:32	02:13	Blank Spike
JD54274-1	F210536.D	10/29/22	15:57	02:38	GW-18R-102022
JD54274-2	F210537.D	10/29/22	16:22	03:03	GW-19-102022
JD54274-3	F210538.D	10/29/22	16:48	03:29	GW-20-102022
JD54274-4	F210539.D	10/29/22	17:13	03:54	GW-20-FD-102022
JD54274-5	F210540.D	10/29/22	17:38	04:19	GW-21-102022
JD54274-6	F210541.D	10/29/22	18:03	04:44	GW-22-102022
JD54274-7	F210542.D	10/29/22	18:28	05:09	GW-23-102022
OP42711-MS	F210543.D	10/29/22	18:52	05:33	Matrix Spike
OP42711-MSD	F210544.D	10/29/22	19:17	05:58	Matrix Spike Duplicate
ZZZZZZ	F210545.D	10/29/22	19:42	06:23	(unrelated sample)
ZZZZZZ	F210546.D	10/29/22	20:07	06:48	(unrelated sample)
ZZZZZZ	F210547.D	10/29/22	20:31	07:12	(unrelated sample)
ZZZZZZ	F210548.D	10/29/22	20:56	07:37	(unrelated sample)
ZZZZZZ	F210549.D	10/29/22	21:21	08:02	(unrelated sample)
ZZZZZZ	F210553.D	10/29/22	23:00	09:41	(unrelated sample)

Surrogate Recovery Summary

Job Number: JD54274
Account: HWINJOMM Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

Method: SW846 8270E **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JD54274-1	F210536.D	62	64	30
JD54274-2	F210537.D	62	61	33
JD54274-3	F210538.D	64	63	31
JD54274-4	F210539.D	58	57	32
JD54274-5	F210540.D	67	68	28
JD54274-6	F210541.D	61	59	24
JD54274-7	F210542.D	45	44	28
OP42711-BS1	F210535.D	55	64	60
OP42711-MB1	F210534.D	61	62	57
OP42711-MS	F210543.D	54	55	33
OP42711-MSD	F210544.D	54	55	34

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	28-118%
S2 = 2-Fluorobiphenyl	34-116%
S3 = Terphenyl-d14	10-127%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:					10/26/22		10/26/22
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	200	17	150	9.4	<200	-1.3	<200
Antimony	6.0	1.7	4.7	-0.50	<6.0	-0.40	<6.0
Arsenic	3.0	2.1	2.8	0.10	<3.0	-0.70	<3.0
Barium	200	.8	13	0.0	<200	-0.40	<200
Beryllium	1.0	.3	.5	0.10	<1.0	-0.10	<1.0
Bismuth	20	2.3	8.6				
Boron	100	2.3	10				
Cadmium	3.0	.3	1	0.30	<3.0	0.20	<3.0
Calcium	5000	6.6	99	7.8	<5000	5.6	<5000
Cerium	100						
Chromium	10	.3	2	-0.10	<10	-0.50	<10
Cobalt	50	.4	2.6	-0.20	<50	-0.10	<50
Copper	10	.8	5.9	0.50	<10	0.40	<10
Iron	100	5.3	32	1.6	<100	-0.90	<100
Lead	3.0	1.1	1.8	-0.60	<3.0	-0.10	<3.0
Lithium	50	4.8	7.3				
Magnesium	5000	32	140	-15	<5000	-1.6	<5000
Manganese	15	.1	1.4	0.10	<15	0.0	<15
Molybdenum	20	.6	3.6				
Nickel	10	.4	1.7	-0.10	<10	-0.40	<10
Phosphorus	50	1.2	18				
Potassium	10000	77	200	9.3	<10000	53.5	<10000
Selenium	10	3.2	4.9	1.7	<10	0.80	<10
Silicon	200	1.7	32				
Silver	10	1	6.1	0.20	<10	0.20	<10
Sodium	10000	34	570	147	<10000	119	<10000
Strontium	10	.3	2.7				
Sulfur	50	3	45				
Thallium	10	1.8	1.8	0.60	<10	0.70	<10
Tin	10	.8	3.7				
Titanium	10	.5	2.5				
Tungsten	50	2.6	40				
Vanadium	50	.6	1.8	-0.30	<50	-0.30	<50

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date:				10/26/22		10/26/22	
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Zinc	20	.1	6.9	0.20	<20	4.4	<20
Zirconium	10	.3	4.1				

Associated samples MP35945: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/26/22

Metal	JD54274-3 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	300	22400	25000	88.4	75-125
Antimony	0.0	1730	2000	86.5	75-125
Arsenic	4.3	1730	2000	86.3	75-125
Barium	34.9	1750	2000	85.8	75-125
Beryllium	1.0	1700	2000	85.0	75-125
Bismuth					
Boron					
Cadmium	1.0	1750	2000	87.5	75-125
Calcium	65100	89100	25000	96.0	75-125
Cerium					
Chromium	1.7	1710	2000	85.4	75-125
Cobalt	0.0	1740	2000	87.0	75-125
Copper	4.9	1700	2000	84.8	75-125
Iron	349	22300	25000	87.8	75-125
Lead	9.6	1730	2000	86.0	75-125
Lithium					
Magnesium	8730	30700	25000	87.9	75-125
Manganese	38.8	1790	2000	87.6	75-125
Molybdenum					
Nickel	1.7	1730	2000	86.4	75-125
Phosphorus					
Potassium	106000	132000	25000	104.0	75-125
Selenium	0.0	1730	2000	86.5	75-125
Silicon					
Silver	1.3	211	250	83.9	75-125
Sodium	22600	45500	25000	91.6	75-125
Strontium					
Sulfur					
Thallium	0.0	1770	2000	88.5	75-125
Tin					
Titanium					
Tungsten					
Vanadium	7.3	1720	2000	85.6	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/26/22

Metal	JD54274-3 Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Zinc	22.3	1770	2000	87.4	75-125
Zirconium					

Associated samples MP35945: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/26/22

Metal	JD54274-3 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	300	21500	25000	84.8	4.1	20
Antimony	0.0	1650	2000	82.5	4.7	20
Arsenic	4.3	1640	2000	81.8	5.3	20
Barium	34.9	1660	2000	81.3	5.3	20
Beryllium	1.0	1610	2000	80.5	5.4	20
Bismuth						
Boron						
Cadmium	1.0	1670	2000	83.5	4.7	20
Calcium	65100	84500	25000	77.6	5.3	20
Cerium						
Chromium	1.7	1620	2000	80.9	5.4	20
Cobalt	0.0	1650	2000	82.5	5.3	20
Copper	4.9	1610	2000	80.3	5.4	20
Iron	349	21300	25000	83.8	4.6	20
Lead	9.6	1640	2000	81.5	5.3	20
Lithium						
Magnesium	8730	29300	25000	82.3	4.7	20
Manganese	38.8	1700	2000	83.1	5.2	20
Molybdenum						
Nickel	1.7	1640	2000	81.9	5.3	20
Phosphorus						
Potassium	106000	125000	25000	76.0	5.4	20
Selenium	0.0	1650	2000	82.5	4.7	20
Silicon						
Silver	1.3	204	250	81.1	3.4	20
Sodium	22600	43300	25000	82.8	5.0	20
Strontium						
Sulfur						
Thallium	0.0	1680	2000	84.0	5.2	20
Tin						
Titanium						
Tungsten						
Vanadium	7.3	1630	2000	81.1	5.4	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/26/22

Metal	JD54274-3 Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zinc	22.3	1670	2000	82.4	5.8	20
Zirconium						

Associated samples MP35945: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/26/22

