CH2M Boston
18 Tremont Street
Suite 700
Boston, MA 02108-2307
O +1 617 523 2002
F +1 617 723 9036
www.ch2m.com

U.S. Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square, Suite 100 (OEP06-01)
Boston, MA 02109
ATTN: EPA/OEP RGP Applications Coordinator

June 30, 2017

Subject: 2017 Remediation General Permit Notice of Intent—Former Bull HN Information Systems, Inc. Facility, Brighton, Massachusetts

To Whom It Concerns:

CH2M HILL Engineers, Inc. (CH2M) has prepared on behalf of Honeywell International Inc. this Notice of Intent (NOI) for a reapplication for coverage under the Massachusetts Remediation General Permit (RGP) for the Footer Drain (FD) system located at the corner of Guest Street and Life Street in Brighton, Massachusetts. The FD system treats groundwater from the perimeter of the basement of an adjacent building. Treated groundwater from the FD system is discharged into a municipal storm drainage system that ultimately discharges to the Charles River. Figure 1 presents the site location and discharge information map.

The FD system is currently covered under 2010 RGP permit MAG910077. On April 8, 2017, the U.S. Environmental Protection Agency published an updated permit (referred to as 2017 RGP). In accordance with the Massachusetts 2017 RGP, operators that are currently operating under the 2010 RGP must reapply for coverage by submitting an NOI. The FD system is expected to be classified as a Category VII—Collection Structure Dewatering/Remediation (Sub-category G—Sites with Known Contamination: A. Inorganics, B. Non-Halogenated Volatile Organic Compounds, and C. Halogenated Volatile Organic Compounds). The FD system's influent was sampled on May 16 and June 9, 2017, for the applicable constituents listed in Section D of the NOI in accordance with Part 4.2 of the 2017 RGP. The NOI form and associated analytical data summary, laboratory reports, and required supporting information are included with this letter and in Exhibits 1 through 6.

If you require any additional information or would like to discuss the plans for this system, please contact either of the undersigned at 617-626-7000.

Sincerely,

CH2M

Bradley Russell
Grade 5-C Operator

Kyle D. Block
Project Manager

cc: Mr. Steve Coladonato, Honeywell International Inc. (Owner)

Enclosures:
Footer Drain System Notice of Intent
Figure 1—Site Location and Discharge Information Map
Exhibit 1—Receiving Water Information
- A. Footer Drain System Dilution Factor Calculations
- B. State Approval of Dilution Factor Calculations
- C. Receiving Water Sampling Data Summary

Exhibit 2—Discharge Information
- A. BWSC Notification of Discharge
- B. Footer Drain System Influent Sampling Data Summary

Exhibit 3—Footer Drain System Flow Schematic
Exhibit 4—Endangered Species Act Supporting Information
Exhibit 5—National Historic Preservation Act Supporting Information
Exhibit 6—Laboratory Analytical Reports and Chain-of-Custody Forms

Footer Drain System
Notice of Intent

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Former Bull HN Information Systems, Inc</td><td colspan="3">Site address: 38 Life Street
Street:</td></tr>
<tr><td>City: Brighton</td><td>State: MA</td><td>Zip: 02135</td></tr>
<tr><td rowspan="4">2. Site owner
Honeywell International Inc.

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Steven Coladonato</td></tr>
<tr><td colspan="2">Telephone: 302-791-6738</td><td>Email: steven.coladonato@honeywell.co</td></tr>
<tr><td colspan="3">Mailing address: 6100 Philadelphia Pike
Street:</td></tr>
<tr><td>City: Claymont</td><td>State: DE</td><td>Zip: 19703</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Bradly Russell, Grade 5-C Operator
Wastewater operator certification #2864

CH2M HILL, Inc.
18 Tremont Street, Suite 700, Boston MA 02108
Telephone: 617-523-2002</td><td colspan="3">Contact Person: Kyle D. Block, CH2M HILL, Inc.</td></tr>
<tr><td colspan="2">Telephone: 617-626-7013</td><td>Email: kyle.block@ch2m.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 18 Tremont Street, Suite 700</td></tr>
<tr><td>City: Boston</td><td>State: MA</td><td>Zip: 02108</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
MAG910077

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s): RTN 3-00158

☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:

☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Lower Charles River	Segment MA72-38	Class B

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes ☐ No

Are sensitive receptors present near the site? (check one): ☐ Yes ■ No
If yes, specify:

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. ***Refer to note at the bottom of this page.***

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	24.3 cfs
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	1091.7

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No
If yes, indicate date confirmation received: June 16, 2017 (via email, see Exhibit 1B)

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No

C. Source water information:

1. Source water(s) is (check any that apply):

■ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ■ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

Answer to B.3: Lower Charles River is listed on the *Massachusetts Year 2014 Integrated List of Waters* (CWA Sections 305(b), 314 and 303(d)). Impaired designated uses include aquatic life support and recreational use. Indicated pollutants are: unknown toxicity; priority organics; metals; nutrients; organic enrichment/low dissolved oxygen; pathogens; oil and grease; taste, odor, and color; noxious aquatic plants; and turbidity (http://www.mass.gov/eea/docs/dep/water/resources/a-thru-m/charlesp.pdf). Final TMDLs are available for phosphorous, nutrients and pathogens (http://www.mass.gov/eea/agencies/massdep/water/watersheds/total-maximum-daily-loads-tmdls.html#9).

2. Source water contaminants: Volatile Organic Compounds, Chloride, Iron, Copper, Nickel, Zinc, and Cyanide.	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ■ Yes ☐ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ■ Existing discharge ☐ New discharge ☐ New source	
Outfall(s): Discharge of treated sump water from a building's footer drain (FD) system.	Outfall location(s): (Latitude, Longitude) (Latitude 42.356747, Longitude -71.147594)
Discharges enter the receiving water(s) via (check any that apply): ■ Direct discharge to the receiving water ☐ Indirect discharge, if so, specify: N/A ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ■ No, if so, explain, with an estimated timeframe for obtaining permission: Notification sent on June 16, 2017. Approval to be obtained within one month of notification submittal (expected by July 17, 2017). Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ■ No	
Provide the expected start and end dates of discharge(s) (month/year): April 8, 2017 to April 8, 2022 Indicate if the discharge is expected to occur over a duration of: ☐ less than 12 months ■ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
☐ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
■ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>■ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

■ A. Inorganics
■ B. Non-Halogenated Volatile Organic Compounds
■ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia	✓		0	NA	NA	NA	NA	Report mg/L	---
Chloride		✓	1	E300.0	350	1,320,000	NA	Report µg/l	---
Total Residual Chlorine	✓		0	NA	NA	NA	NA	0.2 mg/L	NA
Total Suspended Solids	✓		0	NA	NA	NA	NA	30 mg/L	NA
Antimony	✓		0	NA	NA	NA	NA	206 µg/L	NA
Arsenic	✓		0	NA	NA	NA	NA	104 µg/L	NA
Cadmium	✓		0	NA	NA	NA	NA	10.2 µg/L	NA
Chromium III	✓		0	NA	NA	NA	NA	323 µg/L	NA
Chromium VI	✓		0	NA	NA	NA	NA	323 µg/L	NA
Copper		✓	1	E200.8	0.14	2.3	NA	242 µg/L	NA
Iron		✓	1	E200.8	2.0	188	NA	5,000 µg/L	NA
Lead	✓		0	NA	NA	NA	NA	160 µg/L	NA
Mercury	✓		0	NA	NA	NA	NA	0.739 µg/L	NA
Nickel		✓	1	E200.8	0.11	19.3	NA	1,450 µg/L	NA
Selenium	✓		0	NA	NA	NA	NA	235.8 µg/L	NA
Silver	✓		0	NA	NA	NA	NA	35.1 µg/L	NA
Zinc		✓	1	E200.8	1.2	7.7	NA	420 µg/L	NA
Cyanide		✓	1	334.5	0.0047mg/L	0.13 mg/L	NA	178 mg/L	NA
B. Non-Halogenated VOCs									
Total BTEX	✓		0	NA	NA	NA	NA	100 µg/L	---
Benzene	✓		0	NA	NA	NA	NA	5.0 µg/L	---
1,4 Dioxane		✓	1	624	27	29.1	NA	200 µg/L	---
Acetone	✓		0	NA	NA	NA	NA	7.97 mg/L	---
Phenol	✓		0	NA	NA	NA	NA	1,080 µg/L	NA