Metal	JD54274-3F Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	33.9	22100	25000	88.3	75-125
Antimony	2.1	1730	2000	86.4	75-125
Arsenic	5.0	1720	2000	85.8	75-125
Barium	30.2	1740	2000	85.5	75-125
Beryllium	1.1	1700	2000	84.9	75-125
Bismuth					
Boron					
Cadmium	0.80	1740	2000	87.0	75-125
Calcium	59100	76100	25000	68.0N(a)	75-125
Cerium					
Chromium	0.30	1700	2000	85.0	75-125
Cobalt	0.0	1730	2000	86.5	75-125
Copper	1.5	1690	2000	84.4	75-125
Iron	71.0	22000	25000	87.7	75-125
Lead	1.7	1710	2000	85.4	75-125
Lithium					
Magnesium	7910	29000	25000	84.4	75-125
Manganese	18.6	1750	2000	86.6	75-125
Molybdenum					
Nickel	0.50	1720	2000	86.0	75-125
Phosphorus					
Potassium	118000	131000	25000	52.0 (b)	75-125
Selenium	0.0	1720	2000	86.0	75-125
Silicon					
Silver	1.3	214	250	85.1	75-125
Sodium	24700	44800	25000	80.4	75-125
Strontium					
Sulfur					
Thallium	1.8	1760	2000	87.9	75-125
Tin					
Titanium					
Tungsten					
Vanadium	6.9	1710	2000	85.2	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/26/22

Metal	JD54274-3F Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Zinc	10.2	1730	2000	86.0	75-125

Zirconium

Associated samples MP35945: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/26/22

Metal	JD54274-3F Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	33.9	21800	25000	87.1	1.4	20
Antimony	2.1	1720	2000	85.9	0.6	20
Arsenic	5.0	1710	2000	85.3	0.6	20
Barium	30.2	1720	2000	84.5	1.2	20
Beryllium	1.1	1680	2000	83.9	1.2	20
Bismuth						
Boron						
Cadmium	0.80	1730	2000	86.5	0.6	20
Calcium	59100	75600	25000	66.0N(a)	0.7	20
Cerium						
Chromium	0.30	1690	2000	84.5	0.6	20
Cobalt	0.0	1720	2000	86.0	0.6	20
Copper	1.5	1680	2000	83.9	0.6	20
Iron	71.0	21700	25000	86.5	1.4	20
Lead	1.7	1700	2000	84.9	0.6	20
Lithium						
Magnesium	7910	28700	25000	83.2	1.0	20
Manganese	18.6	1740	2000	86.1	0.6	20
Molybdenum						
Nickel	0.50	1710	2000	85.5	0.6	20
Phosphorus						
Potassium	118000	130000	25000	48.0 (b)	0.8	20
Selenium	0.0	1720	2000	86.0	0.0	20
Silicon						
Silver	1.3	212	250	84.3	0.9	20
Sodium	24700	44400	25000	78.8	0.9	20
Strontium						
Sulfur						
Thallium	1.8	1760	2000	87.9	0.0	20
Tin						
Titanium						
Tungsten						
Vanadium	6.9	1700	2000	84.7	0.6	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945 Methods: SW846 6010D
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/22

Metal	JD54274-3F Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zinc	10.2	1720	2000	85.5	0.6	20
Zirconium						

Associated samples MP35945: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:			10/26/22				10/26/22	
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	23800	25000	95.2	80-120	22900	25000	91.6	80-120
Antimony	1840	2000	92.0	80-120	1750	2000	87.5	80-120
Arsenic	1810	2000	90.5	80-120	1720	2000	86.0	80-120
Barium	1850	2000	92.5	80-120	1750	2000	87.5	80-120
Beryllium	1840	2000	92.0	80-120	1740	2000	87.0	80-120
Bismuth								
Boron								
Cadmium	1850	2000	92.5	80-120	1750	2000	87.5	80-120
Calcium	23800	25000	95.2	80-120	23100	25000	92.4	80-120
Cerium								
Chromium	1860	2000	93.0	80-120	1760	2000	88.0	80-120
Cobalt	1850	2000	92.5	80-120	1750	2000	87.5	80-120
Copper	1840	2000	92.0	80-120	1740	2000	87.0	80-120
Iron	23700	25000	94.8	80-120	22800	25000	91.2	80-120
Lead	1850	2000	92.5	80-120	1750	2000	87.5	80-120
Lithium								
Magnesium	23800	25000	95.2	80-120	22900	25000	91.6	80-120
Manganese	1890	2000	94.5	80-120	1790	2000	89.5	80-120
Molybdenum								
Nickel	1840	2000	92.0	80-120	1750	2000	87.5	80-120
Phosphorus								
Potassium	23800	25000	95.2	80-120	23000	25000	92.0	80-120
Selenium	1830	2000	91.5	80-120	1730	2000	86.5	80-120
Silicon								
Silver	231	250	92.4	80-120	217	250	86.8	80-120
Sodium	24000	25000	96.0	80-120	23200	25000	92.8	80-120
Strontium								
Sulfur								
Thallium	1940	2000	97.0	80-120	1840	2000	92.0	80-120
Tin								
Titanium								
Tungsten								
Vanadium	1840	2000	92.0	80-120	1740	2000	87.0	80-120

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:			10/26/22				10/26/22	
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSP Result	Spikelot MPSPK2	% Rec	QC Limits
Zinc	1850	2000	92.5	80-120	1770	2000	88.5	80-120
Zirconium								

Associated samples MP35945: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:			10/26/22				10/26/22	
Metal	JD54274-3 Original	SDL 1:5	%DIF	QC Limits	JD54274-3F Original	SDL 1:5	%DIF	QC Limits
Aluminum	300	364	21.3 (a)	0-10	33.9	0.00	100.0(a)	0-10
Antimony	0.00	0.00	NC	0-10	2.10	0.00	100.0(a)	0-10
Arsenic	4.30	0.00	100.0(a)	0-10	5.00	0.00	100.0(a)	0-10
Barium	34.9	33.2	4.9	0-10	30.2	29.2	3.3	0-10
Beryllium	1.00	0.00	100.0(a)	0-10	1.10	0.00	100.0(a)	0-10
Bismuth								
Boron								
Cadmium	1.00	0.00	100.0(a)	0-10	0.800	0.00	100.0(a)	0-10
Calcium	65100	66000	1.5	0-10	59100	60300	2.0	0-10
Cerium								
Chromium	1.70	2.30	35.3 (a)	0-10	0.300	2.20	633.3(a)	0-10
Cobalt	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Copper	4.90	8.60	75.5 (a)	0-10	1.50	4.80	220.0(a)	0-10
Iron	349	355	1.7	0-10	71.0	73.5	3.5	0-10
Lead	9.60	6.80	29.2 (a)	0-10	1.70	0.00	100.0(a)	0-10
Lithium								
Magnesium	8730	8890	1.8	0-10	7910	8080	2.2	0-10
Manganese	38.8	39.5	1.8	0-10	18.6	18.9	1.6	0-10
Molybdenum								
Nickel	1.70	0.00	100.0(a)	0-10	0.500	0.00	100.0(a)	0-10
Phosphorus								
Potassium	106000	107000	1.0	0-10	118000	120000	1.7	0-10
Selenium	0.00	0.00	NC	0-10	0.00	0.00	NC	0-10
Silicon								
Silver	1.30	0.00	100.0(a)	0-10	1.30	0.00	100.0(a)	0-10
Sodium	22600	23200	2.4	0-10	24700	25300	2.7	0-10
Strontium								
Sulfur								
Thallium	0.00	0.00	NC	0-10	1.80	10.7	494.4(a)	0-10
Tin								
Titanium								
Tungsten								
Vanadium	7.30	7.20	1.4	0-10	6.90	5.20	24.6 (a)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35945
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:			10/26/22				10/26/22	
Metal	JD54274-3 Original	SDL 1:5	%DIF	QC Limits	JD54274-3F Original	SDL 1:5	%DIF	QC Limits
Zinc	22.3	43.5	95.1*(b)	0-10	10.2	31.4	207.8*(b	0-10
Zirconium								