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✓		0	NA	NA	NA	NA	4.4 µg/L	NA
1,2 Dichlorobenzene	✓		0	NA	NA	NA	NA	600 µg/L	---
1,3 Dichlorobenzene	✓		0	NA	NA	NA	NA	320 µg/L	---
1,4 Dichlorobenzene	✓		0	NA	NA	NA	NA	5.0 µg/L	---
Total dichlorobenzene	✓		0	NA	NA	NA	NA	763 µg/L in NH	---
1,1 Dichloroethane		✓	1	E624	0.32	27.4	NA	70 µg/L	---
1,2 Dichloroethane		✓	1	E624	0.32	0.51	NA	5.0 µg/L	---
1,1 Dichloroethylene		✓	1	E624	0.57	5.1	NA	3.2 µg/L	---
Ethylene Dibromide	✓		0	NA	NA	NA	NA	0.05 µg/L	---
Methylene Chloride	✓		0	NA	NA	NA	NA	4.6 µg/L	---
1,1,1 Trichloroethane		✓	1	E624	0.36	2.4	NA	200 µg/L	---
1,1,2 Trichloroethane	✓		0	NA	NA	NA	NA	5.0 µg/L	---
Trichloroethylene		✓	1	E624	0.24	18.8	NA	5.0 µg/L	---
Tetrachloroethylene	✓		0	NA	NA	NA	NA	5.0 µg/L	NA
cis-1,2 Dichloroethylene		✓	1	E624	0.54	81.5	NA	70 µg/L	---
Vinyl Chloride	✓		0	NA	NA	NA	NA	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓		0	NA	NA	NA	NA	190 µg/L	NA
Diethylhexyl phthalate	✓		0	NA	NA	NA	NA	101 µg/L	NA
Total Group I PAHs	✓		0	NA	NA	NA	NA	1.0 µg/L	---
Benzo(a)anthracene	✓		0	NA	NA	NA	NA	As Total PAHs	NA
Benzo(a)pyrene	✓		0	NA	NA	NA	NA		NA
Benzo(b)fluoranthene	✓		0	NA	NA	NA	NA		NA
Benzo(k)fluoranthene	✓		0	NA	NA	NA	NA		NA
Chrysene	✓		0	NA	NA	NA	NA		NA
Dibenzo(a,h)anthracene	✓		0	NA	NA	NA	NA		NA
Indeno(1,2,3-cd)pyrene	✓		0	NA	NA	NA	NA		NA

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs	✓		0	NA	NA	NA	NA	100 µg/L	---
Naphthalene	✓		0	NA	NA	NA	NA	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✓		0	NA	NA	NA	NA	0.000064 µg/L	---
Pentachlorophenol	✓		0	NA	NA	NA	NA	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✓		0	NA	NA	NA	NA	5.0 mg/L	---
Ethanol	✓		0	NA	NA	NA	NA	Report mg/L	---
Methyl-tert-Butyl Ether	✓		0	NA	NA	NA	NA	70 µg/L	NA
tert-Butyl Alcohol	✓		0	NA	NA	NA	NA	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		0	NA	NA	NA	NA	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
pH	✓		1	E4500-H+	0.01 SU	7.87 SU	NA		NA
Temperature	✓		1	E2550B-2	0.1 C	21.1 C	NA		NA
Hardness	✓		1	SM2340C	2.5 mg/L	683 mg/L	NA		NA

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

■ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ■ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
■ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ☐ Separation/Filtration ☐ Other; if so, specify:

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.

The treatment system consists of one sump pump, a bag filter, two liquid GAC tanks, and two ion exchange resin tanks, which include a pre-filter. Following treatment, the groundwater is discharged to a stormwater catch basin at the site, which subsequently discharges to the Charles River.

Identify each major treatment component (check any that apply):

☐ Fractionation tanks■ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ☐ Media filter
☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ■ Other; if so, specify: Two liquid GAC tanks and two ion exchange resin tanks.

Indicate if either of the following will occur (check any that apply):

☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: System operated on batch basis only and dependent upon weekly volume accumulated within footer drain sump. Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	10
Provide the proposed maximum effluent flow in gpm.	10
Provide the average effluent flow in gpm.	6
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	N/A

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ■ Yes ☐ No

F. Chemical and additive information *-- This Section does not apply*

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☐ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:
None

2. Provide the following information for each chemical/additive, using attachments, if necessary:

a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ☐ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive?
(check one): ☐ Yes ☐ No

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

☐ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ☐ Yes ☐ No; if no, is consultation underway? (check one): ☐ Yes ☐ No

☐ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ☐ the operator ☐ EPA ☐ Other; if so, specify:

☐ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ☐ Yes ☐ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ■ Yes ☐ No

Exhibit 4 contains the corresponding supporting documentation.

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ■ Yes ☐ No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

☐ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes ☐ No

The existing permitted discharge involves activities and BMPs which do not require construction activities. The treatment system is established and contained in a building, hence determination on whether historic properties were affected was made through visual inspection. Exhibit 5 contains the pertinent summary statement .

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ■ No

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Figure 1 - Site Location and Discharge Information Map. Exhibits: 1 - Receiving Water Information, 2 - Discharge Information, 3 - Footer Drain System Flow Schematic, 4 - Endangered Species Act Supporting Information, 5 - National Historic Preservation Act Supporting Information, and 6 - Laboratory Analytical Reports and Chains of Custody

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ■ Yes ☐ No

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BMPP certification statement:	A BMPP in the form of several site documents (Operation and Maintenance, Health and Safety, Waste Management, Sampling and Analysis and Quality Assurance Plans) is currently retained on-site and and updated annually by CH2M HILL, Inc, in accordance with good engineering practices and the 2017 RGP, Parts 2.5.1 and 2.5.2. All provisions are being adhered to, all inspection and maintenance activities are being conducted, results are recorded, and records are maintained in compliance with the BMPP. All elements of the BMPP have been developed and are currently being implemented without deviation.
Notification provided to the appropriate State, including a copy of this NOI, if required. *This is a site regulated under the MCP, hence State notification is not required as per Appendix IV of the RGP.*	Check one: Yes ☐ No ■
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ■ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ■ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ■ No ☐ NA ☐
Signature: 	Date: 06/30/2017
Print Name and Title: Bradley Russell/Operator (on behalf of Honeywell International, Inc./Owner)	