Associated samples MP35945: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	17	150	12.5	<200
Antimony	6.0	1.7	4.7	0.80	<6.0
Arsenic	3.0	2.1	2.8	-0.90	<3.0
Barium	200	.8	13	-0.20	<200
Beryllium	1.0	.3	.5	0.0	<1.0
Bismuth	20	2.3	8.6		
Boron	100	2.3	10		
Cadmium	3.0	.3	1	0.0	<3.0
Calcium	5000	6.6	99	5.0	<5000
Cerium	100				
Chromium	10	.3	2	-0.60	<10
Cobalt	50	.4	2.6	0.10	<50
Copper	10	.8	5.9	2.3	<10
Iron	100	5.3	32	1.2	<100
Lead	3.0	1.1	1.8	-0.10	<3.0
Lithium	50	4.8	7.3		
Magnesium	5000	32	140	11.3	<5000
Manganese	15	.1	1.4	0.10	<15
Molybdenum	20	.6	3.6		
Nickel	10	.4	1.7	-0.40	<10
Phosphorus	50	1.2	18		
Potassium	10000	77	200	133	<10000
Selenium	10	3.2	4.9	1.0	<10
Silicon	200	1.7	32		
Silver	10	1	6.1	-0.40	<10
Sodium	10000	34	570	386	<10000
Strontium	10	.3	2.7		
Sulfur	50	3	45		
Thallium	10	1.8	1.8	-0.10	<10
Tin	10	.8	3.7		
Titanium	10	.5	2.5		
Tungsten	50	2.6	40		
Vanadium	50	.6	1.8	-0.30	<50

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22

Metal	RL	IDL	MDL	MB raw	final
Zinc	20	.1	6.9	0.30	<20
Zirconium	10	.3	4.1		

Associated samples MP35954: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22

Metal	JD53991-1F Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Aluminum	35.0	25800	25000	103.1	75-125
Antimony	0.0	1990	2000	99.5	75-125
Arsenic	0.0	2010	2000	100.5	75-125
Barium	64.7	2050	2000	99.3	75-125
Beryllium	0.0	2000	2000	100.0	75-125
Bismuth					
Boron					
Cadmium	0.0	2030	2000	101.4	75-125
Calcium	21500	49700	25000	112.8	75-125
Cerium					
Chromium	0.0	2030	2000	101.5	75-125
Cobalt	0.80	2020	2000	101.0	75-125
Copper	7.9	2010	2000	100.1	75-125
Iron	251	26200	25000	103.9	75-125
Lead	0.0	2010	2000	100.5	75-125
Lithium					
Magnesium	2880	28700	25000	103.3	75-125
Manganese	704	2820	2000	105.8	75-125
Molybdenum	anr				
Nickel	5.4	2040	2000	101.8	75-125
Phosphorus					
Potassium	2900	29800	25000	104.9	75-125
Selenium	0.0	2000	2000	100.0	75-125
Silicon	anr				
Silver	0.0	258	250	103.2	75-125
Sodium	388000	423000	25000	140.0(a)	75-125
Strontium					
Sulfur					
Thallium	0.00	1990	2000	99.5	75-125
Tin	anr				
Titanium					
Tungsten					
Vanadium	1.0	2060	2000	103.0	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22

Metal	JD53991-1F Original	MS	Spikelot MPSPK2	% Rec	QC Limits
Zinc	62.7	2080	2000	102.3	75-125
Zirconium					

Associated samples MP35954: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22

Metal	JD53991-1F Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Aluminum	35.0	25900	25000	103.5	0.4	20
Antimony	0.0	2000	2000	100.0	0.5	20
Arsenic	0.0	2020	2000	101.0	0.5	20
Barium	64.7	2040	2000	98.8	0.5	20
Beryllium	0.0	2000	2000	100.0	0.0	20
Bismuth						
Boron						
Cadmium	0.0	2040	2000	101.9	0.5	20
Calcium	21500	49100	25000	110.4	1.2	20
Cerium						
Chromium	0.0	2000	2000	100.0	1.5	20
Cobalt	0.80	2030	2000	101.5	0.5	20
Copper	7.9	1970	2000	98.1	2.0	20
Iron	251	26100	25000	103.5	0.4	20
Lead	0.0	2020	2000	101.0	0.5	20
Lithium						
Magnesium	2880	28600	25000	102.9	0.3	20
Manganese	704	2770	2000	103.3	1.8	20
Molybdenum	anr					
Nickel	5.4	2050	2000	102.3	0.5	20
Phosphorus						
Potassium	2900	29800	25000	104.9	0.0	20
Selenium	0.0	2010	2000	100.5	0.5	20
Silicon	anr					
Silver	0.0	253	250	101.2	2.0	20
Sodium	388000	419000	25000	124.0	1.0	20
Strontium						
Sulfur						
Thallium	0.00	2000	2000	100.0	0.5	20
Tin	anr					
Titanium						
Tungsten						
Vanadium	1.0	2010	2000	100.5	2.5	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22

Metal	JD53991-1F Original	MSD	Spikelot MPSPK2	% Rec	MSD RPD	QC Limit
Zinc	62.7	2060	2000	101.3	1.0	20
Zirconium						

Associated samples MP35954: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date:			10/27/22					10/27/22	
Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Aluminum	25800	25000	103.2	80-120	25500	25000	102.0	1.2	20
Antimony	1960	2000	98.0	80-120	1960	2000	98.0	0.0	20
Arsenic	1940	2000	97.0	80-120	1940	2000	97.0	0.0	20
Barium	1980	2000	99.0	80-120	1970	2000	98.5	0.5	20
Beryllium	1990	2000	99.5	80-120	1980	2000	99.0	0.5	20
Bismuth									
Boron									
Cadmium	1990	2000	99.5	80-120	2000	2000	100.0	0.5	20
Calcium	25800	25000	103.2	80-120	25600	25000	102.4	0.8	20
Cerium									
Chromium	1990	2000	99.5	80-120	1990	2000	99.5	0.0	20
Cobalt	1950	2000	97.5	80-120	1960	2000	98.0	0.5	20
Copper	1980	2000	99.0	80-120	1980	2000	99.0	0.0	20
Iron	26000	25000	104.0	80-120	25800	25000	103.2	0.8	20
Lead	1960	2000	98.0	80-120	1970	2000	98.5	0.5	20
Lithium									
Magnesium	25800	25000	103.2	80-120	25700	25000	102.8	0.4	20
Manganese	2010	2000	100.5	80-120	2020	2000	101.0	0.5	20
Molybdenum	anr								
Nickel	1970	2000	98.5	80-120	1970	2000	98.5	0.0	20
Phosphorus									
Potassium	25600	25000	102.4	80-120	25400	25000	101.6	0.8	20
Selenium	1940	2000	97.0	80-120	1950	2000	97.5	0.5	20
Silicon	anr								
Silver	245	250	98.0	80-120	245	250	98.0	0.0	20
Sodium	26000	25000	104.0	80-120	25700	25000	102.8	1.2	20
Strontium									
Sulfur									
Thallium	2020	2000	101.0	80-120	2040	2000	102.0	1.0	20
Tin	anr								
Titanium									
Tungsten									
Vanadium	1980	2000	99.0	80-120	1980	2000	99.0	0.0	20

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22 10/27/22

Metal	BSP Result	Spikelot MPSPK2	% Rec	QC Limits	BSD Result	Spikelot MPSPK2	% Rec	BSD RPD	QC Limit
Zinc	1980	2000	99.0	80-120	1990	2000	99.5	0.5	20
Zirconium									

Associated samples MP35954: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22

Metal	JD53991-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum	35.0	0.00	100.0(a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	64.7	62.9	2.8	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	1.50	0.00	100.0(a)	0-10
Calcium	21500	21600	0.6	0-10
Cerium				
Chromium	0.00	0.00	NC (a)	0-10
Cobalt	0.800	0.00	100.0(a)	0-10
Copper	7.90	11.0	39.2 (a)	0-10
Iron	251	235	2.0	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	2880	2970	3.2	0-10
Manganese	704	695	1.3	0-10
Molybdenum	anr			
Nickel	5.40	2.00	42.9 (a)	0-10
Phosphorus				
Potassium	2900	3760	5.6	0-10
Selenium	0.00	0.00	NC	0-10
Silicon	anr			
Silver	0.00	0.00	NC	0-10
Sodium	388000	380000	2.1	0-10
Strontium				
Sulfur				
Thallium	11.4	0.00	NC	0-10
Tin	anr			
Titanium				
Tungsten				
Vanadium	1.00	0.00	100.0(a)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35954
Matrix Type: AQUEOUS

Methods: SW846 6010D
Units: ug/l

Prep Date: 10/27/22

Metal	JD53991-1F Original	SDL 1:5	%DIF	QC Limits
Zinc	62.7	54.2	61.3*(b)	0-10
Zirconium				

Associated samples MP35954: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35974 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/27/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.024	.095	-0.066	<0.20

Associated samples MP35974: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35974
Matrix Type: AQUEOUS
Methods: SW846 7470A
Units: ug/l

Prep Date: 10/27/22

Metal	JD54274-3 Original	MS	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.29	2.1	2	90.5	75-125

Associated samples MP35974: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35974
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/27/22

Metal	JD54274-3 Original	MSD	Spikelot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.29	2.0	2	85.5	4.9	20

Associated samples MP35974: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35974
Matrix Type: AQUEOUS
Methods: SW846 7470A
Units: ug/l

Prep Date: 10/27/22

Metal	JD54274-3F Original	MS	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.14	2.3	2	108.0	75-125

Associated samples MP35974: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35974
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/27/22

Metal	JD54274-3F Original	MSD	Spikelot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.14	2.4	2	113.0	4.3	20

Associated samples MP35974: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35974
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/27/22

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	2.1	2	105.0	80-120

Associated samples MP35974: JD54274-1, JD54274-2, JD54274-3, JD54274-4, JD54274-5, JD54274-7, JD54274-1F, JD54274-2F, JD54274-3F, JD54274-4F, JD54274-5F, JD54274-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35996 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/28/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.024	.095	-0.057	<0.20

Associated samples MP35996: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35996
Matrix Type: AQUEOUS
Methods: SW846 7470A
Units: ug/l

Prep Date: 10/28/22

Metal	JD54351-3 Original	MS	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.0	2.1	2	105.0	75-125

Associated samples MP35996: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35996
Matrix Type: AQUEOUS
Methods: SW846 7470A
Units: ug/l

Prep Date: 10/28/22

Metal	JD54351-3 Original	MSD	Spikelot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.0	2.2	2	110.0	4.7	20

Associated samples MP35996: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JD54274
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

QC Batch ID: MP35996
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 10/28/22

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	2.0	2	100.0	80-120

Associated samples MP35996: JD54274-6, JD54274-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

ATTACHMENT B.5 FIELD DATA COLLECTION RECORDS

Jacobs

Well Sampling Form

Project Name ~~Tri-annual~~ Outer Harbor
Location ~~Outer~~ 901 Fuhrmann Blvd, Buffalo
Sampling Event 2022 Triannual
Job #

Date 09-14-22
Field Team B. Hendy
Field Conditions 70's, sunny

Well / Sample # GW-18R
Initial DTW: 10.34
Purge Method (circle):
Submersible Peristaltic Ded. Pump Other: Bailer
Sample Method: ↓

Start Time 1550 End Time 1620
Measure Point (circle):
(PVC) Steel Other:

Sample ID GW-18R-091422
~~Dup. Sample ID~~
~~QC Sample ID~~
Depth to Bottom (from meas. pt., ft.): 20.60

Sample Time: 1610
~~Dup. Time~~:
~~QC Time~~:
Min. Purge Vol. ((gal) or L): 10×.16×3 = 5
~~Purge Rate (gpm or mLpm)~~:

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ (Open container)

Time	Volume Purged (gal) / L	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
	2.0	6.86	1.26	37.3	3.48	16.92	129	
	Poor recharge. Took additional turbidity.			filtered sample for MTAL (diss) due to high				

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
MTAL	Poly	500 mL	1	HNO3	N	Y	
8270NBZ	Amber	1L	2	None	N	Y	
MTAL (Diss)	Poly	250mL	1	None	Y	Y	

Notes

Jacobs

Well Sampling Form

Project Name: Ohio Harbor
Location: 901 Fuhrmann Blvd Buffalo
Sampling Event: 2022 Tri-Annual
Job #:

Date: 09-14-22
Field Team: B. Hunter
Field Conditions: Hot, sunny

Well / Sample #: GW-19
Initial DTW: 12.92
Start Time: 1330 End Time: 1350
Purge Method (circle):
Submersible Peristaltic Ded. Pump Other: Bailer
Sample Method: Bailer
Measure Point (circle):
(PVC) Steel Other:

Sample ID: GW-19-091422
~~Dup. Sample ID~~
~~QC Sample ID~~
Sample Time: 1340
~~Dup. Time:~~
~~QC Time:~~
Depth to Bottom (from meas. pt., ft.): 19.05
Min. Purge Vol. (gal or L): 6x.16x3= 3gal
~~Purge Rate (gpm or mL/pm):~~
WQ Parameter Measurement Technique (circle):
~~Flow-thru cell~~ ~~In-situ~~ Open container

6x.16x3=3gal

Time	Volume Purged gal / L	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
	3gal	10.98	1.35	~~0~~ 1.6	3.41	18.22	50	12.92
	Poor recharge.							

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
MTAL	Poly	500mL	1	HNO_3	N	Y	
BS270NBZ	Amber	1L	2	None	N	Y	

Notes

Jacobs

Well Sampling Form

Project Name: Outer Harbor
Location: 401 Fuhrmann Blvd, Buffalo
Sampling Event: 2022 Tri-Annual
Job #:

Date: 09-14-22
Field Team: B. Henley
Field Conditions: 70's, sunny

Well / Sample #: GW-20
Initial DTW: 14.08
Start Time: 1710
End Time: 1800

Purge Method (circle):
Submersible Peristaltic Ded. Pump Other: ~~Bailer~~ Fix Bailer

Sample Method:

Measure Point (circle):
PVC Steel Other:

Sample ID: GW-20-091422
Dup. Sample ID: GW-20-FD-091422
QC Sample ID: GW-20-MS/MSD-091422

Sample Time: 1730
Dup. Time: --
QC Time: --

Depth to Bottom (from meas. pt., ft.): 18.70
Min. Purge Vol. (~~gal.~~ or L): 4.5×.16×3 = 2.754
~~Purge Rate (gpm or ml pm):~~

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ Open container

Time	Volume Purged (gal / L)	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
	2	7.93	0.926	7.4	3.91	16.90	156	

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
4× MTAL	Poly	500 mL	1	HNO_3	N	Y	
4× 8270NBZ	~~Glass~~ Amber	1L	2	None	N	Y	

Notes

Jacobs

Well Sampling Form

Project Name: Outer Harbor
Location: 901 Fuhrmann Blvd, Buffalo
Sampling Event: 2022 Tri-Annual
Job #:

Date: 09-14-22
Field Team: S. Hendry
Field Conditions: 70s, Sunny

Well / Sample #: GW-21
Initial DTW: 8.23
Purge Method (circle): ~~Submersible~~ ~~Peristaltic~~ ~~Ded. Pump~~ (Other: Bailer)
Sample Method: ✓