Figure 1
Site Location and Discharge Information Map

Outfall Sample Location
Collected on 05/16/2017
Coordinates:
(Lat 42.356747, Long -71.147594)
pH = 6.82 SU
Temperature = 12.97 C

Receiving Water Sample Location
Collected on 05/16/2017
Coordinates:
(Lat 42.364167, Long -71.139722)
pH = 7.06 SU
Temperature = 18.28 C

Lower Charles River

Soldiers Field Road

Guest Street

Site Property Boundary

Storm Drain Line

Influent/Effluent Monitoring Points

Location of Treatment Plant
5 Guest Street
Brighton MA 02135

Flow path and direction from the point of generation to the receiving water

Brighton, MA

25E037
25D040
24D150
24D032
26G001
26F038
24G035

VICINITY MAP

LEGEND

SEWER SYSTEM FEATURES
- CATCH BASIN
- OUTFALL

SEWER SYSTEM MANHOLES
- COMBINED
- COMBINED SEWER OVERFLOW
- SANITARY
- STORM
- UNKNOWN

SEWER PIPES
- SANITARY
- STORM
- COMBINED
- COMBINED SEWER OVERFLOW
- CATCHBASIN PIPE

TRANSPORTATION FEATURES
- CURBLINE
- BRIDGE
- RAILROAD
- SIDEWALK/WALKWAY
- TUNNEL

BASEMAP FEATURES
- HYDROGRAPHY
- DRAINAGE AREA
- PARKING AREA
- BUILDING

N

0 160 320 480
FEET

FIGURE1
Site Location and Discharge Information Map

Former Bull HN Information Systems Facility
Reference: BWSC GIS (April 2009)

ch2m

I:\LOK\PROJECTS\RDDGIS\BOSTON_WATER_SEWER_377501\MAPFILES\DRAINAGE_AREA_MAPS.MXD 12/16/2008 09:43:45 DRAINAGE AREA SHEET: 11MD93

Exhibit 1
Receiving Water Information

Exhibit 1A
Footer Drain System Dilution Factor Calculations

Footer Drain System - Dilution Factor Calculations

DF = (Qd + Qs)/Qd

Where:
DF = Dilution Factor
Qd = Discharge flow equal to design flow or 1 million gallons per day (MGD)
Qs = Receiving water 7Q10 flow where, 7Q10 is the minimum flow for 7 consecutive days with a recurrence interval of 10 years (MGD)

The receiving water for the FD system is the Lower Charles River via storm drain.
The Charles River 7Q10 Flow is based on information obtained from USGS stream stats website and using the approximate location of the Outfall into the Charles River (Outfall #25E037):
7Q10 = 24.3 CFS (http://streamstats.usgs.gov)

1.0 GPM = 0.002228 CFS

FD system effluent maximum flow based on treatment system design:
10 gallons per minute (GPM) = 0.0223 CFS

1 CFS = 0.646316889697 MGD (US gallons)

Qd = 0.0223 CFS*0.646 MGD/CFS = 0.01441 MGD
Qs = 24.3 CFS* 0.646 MGD/CFS = 15.7055 MGD

Footer Drain System DF
= (0.01441 MGD + 15.7055 MGD) / 0.01441 MGD
= 15.7199/0.01441

DF = 1091.7

Inorganic Parameters in the FD System	May 16, 2017 Influent Concentration (µg/L)	TBEL with DF Applied (µg/L)
Ammonia	NA	--
Chloride	1,320,000	--
Total Residual Chlorine	NA	200
Total Suspended Solids	NA	30,000
Antimony	NA	206
Arsenic	NA	104
Cadmium	NA	10.2
Chromium III	NA	323
Chromium VI	NA	323
Copper	2.3	242
Iron	188	5,000
Lead	NA	160
Mercury	NA	0.739
Nickel	19.3	1,450
Selenium	NA	235.8
Silver	NA	35.1
Zinc	7.7	420
Cyanide*	130	178,000

Notes:

The FD system is expected to be classified as a Category VII - Collection Structure Dewatering/Remediation (Sub-category G – Sites with known contamination: A. Inorganics, B. Non-Halogenated Volatile Organic Compounds, and C. Halogenated Volatile Organic Compounds).

Water Quality Based Effluent Limits do not apply per the DF calculations spreadsheet.

No exceedances of the respective effluent limits were identified after the DF has been applied.

NA = Not Analyzed. Parameter known or believed absent, and not required to be analyzed for according to Activity Category sampling requirements in 2017 RGP.

ND = Not detected above the laboratory method detection limit

TBEL = Technology Based Effluent Limit

µg/L: micrograms/ liters

*Cyanide was analyzed as Weak Dissociable Cyanide instead of Total Cyanide in the May 16 sample. Influent was re-sampled on June 9, 2017 and analyzed for Total Cyanide. In both instances, results were detected above the laboratory minimum detection limit.

StreamStats Report - Former Bull HN Information Systems Facility

Region ID:

MA

Workspace ID:

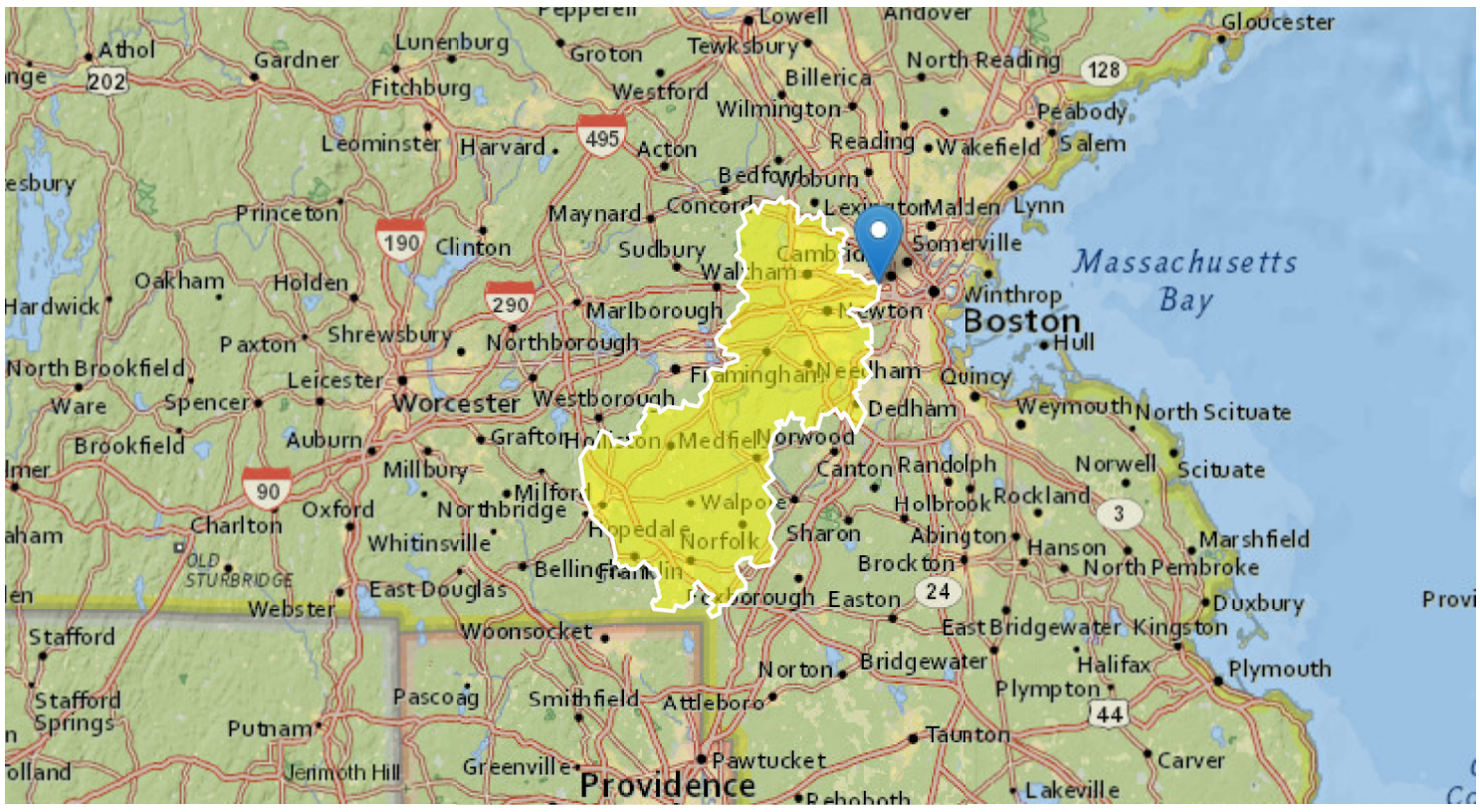
MA20170403123524504000

Clicked Point (Latitude, Longitude):

42.36539, -71.13845

Time:

2017-04-03 14:35:50 -0400



Drainage area corresponds to approximate location of discharge outfall

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	279	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	0.23	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	2.342	percent

Low-Flow Statistics Parameters [100 Percent (279 square miles) Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	279	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.23	square mile per mile	0	1.29
BSLDEM250	Mean Basin Slope from 250K DEM	2.342	percent	0.32	24.6
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Disclaimers [100 Percent (279 square miles) Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [100 Percent (279 square miles) Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit
7 Day 2 Year Low Flow	48.9	ft^3/s
7 Day 10 Year Low Flow	24.3	ft^3/s

Low-Flow Statistics Citations

StreamStats Version 3.0

Flow Statistics Ungaged Site Report

Date: Mon Apr 3, 2017 3:34:01 PM GMT-4
Study Area: Massachusetts
NAD 1983 Latitude: 42.3655 (42 21 56)
NAD 1983 Longitude: -71.1382 (-71 08 18)
Drainage Area: 279 mi2

Low Flows Basin Characteristics			
100% Statewide Low Flow WRIR00 4135 (279 mi2)			
Parameter	**Value**	**Regression Equation Valid Range**	
		Min	**Max**
Drainage Area (square miles)	279 (above max value 149)	1.61	149
Mean Basin Slope from 250K DEM (percent)	2.342	0.32	24.6
Stratified Drift per Stream Length (square mile per mile)	0.23	0	1.29
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Probability of Perennial Flow Basin Characteristics			
100% Perennial Flow Probability (279 mi2)			
Parameter	**Value**	**Regression Equation Valid Range**	
		Min	**Max**
Drainage Area (square miles)	279 (above max value 1.99)	0.01	1.99
Percent Underlain By Sand And Gravel (percent)	47.20	0	100
Percent Forest (percent)	42.61	0	100
Massachusetts Region (dimensionless)	0	0	1

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Low Flows Statistics						
Statistic	**Value**	**Unit**	**Prediction Error (percent)**	**Equivalent years of record**	**90-Percent Prediction Interval**	
					Min	**Max**
D50	298	ft3/s				
D60	246	ft3/s				
D70	169	ft3/s				
D75	138	ft3/s				
D80	108	ft3/s				
D85	86.8	ft3/s				
D90	67.7	ft3/s				
D95	45.7	ft3/s				
D98	30.5	ft3/s				
D99	25.3	ft3/s				
M7D2Y	48.9	ft3/s				
AUGD50	93	ft3/s				
M7D10Y	24.3	ft3/s				

http://pubs.usgs.gov/wri/wri004135/ (http://pubs.usgs.gov/wri/wri004135/)
Ries_ K.G._ III_ 2000_ Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135_ 81 p.

Probability of Perennial Flow Statistics						
Statistic	**Value**	**Unit**	**Standard Error (percent)**	**Equivalent years of record**	**90-Percent Prediction Interval**	
					Min	**Max**
PROBPEREN	1	dim				

http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)
Bent_ G.C._ and Steeves_ P.A._ 2006_ A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006-5031_ 107 p.

Enter number values in green boxes below

Enter values in the units specified

↓

15.706	Q_R = Enter upstream flow in **MGD**
0.014	Q_P = Enter discharge flow in **MGD**
15.7	Downstream 7Q10

Notes:

Freshwater: critical low flow equal to the 7Q10; enter alternate low flow if approved by the State
Saltwater (estuarine and marine): enter critical low flow if approved by the State; enter 0 if no entry
Discharge flow is equal to the design flow or 1 MGD, whichever is less
Optional entry for Q_s; leave 0 if no entry

Enter a dilution factor, if other than zero

↓

1091.7

Saltwater (estuarine and marine): only if approved by the State
Leave 0 if no entry

Enter values in the units specified

↓

683	C_d = Enter influent hardness in **mg/L** $CaCO_3$
66.3	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$

Enter **receiving water** concentrations in the units specified

↓

7.06	pH in **Standard Units**
18.28	Temperature in **°C**
0	Ammonia in **mg/L**
66.3	Hardness in **mg/L** $CaCO_3$
0	Salinity in **ppt**
0.3	Antimony in **µg/L**
0.5	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0.6	Chromium III in **µg/L**
0.093	Chromium VI in **µg/L**
3	Copper in **µg/L**
620	Iron in **µg/L**
2.1	Lead in **µg/L**
0	Mercury in **µg/L**
0.9	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
9.1	Zinc in **µg/L**

pH, temperature, and ammonia required for all discharges
Hardness required for freshwater
Salinity required for saltwater (estuarine and marine)
Metals required for all discharges if present and if dilution factor is > 1
Enter 0 if non-detect or testing not required

Enter **influent** concentrations in the units specified

↓

0	TRC in **µg/L**
0	Ammonia in **mg/L**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
2.3	Copper in **µg/L**
188	Iron in **µg/L**
0	Lead in **µg/L**
0	Mercury in **µg/L**
19.3	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
7.7	Zinc in **µg/L**
130	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

if >1 sample, enter maximum
if >10 samples, may enter 95th percentile
Enter 0 if non-detect or testing not required

I. Dilution Factor Calculation Method

A. 7Q10

Refer to Appendix V for determining critical low flow; must be approved by State before use in calculations.