Start Time: 1300 End Time: 1330

Measure Point (circle): (PVC) Steel Other:

Sample ID: GW-21-091422
~~Dup. Sample ID~~:
~~QC Sample ID~~:

Sample Time: 1315
~~Dup. Time:~~:
~~QC Time:~~:

Depth to Bottom (from meas. pt., ft.): 19.25
Min. Purge Vol ((gal) or L): 11 x .16 x 3 = 5.5 gal
~~Purge Rate (gpm or mL/pm)~~:

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ Open container

Time	Volume Purged (gal) L	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
	3.0	8.21	0.312	2.1	3.39	17.06	-34	

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
MTAL	Poly	500mL	1	HNO_3	N	Y	
BBZ7CNBZ	Amber	1L	2	None	N	Y	

Notes

Jacobs

Well Sampling Form

Project Name: Dater Harbor
Location: 911 Fuhrmann Blvd, Buffalo
Sampling Event: 2022 Tri-Annual
Job #:

Date: 09-14-22
Field Team: B. Hendry
Field Conditions: 70's, sunny

Well / Sample #: GW-22
Start Time: 1525
End Time: 1900
Initial DTW: 11.52
Purge Method (circle): Submersible / Peristaltic / Ded. Pump / (Other:) Bailer
Measure Point (circle): (PVC) / Steel / Other:
Sample Method: ↓ (Bailer)
Sample ID: GW-22-091422
Sample Time: 1540
Dup. Sample ID:
Dup. Time:
QC Sample ID:
QC Time:
Depth to Bottom (from meas. pt., ft.): 21.15
Min. Purge Vol. (gal or L): ~10 x .16 x 3 = ~~4.8~~ 4.8 gal
~~Purge Rate (gpm or ml pm):~~
WQ Parameter Measurement Technique (circle): Flow-thru cell / In-situ / (Open container)

Time	Volume Purged (gal) / L	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
	2.0	6.72	2.21	230	1.84	16.88	-69	
	~~Well purged~~ Well dry after filling MTAL / MTAL (Diss) & one amber.							
	Will return to finish sampling.							
1850 -	Collect remaining 1L from recharged well.							

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
MTAL	Poly	500 mL	1	HNO3	N	Y	
8270NBZ	Amber	1L	2	None	N	Y	
MTAL(Diss)	Poly	500mL	1	None	Y	Y	

Notes: Took additional filtered sample for MTAL (Diss) due to high turbidity

Jacobs

Well Sampling Form

Project Name: Dutch Hollow
Location: 901 Fahrenmann, Buffalo
Sampling Event: 2022 Tri-Annual
Job #:

Date: 09.14.22
Field Team: B. Hendry
Field Conditions: 70s, Sunny

Well / Sample #: GW-23
Initial DTW: 12.86
Purge Method (circle): Submersible Peristaltic Ded. Pump Other: Bailer
Sample Method:

Start Time: 1400 End Time: 1420

Measure Point (circle): PVC Steel Other:

Sample ID: GW-23-091422
~~Dup. Sample ID~~:
~~QC Sample ID~~:

Sample Time: 1410
~~Dup. Time~~:
~~QC Time~~:

Depth to Bottom (from meas. pt., ft.): 22.10
Min. Purge Vol. (gal. or L): 9.25 * .16 * 3 = 4.5 gal.
~~Purge Rate (gpm or mLpm)~~:

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ Open container

Time	Volume Purged gal / L	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
	4.0	7.00	1.09	87.2	2.29	17.58	-76	

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
8270 NBZ	Amber	1L	2	None	~~Y~~ N	Y	
MTAL	Poly	500 mL	1	HNO3	N	Y	
MTAL (Diss)	Poly	500 mL	1	None	~~N~~ Y	Y	

Notes

Poor recharge - Took additional sample for MTAL (Diss) due to high turbidity

SGS Laboratories
2235 Route 130
Dayton, NJ 08810
(p) 732-239-0200

Chain Of Custody/Analysis Request
Project Name: Buffalo Outer Harbor
Lab Project Name: HLAME: 37971-Buffalo Outer Harbor, 901 Fuhrmann Boulevard, Buffalo, NY

AESI Ref: 38609.59845
COC #: 102022-Outer Harbor
Lab Use Only
Lab_SDG
Lab ID

Privileged & Confidential
EDD To: Ryan Belcher (ryan.belcher @ woodplc.com)
Sampler: Benjamin Hendry
Sampling Company: Jacobs
P O #: A001132428

Facility Name: Outer Harbor
Location of Site: Buffalo, New York
Site Code: 37971

Analysis Turnaround Time: 5 DAY
Standard -: Y
Rush Charges Authorized for -: Y
Turn Around Time Required -: 5 DAY

Client Contact: (name, co., address)
Sasa Jazic
Honeywell International
301 Plainfield Road, Suite 330
Syracuse, New York 13212
Sasa.Jazic@Honeywell.com
Hardcopy Report To: Do Not Send Hardcopy Unless Requested
Invoice To:

Job No
2 COOLERS

	Sample Identification				Sample Date	Sample Time	Matrix Code	Medium Code	Sample Type	# of Cont.	Composite (Yes/No)	Filter Type (Y=Filtered, N=Unfiltered)	Preservative: 2	Preservative: 0	Preservative: 0												Lab Sample Numbers
	Sys_Loc_Code	Start Depth (ft)	End Depth (ft)	Sys_Sample_Code							Units																
1	N/A	---	---	GW-18R-102022	10/20/2022	1020	GW	WATER	REG	4	N	N	1	1	2												
2	N/A	---	---	GW-19-102022	10/20/2022	0945	GW	WATER	REG	4	N	N	1	1	2												
3	N/A	---	---	GW-20-102022	10/20/2022	0815	GW	WATER	REG	4	N	N	1	1	2												
4	N/A	---	---	GW-20-MS-102022	10/20/2022	0815	WQ	WATER	REG	4	N	N	1	1	2												
5	N/A	---	---	GW-20-MSD-102022	10/20/2022	0815	WQ	WATER	REG	4	N	N	1	1	2												
6	N/A	---	---	GW-20-FD-102022	10/20/2022	0815	WQ	WATER	REG	4	N	N	1	1	2												
7	N/A	---	---	GW-21-102022	10/20/2022	0920	GW	WATER	REG	4	N	N	1	1	2												
8	N/A	---	---	GW-22-102022	10/20/2022	1040	GW	WATER	REG	4	N	N	1	1	2												
9	N/A	---	---	GW-23-102022	10/20/2022	1000	GW	WATER	REG	4	N	N	1	1	2												
10																											
11																											
12																											
13																											
14																											
15																											

*** Nitrobenzene MDL needs to be less than 0.4 ppb

** MTAL[DISS] Samples to be lab filtered

Notes:

Special Instructions:

Sample Location	pH Range	pH	Max Temp (°C)	Temp (°C)	Flow	Cond. (mS/cm)	Other

For COC questions, contact --
Benjamin Hendry
benjamin.hendry @ jacobs.com
315-806-4029

	Company		Received by		Company		Condition		Custody Seals Intact	
Relinquished by	Date/Time	Jacobs 10-20-2022/1630	Received by	FEDEX	Date/Time		Cooler Temp			
Relinquished by	Company		Received by		Company		Condition		Custody Seals Intact	
	Date/Time				Date/Time		Cooler Temp			

Preservatives: 0 = None; |1 = HCL|; |2 = HNO3|; |3 = H2SO4|; |4 = NaOH|; |5 = Zn. Acetate|; |6 = MeOH|; |7 = NaHSO4|; 8 = Other (specify):