B. Dilution Factor

Calculated as follows: $Df = \frac{Q_R + Q_P}{Q_P}$

Q_R = 7Q10 in MGD

Q_P = Discharge flow, in MGD

II. Effluent Limitation Calculation Method

A. Calculate Water Quality Criterion:

Step 1. Downstream hardness, calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream hardness in mg/L

Q_d = Discharge flow in MGD

C_d = Discharge hardness in mg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Upstream (receiving water) hardness in mg/L

Q_r = Downstream receiving water flow in MGD

Step 2. Total recoverable water quality criteria for hardness-dependent metals, calculated as follows:

Total Recoverable Criteria = $\exp\{m_c [\ln(h)] + b_c\}$

m_c = Pollutant-specific coefficient (m_a for silver)

b_c = Pollutant-specific coefficient (b_a for silver)

ln = Natural logarithm

h = Hardness calculated in Step 1

Step 3. Total recoverable water quality criteria for non-hardness-dependent metals, calculated as follows:

$$\text{WQC in µg/L} = \frac{\text{dissolved WQC in µg/L}}{\text{dissolved to total recoverable factor}}$$

B. Calculate WQBEL:

Step 1. WQBEL calculated as follows for parameter sampled in and detected in the receiving water:

$$C_d = \frac{Q_r C_r - Q_s C_s}{Q_d}$$

C_r = Water quality criterion in µg/L

Q_d = Discharge flow in MGD

C_d = WQBEL in µg/L

Q_s = Upstream flow (7Q10) in MGD

C_s = Ustream (receiving water) concentration in µg/L

Q_r = Downstream receiving water flow in MGD

Step 2. WQBEL calculated as follows for parameter not sampled in or not detected in receiving water:

$$C_d = (Q_r/Q_d) \times C_r$$

C_r = Water quality criterion in µg/L
Q_d = Discharge flow in MGD
Q_r = Downstream receiving water flow in MGD

C. Determine if a WQBEL applies:

Step 1. For parameter sampled in and detected in receiving water, downstream concentrations calculated as follows:

$$C_r = \frac{Q_d C_d + Q_s C_s}{Q_r}$$

C_r = Downstream concentration in µg/L
Q_d = Discharge flow in MGD
C_d = Influent concentration in µg/L
Q_s = Upstream flow (7Q10) in MGD
C_s = Upstream (receiving water) concentration in µg/L
Q_r = Downstream receiving water flow in MGD

The WQBEL applies if:

1) the projected downstream concentration calculated in accordance with Step 1, above, and the discharge concentration of a parameter are greater than the WQC calculated for that parameter in accordance with II.A, above
AND
2) the WQBEL determined for that parameter in accordance with II.B, above, is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in Part 2.1.1

of the RGP for that parameter applies.

Step 2. For a parameter not sampled in or not detected in receiving water, the WQBEL applies if:

1) the discharge concentration of a parameter is greater than the WQBEL determined for that parameter in accordance with II.A or II.B, above;
AND
2) the WQBEL determined for that parameter in accordance with II.A or II.B, above is less than the TBEL in Part 2.1.1 of the RGP for that parameter. Otherwise, the TBEL in

Part 2.1.1 of the RGP for that parameter applies.

Dilution Factor	1091.7					
A. Inorganics	TBEL applies if bolded		WQBEL applies if bolded		Compliance Level applies if shown	
Ammonia	**Report**	mg/L	---			
Chloride	**Report**	µg/L	---			
Total Residual Chlorine	**0.2**	mg/L	11997	µg/L	---	µg/L
Total Suspended Solids	**30**	mg/L	---			
Antimony	**206**	µg/L	697695	µg/L		
Arsenic	**104**	µg/L	10361	µg/L		
Cadmium	**10.2**	µg/L	0.2010	µg/L		
Chromium III	**323**	µg/L	66994.0	µg/L		
Chromium VI	**323**	µg/L	12369.7	µg/L		
Copper	**242**	µg/L	3947.3	µg/L		
Iron	**5000**	µg/L	414451	µg/L		
Lead	**160**	µg/L	1.91	µg/L		
Mercury	**0.739**	µg/L	988.01	µg/L		
Nickel	**1450**	µg/L	39523.2	µg/L		
Selenium	**235.8**	µg/L	5453.3	µg/L		
Silver	**35.1**	µg/L	2068.8	µg/L		
Zinc	**420**	µg/L	83064.4	µg/L		
Cyanide	**178**	mg/L	5671.4	µg/L	---	µg/L
B. Non-Halogenated VOCs						
Total BTEX	**100**	µg/L	---			
Benzene	**5.0**	µg/L	---			
1,4 Dioxane	**200**	µg/L	---			
Acetone	**7970**	µg/L	---			
Phenol	**1,080**	µg/L	327198	µg/L		
C. Halogenated VOCs						
Carbon Tetrachloride	**4.4**	µg/L	1745.1	µg/L		
1,2 Dichlorobenzene	**600**	µg/L	---			
1,3 Dichlorobenzene	**320**	µg/L	---			
1,4 Dichlorobenzene	**5.0**	µg/L	---			
Total dichlorobenzene	**---**	µg/L	---			
1,1 Dichloroethane	**70**	µg/L	---			
1,2 Dichloroethane	**5.0**	µg/L	---			
1,1 Dichloroethylene	**3.2**	µg/L	---			
Ethylene Dibromide	**0.05**	µg/L	---			
Methylene Chloride	**4.6**	µg/L	---			
1,1,1 Trichloroethane	**200**	µg/L	---			
1,1,2 Trichloroethane	**5.0**	µg/L	---			
Trichloroethylene	**5.0**	µg/L	---			
Tetrachloroethylene	**5.0**	µg/L	3599.2	µg/L		
cis-1,2 Dichloroethylene	**70**	µg/L	---			
Vinyl Chloride	**2.0**	µg/L	---			

D. Non-Halogenated SVOCs						
Total Phthalates	190	µg/L	---	µg/L		
Diethylhexyl phthalate	**101**	µg/L	2399.5	µg/L		
Total Group I Polycyclic Aromatic Hydrocarbons	**1.0**	µg/L	---			
Benzo(a)anthracene	**1.0**	µg/L	4.1445	µg/L	---	µg/L
Benzo(a)pyrene	**1.0**	µg/L	4.1445	µg/L	---	µg/L
Benzo(b)fluoranthene	**1.0**	µg/L	4.1445	µg/L	---	µg/L
Benzo(k)fluoranthene	**1.0**	µg/L	4.1445	µg/L	---	µg/L
Chrysene	**1.0**	µg/L	4.1445	µg/L	---	µg/L
Dibenzo(a,h)anthracene	**1.0**	µg/L	4.1445	µg/L	---	µg/L
Indeno(1,2,3-cd)pyrene	**1.0**	µg/L	4.1445	µg/L	---	µg/L
Total Group II Polycyclic Aromatic Hydrocarbons	**100**	µg/L	---			
Naphthalene	**20**	µg/L	---			
E. Halogenated SVOCs						
Total Polychlorinated Biphenyls	**0.000064**	µg/L	---		0.5	µg/L
Pentachlorophenol	**1.0**	µg/L	---			
F. Fuels Parameters						
Total Petroleum Hydrocarbons	**5.0**	mg/L	---			
Ethanol	**Report**	mg/L	---			
Methyl-tert-Butyl Ether	**70**	µg/L	21813	µg/L		
tert-Butyl Alcohol	**120**	µg/L	---			
tert-Amyl Methyl Ether	**90**	µg/L	---			

Exhibit 1B
State Approval of Dilution Factor Calculations

From: Vakalopoulos, Catherine (DEP)
To: Vidal, Maria/BOS
Cc: Greenberg, Matthew/BOS
Subject: RE: Request for Approval of Dilution Factor Calculations [EXTERNAL]
Date: Friday, June 16, 2017 12:03:55 PM

Hi Maria,

I've checked over the calculations for both systems. The Charles River 7Q10 of 15.7055 MGD, footer drain system discharge dilution factor of 1090.7, and migration control system discharge dilution factor of 364.6 are all correct. You are all set from me. Shauna Little at EPA is the one who will review the calculated WQBELs as she prepares the EPA authorization.