Jacobs

Well Sampling Form

Project Name 37971-Buffalo Outer Harbor
Location 901 Fuhrmann Boulevard, Buffalo, NY
Sampling Event 2022 Triannual
Job #

Date ~~10-19-22~~, 10-20-22
Field Team Benjamin Hendry
Field Conditions 40's, freezing rain

Well / Sample # GW-18R
Initial DTW: 10.10
Purge Method (circle): Submersible Peristaltic Ded. Pump (Bailer) Other: _____
Sample Method: Bailer

Start Time 1300, 10-19 **End Time** 1030, 10-20
Measure Point (circle): (PVC) Steel Other: _____

Sample ID GW-18R-102022
~~**Dup. Sample ID**~~ _____
~~**QC Sample ID**~~ _____

Sample Time: 1020
~~**Dup. Time:**~~ _____
~~**QC Time:**~~ _____

Depth to Bottom (from meas. pt., ft.): 20.60
Min. Purge Vol. (gal. or L): 5.25
~~**Purge Rate (gpm or mLpm)**~~ _____

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ (Open container)

	Time	Volume Purged (gal / L)	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
10-19-22	1300	∅	Gauge well & purge 5.25 gal. Not enough recharge to sample.						10.10
10-20-22	1010	5.25	Take WQ	readings. ~~& sample well.~~					
	↓	↓	7.41	1.09	30.2	10.06	~~13.92~~ 12.92	33	
	1020	Samples taken. Take NP poly bottle for MTBE (Diss) due to high turbidity.							

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
Nitrobenzene	Amber	1L	2	None	N	Y	
Metals	Poly	500mL	1	HNO3	N	Y	
Metals (Diss.)	Poly	500mL	1	None	N	Y	To be lab filtered

Notes

Jacobs

Well Sampling Form

Project Name 37971-Buffalo Outer Harbor
Location 901 Fuhrmann Boulevard, Buffalo, NY
Sampling Event 2022 Triannual
Job #

Date 10-19-22, 10-20-22
Field Team Benjamin Hendry
Field Conditions 40s, freezing rain

Well / Sample # GW-19-102022
Initial DTW: 12.64
Start Time 1400, 10-19 **End Time** 0950, 10-20

Purge Method (circle):
Submersible Peristaltic Ded. Pump (Bailer) Other: _____

Measure Point (circle):
(PVC) Steel Other: _____

Sample Method: Bailer

Sample ID GW-19-102022
~~Dup. Sample ID~~
~~QC Sample ID~~

Sample Time: 0945
~~Dup. Time:~~
~~QC Time:~~

Depth to Bottom (from meas. pt., ft.): 19.05
Min. Purge Vol (gal. or L): 3.25
~~Purge Rate (gpm or mLpm):~~

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ (Open container)

Time	Volume Purged (gal) L	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
10-19-22 1410	Ø	Gauge well, purge until dry at			3.0 gal.			12.64
10-20-22 0930	3.0	Purge additional .25 gal, take water			quality readings, prepare to sample.			
0935	3.25	11.89	1.62	11.2	3.41	11.86	-166	
0945	↓	Samples taken. Fill NP 500 mL			poly for LIF MTAL (Diss.) due to turbidity.			

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
Nitrobenzene	Amber	1L	2	None	N	Y	
Metals	Poly	500mL	1	HNO3	N	Y	
Metals (Diss.)	Poly	500mL	1	None	N	Y	To be lab filtered

Notes

Jacobs

Well Sampling Form

Project Name 37971-Buffalo Outer Harbor
Location 901 Fuhrmann Boulevard, Buffalo, NY
Sampling Event 2022 Triannual
Job #

Date 10-19-22, 10-20-22
Field Team Benjamin Hendry
Field Conditions 40's, freezing rain

Well / Sample # GW-20-~~102022~~ Start Time 1300, 10-19 End Time 0900, 10-20
Initial DTW: 13.49
Purge Method (circle): Submersible Peristaltic Ded. Pump (Bailer) Other: _____
Measure Point (circle): (PVC) Steel Other: _____
Sample Method: Bailer

Sample ID GW-20-102022 Sample Time: 0815, 10-20
Dup. Sample ID GW-20-FD-102022 Dup. Time: 0815, 10-20
QC Sample ID GW-20-MS-102022/GW-20-MSD-102022 QC Time: 0815, 10-20
Depth to Bottom (from meas. pt., ft.): 18.70 Min. Purge Vol ((gal) or L): 2.5 ~~Purge Rate (gpm or mLpm):~~
WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ (Open container)

	Time	Volume Purged (gal) L	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
10-19	1300	Ø	Gauge well, purge 2.5 gal.						13.49.
10-20	0700	2.5	Purge additional 1.0 gal, take WQ parameter readings, prep. for sampling.						
	↓	3.5	8.22	0.938	55.6	10.77	13.27	-148	
		↓							
	0815	↓	Samples taken. Take NP 500mL poly samples for: L:F MTAL(Diss) due to high turbidity.						

Sample Collection Information

	Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
4x	Nitrobenzene	Amber	1L	2	None	N	Y	
4x	Metals	Poly	500mL	1	HNO3	N	Y	
4x	Metals (Diss.)	Poly	500mL	1	None	N	Y	To be lab filtered

Notes

Jacobs

Well Sampling Form

Project Name 37971-Buffalo Outer Harbor
Location 901 Fuhrmann Boulevard, Buffalo, NY
Sampling Event 2022 Triannual
Job #

Date 10-19-22, 10-20-22
Field Team Benjamin Hendry
Field Conditions 40's, freezing rain

Well / Sample # GW-21
Initial DTW: 8.54
Purge Method (circle): Submersible Peristaltic Ded. Pump (Bailer) Other: _____
Sample Method: Bailer

Start Time 1335, 10-19-22 **End Time** 0930, 10-20-22
Measure Point (circle): (PVC) Steel Other: _____

Sample ID GW-21-102022
Sample Time: 0920
~~**Dup. Sample ID**~~
~~**Dup. Time:**~~
~~**QC Sample ID**~~
~~**QC Time:**~~
Depth to Bottom (from meas. pt., ft.): 19.25
Min. Purge Vol (gal or L): 5.5
~~**Purge Rate (gpm or mLpm):**~~

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ (Open container)

Time	Volume Purged (gal) L	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
10-19-22 1335	Ø	Gauge well, purge 5.5 gal, not enough recharge to sample.						8.54
10-20-22 0915	5.5	Take WQ parameters, prep to sample.						
↓	↓	9.79	0.291	139	2.66	12.66	-243	
0920	↓	Samples taken. Fill NP 500mL poly for LIF MTAL due to high turbidity.						

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
Nitrobenzene	Amber	1L	2	None	N	Y	
Metals	Poly	500mL	1	HNO3	N	Y	
Metals (Diss.)	Poly	500mL	1	None	N	Y	To be lab filtered

Notes

Jacobs

Well Sampling Form

Project Name	37971-Buffalo Outer Harbor	**Date**	10-19-22, 10-20-22
Location	901 Fuhrmann Boulevard, Buffalo, NY	**Field Team**	Benjamin Hendry
Sampling Event	2022 Triannual	**Field Conditions**	40's, Freezing rain
Job #			

Well / Sample # ~~GW-22~~ GW-22 **Start Time** 1510, 10-19 **End Time** 1050, 10-20

Initial DTW: 8.97

Purge Method (circle): Submersible Peristaltic Ded. Pump (Bailer) Other: _____

Measure Point (circle): (PVC) Steel Other: _____

Sample Method: Bailer

Sample ID GW-22-102022 **Sample Time:** 1040, 10-20

~~Dup. Sample ID~~ _____ ~~Dup. Time:~~ _____

~~QC Sample ID~~ _____ ~~QC Time:~~ _____

Depth to Bottom (from meas. pt., ft.): 21.15 **Min. Purge Vol (gal. or L):** 6.0 ~~Purge Rate (gpm or mLpm):~~ _____