Have a nice weekend.

Cathy

Cathy Vakalopoulos, Massachusetts Department of Environmental Protection
1 Winter St., Boston, MA 02108, 617-348-4026
Please consider the environment before printing this e-mail

From: Vidal, Maria/BOS [mailto:Maria.Vidal@ch2m.com]
Sent: Thursday, June 15, 2017 4:33 PM
To: Vakalopoulos, Catherine (DEP)
Cc: Greenberg, Matthew/BOS
Subject: Request for Approval of Dilution Factor Calculations

Dear Ms. Vakalopoulos,

CH2M is managing a the Former Bull HN Facility site in Brighton, MA. We are applying for renewed coverage to discharge remediation-related groundwater from two groundwater extraction and treatment systems under the 2017 NPDES Remediation General Permit (RGP) for MA through a Notice of Intent (NOI). Please review the attached dilution factor calculations for these two systems, the Migration Control (MC) system and Footer Drain (FD) system, located at the corner of Guest Street and Life Street in Brighton, Massachusetts. The MC system treats groundwater from two extraction wells, and the FD system treats groundwater from a perimeter drain within the basement of an adjacent building. Treated groundwater is discharged into a BWSC storm drainage system that ultimately discharges to the Charles River.

As required by the 2017 RGP, prior to completing the NOI requirements, the Massachusetts Department of Environmental Protection must confirm the critical low flow (7Q10) of the receiving water, dilution factor (DF), other appropriate hydrologic conditions, or to confirm site-specific limiting factors, including additional water quality-based effluent limitations (WQBELs). As a result, we are contacting you to request this confirmation and review.

We have included all the information we used to determine the DF for each system, and populated the calculations spreadsheet included within Appendix V of the RGP with the respective influent and receiving water sample results.

Please let me know if you have any questions or require additional information.

Thanks,

Maria Vidal, M.S.
Environmental Engineer
D 617 626 7073
M 978 427 1801
CH2M
18 Tremont Street, Suite 700
Boston, MA 02108
www.ch2m.com | LinkedIn | Twitter | Facebook

Exhibit 1C
Receiving Water Sampling Data Summary

Operator: Bradly Russell/CH2M HILL, Inc. - email: Bradley.Russell@ch2m.com - Telephone: 617-523-2002
Former Bull HN Information Systems, Inc
RGP Permit # – MAG910077
Influent/Effluent Sampling Location: Footer Drain System located at 5 Guest Street, Brighton MA
Outfall Effluent Sampling Location: Charles River Outfall. Coordinates (Latitude 42.356747, Longitude -71.147594)

See separate worksheet for receiving water
See separate worksheets for each contamination type
Enter additional parameters, if necessary

Enter Activity Category

Category VII—Collection Structure Dewatering / Remediation (Sub-category G [A, B and C])		Effluent Flow	Influent pH	Effluent pH	WET (Category I & II)		Influent Temp	Effluent Temp
Check units	→	MGD	SU	SU	LC_{50} (%)	NOEC	°C	°C
Enter test method	→	BMP	EPA4500-H+ B-2000	EPA4500-H+ B-2000			EPA2550 B-2000	EPA2550 B-2000
Enter permit limit	→							
Min		0.0144	7.87	6.82	0	0	21.1	12.97
Max		0.0144	7.87	6.82	0	0	21.1	12.97
Avg		0.0144	7.87	6.82	#DIV/0!	#DIV/0!	21.1	12.97
# of measurements		1	1	1	0	0	1	1
Enter sample date		Enter results; parameters that are not applicable can be left blank						
6/5/2017		0.0144	7.87	6.82			21.1	12.97

Operator: Bradly Russell/CH2M HILL, Inc. - email: Bradley.Russell@ch2m.com - Telephone: 617-523-2002
Former Bull HN Information Systems, Inc
RGP Permit # – MAG910077
Lower Charles River
Segment MA72-38 - Receiving Water Sample Coordinates: (Latitude 42.364167, Longitude -71.139722)

Enter Activity Category ↓ Category VII—Collection Structure Dewatering / Remediation (Sub-category G [A, B and C])		pH	Temp	Ammonia	Antimony	Arsenic	Cadmium	Chromium III	Chromium VI	Copper	Iron	Lead	Mercury	Nickel	Selenium	Silver	Zinc	Hardness (Freshwater)	Salinity (Saltwater)
Check units	→	SU	°C	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	
Enter test method	→	EPA4500-H+ B-2000	EPA2550 B-2000	SM4500NH3-G	EPA200.8	EPA200.8	EPA200.8	SW6010/7196	EPA218.7	E200.8	E200.8	EPA200.8	EPA245.1	EPA200.8	EPA200.8	EPA200.8	EPA200.8	SM2340C	
Enter permit limit	→																		
Min		7.06	18.28	0	0.3	0.5	0	0.6	0.093	3	620	2.1	0	0.9	0	0	9.1	66.3	
Max		7.06	18.28	0	0.3	0.5	0	0.6	0.093	3	620	2.1	0	0.9	0	0	9.1	66.3	
Avg		7.06	18.28	#DIV/0!	0.3	0.5	#DIV/0!	0.6	0.093	3	620	2.1	#DIV/0!	0.9	#DIV/0!	#DIV/0!	9.1	66.3	
# of measurements		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Enter sample date ↓		Enter results; parameters that are not applicable can be left blank ↓																	
5/16/2017		7.06	18.28	ND	0.3	0.5	ND	0.60	0.093	3.0	620	2.1	ND	0.90	ND	ND	9.1	66.3	

ND = Not detected above method detection limit

Exhibit 2
Discharge Information

Exhibit 2A
BWSC Notification of Discharge

CH2M Boston
18 Tremont Street
Suite 700
Boston, MA 02108-2307
O +1 617 523 2002
F +1 617 723 9036
www.ch2m.com

John Sullivan
Chief Engineer
Boston Water and Sewer Commission
980 Harrison Ave.
Boston, MA 02119

June 16, 2017

Subject: 2017 Remediation General Permit Notice of Intent—Request for Authorization to Discharge, Former Bull HN Information Systems, Inc. Facility, Brighton, Massachusetts

Dear Mr. Sullivan:

CH2M HILL Engineers, Inc. (CH2M), has prepared on behalf of Honeywell International Inc. this request for authorization to discharge to the Boston Water and Sewer Commission (BWSC) storm sewer system from the former Bull HN Information Systems facility, located at the corner of Guest Street and Life Street in Brighton, Massachusetts (site). Permission to discharge to the BWSC storm sewer system is a requirement of U.S. Environmental Protection Agency (USEPA) under the National Pollutant Discharge Elimination System (NPDES) Massachusetts Remediation General Permit (RGP) for two separate groundwater extraction and treatment systems (called Migration Control [MC] and Footer Drain [FD] respectively). The effluent from these two systems flows to a storm drainage system that discharges to the Charles River (via outfall No. 25E037) in accordance with 2010 RGP authorization numbers MAG910076 for the MC system and MAG910077 for the FD system. Exhibit 1 presents the site location and discharge information map.