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ (Open container)

	Time	Volume Purged (gal / L)	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
10-19-22	1510	0	Gauge well, purge until dry at 2.5 gal.						8.97
	1740	2.5	Purge additional .75 gal from well, well dry again.						
10-20-22	1030	3.25	Take WQ readings, prepare sample containers.						
	↓	↓	7.08	2.51	50.2	9.97	12.82	92	
	1040	Samples taken. Collect NP 500mL poly for MF MTAL (diss) due to high turbidity							

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
Nitrobenzene	Amber	1L	2	None	N	Y	
Metals	Poly	500mL	1	HNO3	N	Y	
Metals (Diss.)	Poly	500mL	1	None	N	Y	To be lab filtered

Notes

Jacobs

Well Sampling Form

Project Name 37971-Buffalo Outer Harbor
Location 901 Fuhrmann Boulevard, Buffalo, NY
Sampling Event 2022 Triannual
Job #

Date 10-19-22, 10-20-22
Field Team Benjamin Hendry
Field Conditions 40's, freezing rain

Well / Sample # GW-23
Start Time 1430, 10-19-22 **End Time** 1010, 10-20-22
Initial DTW: 10.46
Purge Method (circle): Submersible Peristaltic Ded. Pump (Bailer) Other: _____
Measure Point (circle): (PVC) Steel Other: _____
Sample Method: Bailer

Sample ID GW-23-102022 **Sample Time:** 1000
~~**Dup Sample ID**~~ ~~**Dup. Time:**~~
~~**QC Sample ID**~~ ~~**QC Time:**~~
Depth to Bottom (from meas. pt., ft.): 22.10 **Min. Purge Vol. (gal. or L):** 5.75 ~~**Purge Rate (gpm or mLpm):**~~

WQ Parameter Measurement Technique (circle): Flow-thru cell In-situ Open container

Time	Volume Purged (gal / L)	pH SU (+/- 0.1)	Conductivity mS/cm (+/- 3%)	Turbidity NTU (+/- 10% if > 10 NTU)	DO mg/L (+/- 10%)	Temperature °C (+/- 3%)	Eh / ORP mv (+/- 10 mV)	DTW ft.
10-19-22 1430	Ø	Gauge well. ~~Purge~~ Purge until dry at 3.25 gal.						10.46
1730	3.25	Purge additional 0.5 gal from well (Dry ~~at 3~~. again at 3.75 gal)						
10-20-22 0950	3.75	Take WQ readings, prepare to sample.						
↓	↓	7.98	1.39	59.2	4.34	11.97	-96	
1000 –	Samples taken. Fill NP 500mL poly for LIF NTAL (diss) due to high turbidity							

Sample Collection Information

Parameter	Bottle Type	Volume	Quantity	Preservative	Field Filtered(Y/N)	Sample Taken(Y/N)	Notes
Nitrobenzene	Amber	1L	2	None	N	Y	
Metals	Poly	500mL	1	HNO3	N	Y	
Metals (Diss.)	Poly	500mL	1	None	N	Y	To be lab filtered

Notes

INSTRUMENT QC/ PACKING LIST

Description	Horiba U-52/ U-53
Sonde ID#	21293
Display ID#	41877
Date Calibrated	10-17-22

PINE
www.pine-environmental.com

Standard Items	**Prepared**	**QC check**	**Received by customer**	**Returned to Pine**
Horiba U-52/ 53 w/ 6 ' cable and display w/ case	✓	✓		
Manual	✓	✓		
Quick reference card	✓	✓		
(4) C Alkaline batteries	✓	✓		
Probe Guard	✓	✓		
Calibration cup (clear)	✓	✓		
Sample cup (Black)	✓	✓		
Flow cell	✓	✓		
• Cell body	✓	✓		
• Center window	✓	✓		
• Base and black bottom	✓	✓		
• O-ring cover	✓	✓		
• Threaded ring	✓	✓		
• (2) black O-rings	✓	✓		
• (1) red O-ring	✓	✓		
• 2 of each black barb sizes (1/4, 3/8, and 1/2)	✓	✓		
D.O. probe reconditioning kit	✓	✓		
330 internal pH reference solution (1)	✓	✓		
250 ml Autocal solution	✓	✓		
ProCal calibration sheet	✓	✓		
Optional Items				
U-50 Data Collection Software				
USB Cable				

Prepared by: JZ
QC checked by: [illegible]
Date: 10-17-22

This packing list is to ensure that every item needed to operate the unit was sent and received. Upon receiving a shipment, please fill out the "Received by customer" column. Call Pine within 24 hours of receiving the equipment if any pieces are missing, damaged, or malfunctioning. Thank you for choosing Pine Environmental Services LLC

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
405 Cambridge Ave
Syracuse, NY 13208
Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 21293
Description Horiba U-52 Sonde
Calibrated 10/17/2022 11:32:56AM

Group # 5
Group Name Dissolved Oxygen Zero
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	mg/L	0.00	mg/L	0.00	0.00	0.00%	Pass

Group # 6
Group Name Temperature DO Span
Stated Accy Plus / Minus
Range Acc % 0.0000
Reading Acc % 0.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
20.00 / 19.00	degrees C	9.01	mg/L	9.01	9.01	0.00%	Pass

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date
NYS COND 5K - 2GD1050	NYS COND 5K	AquaPhoenix Scientific	31997			4/30/2023
NYS COND 718 - 2GD1046	NYS COND 718	AquaPhoenix Scientific	32088			4/30/2023
NYS COND 80K - 2GD1048	NYS COND 80K	Pine Environmental Services, Inc.	32060			4/30/2023
NYS DO ZERO - 2018061197	NYS DO ZERO	EMD	14547			
NYS ORP 240 - 2GC778	NYS ORP 240	AquaPhoenix Scientific	32001	2GC778		12/31/2022
NYS PH 4 - 1GF366	NYS PH 4	AquaPhoenix Scientific	32017	1GF366		6/30/2023
NYS PH 7 - 0GJ538	NYS PH 7	AquaPhoenix Scientific	32025	0GJ538		12/29/2022
NYS TURB 0 NTU - 21410018	0 NTU TURBIDITY STANDARD	AMCOCLEAR	32101			11/30/2022
NYS TURB 800 NTU - 2GD884	800 NTU TURBIDITY STANDARD	AquaPhoenix Scientific	33093	2GD884		4/30/2023

Notes about this calibration

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
405 Cambridge Ave
Syracuse, NY 13208
Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 21293
Description Horiba U-52 Sonde
Calibrated 10/17/2022 11:32:56AM

Manufacturer Horiba
Model Number U-52
Serial Number/ Lot Number 5943NDDM
Location New York
Department

State Certified
Status Pass
Temp °C 18
Humidity % 60

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	7.00	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.00	4.00	0.00%	Pass

Group # 2
Group Name Turbidity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	NTU	0.00	NTU	0.00	0.00	0.00%	Pass
800.00 / 800.00	NTU	800.00	NTU	800.00	800.00	0.00%	Pass

Group # 3
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.000 / 0.000	ms/cm	0.000	ms/cm	0.000	0.000	0.00%	Pass
0.718 / 0.718	ms/cm	0.718	ms/cm	0.718	0.718	0.00%	Pass
5.000 / 5.000	ms/cm	5.000	ms/cm	5.000	5.000	0.00%	Pass
80.000 / 80.000	ms/cm	80.000	ms/cm	80.000	80.000	0.00%	Pass

Group # 4
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	240.00	240.00	0.00%	Pass

Group # 5
Group Name Dissolved Oxygen Zero
Range Acc % 0.0000
Reading Acc % 3.0000