A release condition was initially reported to Massachusetts Department of Environmental Protection (MassDEP) in 1986 (Release Tracking Number 3-00158) for the detection of volatile organic compounds (VOCs) in groundwater at the site, including 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), and their respective daughter products. The site was transitioned to the Massachusetts Contingency Plan (MCP) in 1991. To address the release condition, the MC and FD systems were installed in 1996 and 1999, respectively. Based on the average flow rates over the last 5 years, the average discharge volumes of 12,000 gallons per day for the MC system, and 145,000 gallons per year for the FD system.

Monthly samples are collected from the influent and effluent of both the MC and FD systems, in accordance with the RGP. Exhibit 3 summarizes typical influent and effluent parameter concentrations observed over the past 2 years for the MC and FD systems.

On April 8, 2017, USEPA published an updated RGP for discharges in Massachusetts, requiring reapplication for coverage. In accordance with Section 3.4., Part 7.b of the 2017 RGP, the operator (CH2M) must provide certification that notifications were given to the respective municipal or non-municipal storm sewer system. CH2M, on behalf of Honeywell International Inc., hereby requests for authorization to continue to discharge to BWSC's storm sewer system. Exhibit 4 includes the 2017 RGP Notices of Intent for the MC and FD systems to be submitted as part of the re-application.

Sincerely,

CH2M

Kyle D. Block
Project Manager

cc: Mr. Steve Coladonato, Honeywell International Inc. (Owner)

Enclosures:
Exhibit 1—Site Location and Discharge Information Map
Exhibit 2—Migration Control and Footer Drain Systems Flow Schematics
Exhibit 3—Summary of Sampling Information
Exhibit 4a—Draft Migration Control Notice of Intent
Exhibit 4b—Draft Footer Drain Notice of Intent

From: Greenberg, Matthew/BOS
To: Vidal, Maria/BOS
Subject: FW: Remediation General Permit for CH2M Site in Brighton, MA [EXTERNAL]
Date: Wednesday, June 21, 2017 9:53:37 AM

From: Schofield, Amy M [mailto:SchofieldAM@BWSC.ORG]
Sent: Wednesday, June 21, 2017 9:42 AM
To: Greenberg, Matthew/BOS <Matthew.Greenberg@CH2M.com>
Cc: Omobono, Tony/BOS <Tony.Omobono@ch2m.com>; Block, Kyle/BOS <Kyle.Block@CH2M.com>; Coladonato, Steve <Steven.Coladonato@Honeywell.com>; Jewell, Charlie S <JewellC@BWSC.ORG> **Subject:** RE: Remediation General Permit for CH2M Site in Brighton, MA [EXTERNAL]

This is an interesting thing. EPA asks whether the applicant has requested approval for the discharge and then asks whether approval was received. Its not clear whether municipal approval is required in order for EPA to approve your application. I don't see how EPA can require municipal approval as a condition of their approval…. But I am not a lawyer.

In any event it makes sense to me that since you asked formal approval (and likely others will) we should respond in writing. We have a meeting tomorrow to discuss internally. If the others agree I expect you should see something from us within the next two weeks. But, that being said I would leave your application as is with approval expected by July 17, just in case there is any hold up. I will know more tomorrow.

From: Greenberg, Matthew/BOS [mailto:Matthew.Greenberg@CH2M.com]
Sent: Tuesday, June 20, 2017 1:43 PM
To: Schofield, Amy M
Cc: Omobono, Tony/BOS; Block, Kyle/BOS; Coladonato, Steve
Subject: RE: Remediation General Permit for CH2M Site in Brighton, MA

Hi Amy,
This is no problem. Attached is the Dewatering Discharge Permit Application you requested. Would you happen to have an estimated timeframe within which you would let us know whether or not we would require your approval? We need an estimate for our final NOI submittal.

Thank you and please let me know if you need additional information.

Matthew Greenberg
CH2M
D 1 617-626-7030

From: Schofield, Amy M [mailto:SchofieldAM@BWSC.ORG]
Sent: Monday, June 19, 2017 3:50 PM
To: Greenberg, Matthew/BOS <Matthew.Greenberg@CH2M.com>
Cc: Omobono, Tony/BOS <Tony.Omobono@ch2m.com>; Block, Kyle/BOS <Kyle.Block@CH2M.com>; Coladonato, Steve <Steven.Coladonato@Honeywell.com>
Subject: RE: Remediation General Permit for CH2M Site in Brighton, MA [EXTERNAL]

Matt, John told me that you spoke this morning and you are all set. But we want to formalize this a little more. Would you fill out the attached "Dewatering Discharge Permit Application"? And we would like a better map- closer up of the discharge location. Attached is a map from our GIS. No need to include meter information- there will not be a charge for this discharge at this time-although I couldn't say that there wouldn't be some day in the future.

You can send the dewatering application back to me. you don't need to resubmit the NOI since we already have it.
I think we may send back a letter of approval but we are still discussing internally.
In the future this will be handled by Matt Tuttle. His contact info is on the form.

From: Greenberg, Matthew/BOS [mailto:Matthew.Greenberg@CH2M.com]
Sent: Monday, June 19, 2017 10:50 AM
To: Sullivan, John P
Cc: Schofield, Amy M; Omobono, Tony/BOS; Block, Kyle/BOS; Coladonato, Steve
Subject: RE: Remediation General Permit for CH2M Site in Brighton, MA

Dear Mr. Sullivan,
Thank you for taking time to speak with me this morning. Per our conversation, the Boston Water and Sewer Commission has no concerns related to Honeywell's continued discharge at the former Bull HN Information Systems facility and no further follow up is needed. We will continue to perform the treatment system effluent monitoring and compliance per USEPA Remediation General Permit requirements. Please let me know if you have additional questions at any time.

Matthew Greenberg
CH2M
D 1 617-626-7030

From: Sullivan, John P [mailto:SullivanJP@BWSC.ORG]
Sent: Friday, June 16, 2017 12:33 PM
To: Greenberg, Matthew/BOS <Matthew.Greenberg@CH2M.com>
Cc: Schofield, Amy M <SchofieldAM@BWSC.ORG>; Omobono, Tony/BOS <Tony.Omobono@ch2m.com>; Block, Kyle/BOS <Kyle.Block@CH2M.com>; Coladonato, Steve <Steven.Coladonato@Honeywell.com>
Subject: RE: Remediation General Permit for CH2M Site in Brighton, MA [EXTERNAL]

It seems that the requirement is that you notify us of your intent.

Are you looking for a response/acknowledgement/permission from us?...IF so, do you have a draft of what you are expecting from us?

John P. Sullivan, P.E.
Chief Engineer
Boston Water and Sewer Commission
sullivanjp@bwsc.org

617-989-7444

From: Greenberg, Matthew/BOS [mailto:Matthew.Greenberg@CH2M.com]
Sent: Friday, June 16, 2017 10:48 AM
To: Sullivan, John P
Cc: Schofield, Amy M; Omobono, Tony/BOS; Block, Kyle/BOS; Coladonato, Steve
Subject: Remediation General Permit for CH2M Site in Brighton, MA

Dear Mr. Sullivan:
CH2M Hill is preparing an application from the USEPA to continue groundwater treatment and discharge at the former Bull HN Information Systems facility, located at the corner of Guest Street and Life Street in Brighton, Massachusetts. As part of this application, USEPA requires that a request be made to the site's

respective municipal storm sewer management entity, in this case Boston Water and Sewer Commission. See attached for the related letter request and backup information.
A hard copy of this submittal will be forthcoming.

Please feel free to let us know if you have questions at any time. Thank you.