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

405 Cambridge Ave
Syracuse, NY 13208
Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 21293
Description Horiba U-52 Sonde
Calibrated 10/17/2022 11:32:56AM

Calibration Result Calibration Successful
Who Calibrated Joe Filippi

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
405 Cambridge Ave
Syracuse, NY 13208
Toll-free: (877) 903-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 41877
Description Horiba U-52 Display
Calibrated 10/17/2022 11:33:51AM

Manufacturer Horiba
Model Number U-5000
Serial Number/ Lot Number D0T20T4G
Location New York
Department

State Certified
Status Pass
Temp °C 18
Humidity % 60

Calibration Specifications

Group # 1
Group Name
Test Performed: Yes **As Found Result: Pass** **As Left Result: Pass**

Test Instruments Used During the Calibration **(As Of Cal Entry Date)**

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Next Cal Date / Last Cal Date/ Expiration Date Opened Date

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Joe Filippi

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

Location Outer Harbor '22 GWS (Resample) Date 10-19-2022

Project / Client HWI / Triannual GWS Resample

	MW-ID	DTW	DTB	WATER COLUMN	DIAMETER	PURGE VOLUME (GAL)	AMT PURGED
1550	GW-18R	10.10	20.60	10.50	2"	5.25	
1410	GW-19	12.64	19.05	6.41	2"	3.25	Dry @ 3.0
1400	GW-20	13.49	18.70	5.21	2"	2.5	2.5
1335	GW-21	8.54	19.25	10.71	2"	5.5	5.5
1520	GW-22	8.97	21.15	12.18	2"	6.0	Dry @ 5.25
1440	GW-23	10.46	22.10	11.64	2"	5.75	5.25

1730- Purge additional .75 gal from GW-22, .25 from GW-23.

BM

Location Buffalo Outer Harbor Date 10-20-2022

Project / Client HWI / Triannual GWS Resample

B. Harding

GW ~~-101~~ 123: Sampled at 1000. Took extra MTAL (L:F)

11.97 °C 7.38 pH -96 ORP mV 1.39 mS/cm 59.2 NTU 4.34 mg/L DO

GW-19: ~~0945~~ Sampled @ 0945. Take extra MTAL (L:F)

~~11.86~~ °C 11.89 pH -166 ORP mV 1.62 mS/cm 11.2 NTU 3.41 mg/L DO

GW-20: Sampled @ 0815. Took extra ~~filtered~~ sample (MTAL L:F)

13.27 °C 8.22 pH -148 ORP mV 0.938 mS/cm 55.6 NTU 10.77 mg/L DO

GW-21 Sampled @ 0920. Took extra MTAL sample (L:F)

12.66 °C 9.79 pH -243 ORP MV 0.291 mS/cm 13.9 NTU 2.66 mg/L DO

GW-22: Sampled @ 1040. Take MTAL (L:F) sample

12.82 °C 7.08 pH 92 ORP mV 2.51 mS/cm 50.2 NTU 9.97 mg/L DO

Location Buffalo Outer Harbor Date 10-20-2022

Project / Client NWI / Triennual GWS Resample

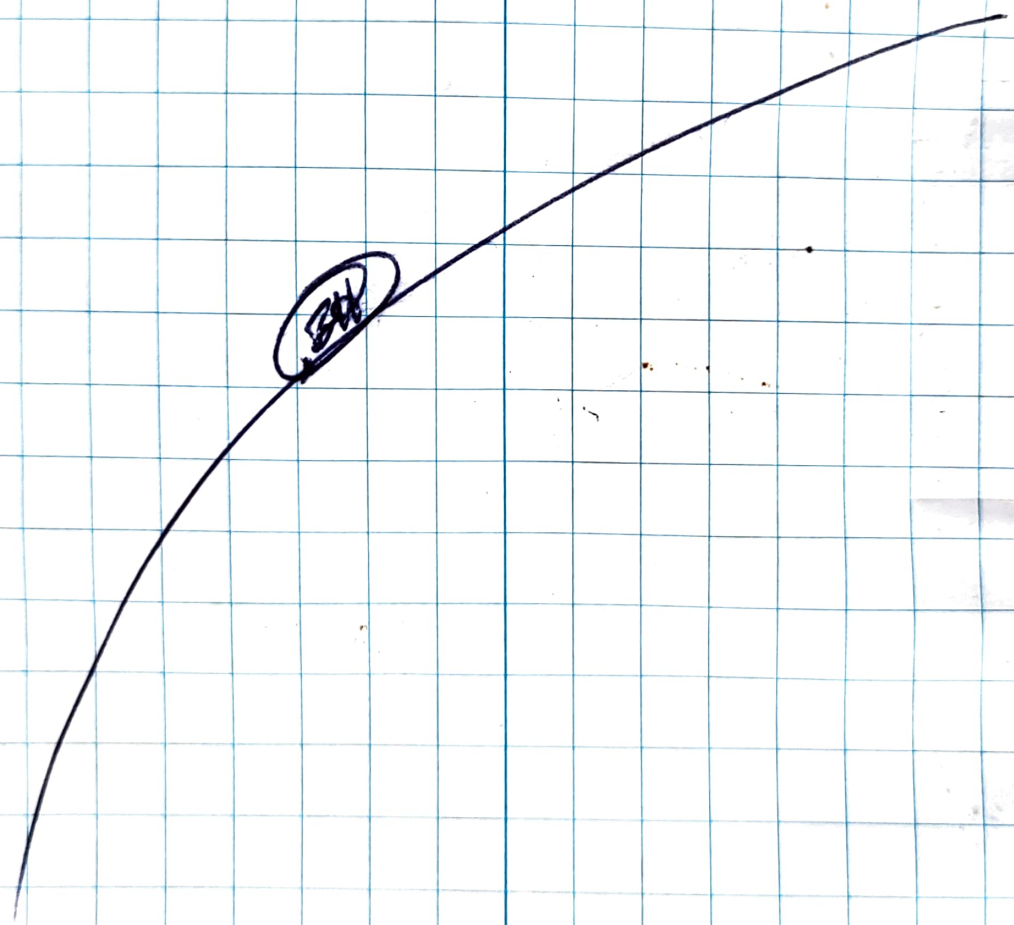
D. Heaney

GW-1BR! Sampled @ 1020. Took MTAL (L:F sample)

12.92 °C	7.41 pH	33 ORP mV	1.09 mS/cm	30.2 NTU	10.06 mg/L DO

Demob ~ 1100, pack coolers & ship via fedex

@ 1630.



ATTACHMENT B.6 SUMMARY OF DEPTH TO WATER MEASUREMENTS

Attachment B.5: Summary of Depth to Water Measurements

Well ID	Top of Well Cap Elevation	Top of Protective Stickup Pipe Elevation	Top of PVC Well Riser Elevation	9/15/2020		10/19/2021		9/14/2022	
				Depth to Water (ft.)	Groundwater Elevation	Depth to Water (ft.)	Groundwater Elevation	Depth to Water (ft.)	Groundwater Elevation
GW-18R	588.465	588.121	588.058	8.24	579.82	7.62	580.44	10.34	577.72
GW-19	587.196	587.186	586.873	12.08	574.79	5.74	581.13	12.92	573.95
GW-20	588.178	588.162	587.902	12.94	574.96	10.63	577.27	14.08	573.82
GW-21	586.942	586.921	586.614	8.24	578.37	5.92	580.69	8.23	578.38
GW-22	586.363	586.014	585.837	10.22	575.62	3.80	582.04	11.32	574.52
GW-23	586.520	586.192	586.004	11.50	574.50	6.31	579.69	12.86	573.14

Notes:

1) Elevations are in units of feet above mean sea level (ft-msl)

2) Depth to water measured from the Top of PVC Well Riser

Prepared By/Date: RTB 11/22/2022

Checked By/Date: MJF 11/23/2022