Matthew Greenberg
Hydrogeologist
D 1 617-626-7030
F 215-640-9564

CH2M
18 Tremont Street
Suite 700
Boston, MA 02108
www.ch2m.com

Exhibit 2B
Footer Drain System Influent Sampling Data Summary

Operator: Bradly Russell/CH2M HILL, Inc. - email: Bradley.Russell@ch2m.com - Telephone: 617-523-2002
Former Bull HN Information Systems, Inc
RGP Permit # – MAG910077
Influent/Effluent Sampling Location: Footer Drain System located at 5 Guest Street, Brighton MA
Outfall Effluent Sampling Location: Charles River Outfall. Coordinates (Latitude 42.356747, Longitude -71.147594)

See separate worksheet for receiving water
See separate worksheets for each contamination type
Enter additional parameters, if necessary

Enter Activity Category

Category VII—Collection Structure Dewatering / Remediation (Sub-category G [A, B and C])		Effluent Flow	Influent pH	Effluent pH	WET (Category I & II)		Influent Temp	Effluent Temp
Check units	→	MGD	SU	SU	LC_{50} (%)	NOEC	°C	°C
Enter test method	→	BMP	EPA4500-H+ B-2000	EPA4500-H+ B-2000			EPA2550 B-2000	EPA2550 B-2000
Enter permit limit	→							
Min		0.0144	7.87	6.82	0	0	21.1	12.97
Max		0.0144	7.87	6.82	0	0	21.1	12.97
Avg		0.0144	7.87	6.82	#DIV/0!	#DIV/0!	21.1	12.97
# of measurements		1	1	1	0	0	1	1
Enter sample date		Enter results; parameters that are not applicable can be left blank						
6/5/2017		0.0144	7.87	6.82			21.1	12.97

Operator: Bradly Russell/CH2M HILL, Inc. - email: Bradley.Russell@ch2m.com - Telephone: 617-523-2002
Former Bull HN Information Systems, Inc
RGP Permit # – MAG910077
Lower Charles River
Segment MA72-38 - Receiving Water Sample Coordinates: (Latitude 42.364167, Longitude -71.139722)

Enter Activity Category ↓ Category VII—Collection Structure Dewatering / Remediation (Sub-category G [A, B and C])		pH	Temp	Ammonia	Antimony	Arsenic	Cadmium	Chromium III	Chromium VI	Copper	Iron	Lead	Mercury	Nickel	Selenium	Silver	Zinc	Hardness (Freshwater)	Salinity (Saltwater)
Check units	→	SU	°C	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	
Enter test method	→	EPA4500-H+ B-2000	EPA2550 B-2000	SM4500NH3-G	EPA200.8	EPA200.8	EPA200.8	SW6010/7196	EPA218.7	E200.8	E200.8	EPA200.8	EPA245.1	EPA200.8	EPA200.8	EPA200.8	EPA200.8	SM2340C	
Enter permit limit	→																		
Min		7.06	18.28	0	0.3	0.5	0	0.6	0.093	3	620	2.1	0	0.9	0	0	9.1	66.3	
Max		7.06	18.28	0	0.3	0.5	0	0.6	0.093	3	620	2.1	0	0.9	0	0	9.1	66.3	
Avg		7.06	18.28	#DIV/0!	0.3	0.5	#DIV/0!	0.6	0.093	3	620	2.1	#DIV/0!	0.9	#DIV/0!	#DIV/0!	9.1	66.3	
# of measurements		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Enter sample date ↓		Enter results; parameters that are not applicable can be left blank ↓																	
5/16/2017		7.06	18.28	ND	0.3	0.5	ND	0.60	0.093	3.0	620	2.1	ND	0.90	ND	ND	9.1	66.3	

ND = Not detected above method detection limit

Enter treatment type applicable to these contaminants

↓

Adsorption/Absorption, Granulated Activated Carbon (“GAC”)/Liquid Phase Carbon Adsorption, and Ion Exchange.

Enter Activity Category

↓

Category VII— Collection Structure Dewatering / Remediation (Sub-category G [A, B and C])

		Influent Ammonia	Effluent Ammonia	Influent Chloride	Effluent Chloride	Influent TRC	Effluent TRC	Influent TSS	Effluent TSS	Influent Antimony	Effluent Antimony	Influent Arsenic	Effluent Arsenic	Influent Cadmium	Effluent Cadmium	Influent Chromium III	Effluent Chromium III	Influent Chromium VI	Effluent Chromium VI	Influent Copper	Effluent Copper	Influent Iron	Effluent Iron	Influent Lead	Effluent Lead	Influent Mercury	Effluent Mercury	Influent Nickel	Effluent Nickel	Influent Selenium	Effluent Selenium	Influent Silver	Effluent Silver	Influent Zinc	Effluent Zinc	Influent Cyanide	Effluent Cyanide
Check units	→	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Enter test method	→	SM4500NH3-G		EPA300.0		SM4500Cl-F		SM2540D		EPA200.8		EPA200.8		EPA200.8		SW6010/7196		EPA218.7		EPA200.8		EPA200.8		EPA200.8		EPA245.1		EPA200.8		EPA200.8		EPA200.8		EPA200.8		EPA334.5	
Enter permit limit	→																																				
Min		0	0	1320000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.3	0	188	0	0	0	0	0	19.3	0	0	0	0	0	7.7	0	130	0
Max		0	0	1320000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.3	0	188	0	0	0	0	0	19.3	0	0	0	0	0	7.7	0	180	0
Avg		#DIV/0!	#DIV/0!	1320000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.3	#DIV/0!	188	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	19.3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	7.7	#DIV/0!	155	#DIV/0!
# of measurements		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Enter sample date		Enter results; parameters that are not applicable can be left blank																																			
	↓	↓																																			
5/16/2017		NA		1320000		NA		NA		NA		NA		NA		NA		NA		2.3		188		NA		NA		19.3		NA		NA		7.7		180	
6/8/2017																																				130	

ND = Not detected above method detection limit

NA = Not Applicable due to Activity Category

Enter treatment type applicable to these contaminants

↓

Adsorption/Absorption, Granulated Activated Carbon (“GAC”)/Liquid Phase Carbon Adsorption, and Ion Exchange.

Enter Activity Category

↓

Category VII— Collection Structure Dewatering / Remediation (Sub-category G [A, B and C])		Influent Total BTEX	Effluent Total BTEX	Influent Benzene	Effluent Benzene	Influent 1,4 Dioxane	Effluent 1,4 Dioxane	Influent Acetone	Effluent Acetone	Influent Phenol	Effluent Phenol
Check units	→	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Enter test method	→	EPA624		EPA624		EPA624		EPA524.2		EPA625	
Enter permit limit	→										
Min		0	0	0	0	29.1	0	0	0	0	0
Max		0	0	0	0	29.1	0	0	0	0	0
Avg		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	29.1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
# of measurements		0	0	0	0	1	0	0	0	0	0
Enter sample date		Enter results; parameters that are not applicable can be left blank									
↓		↓									
5/16/2017		NA		NA		29.1		NA		NA	

ND = Not detected above method detection limit

NA = Not Applicable due to Activity Category

Enter treatment type applicable to these contaminants

↓

Adsorption/Absorption, Granulated Activated Carbon (“GAC”)/Liquid Phase Carbon Adsorption, and Ion Exchange.

Enter Activity Category

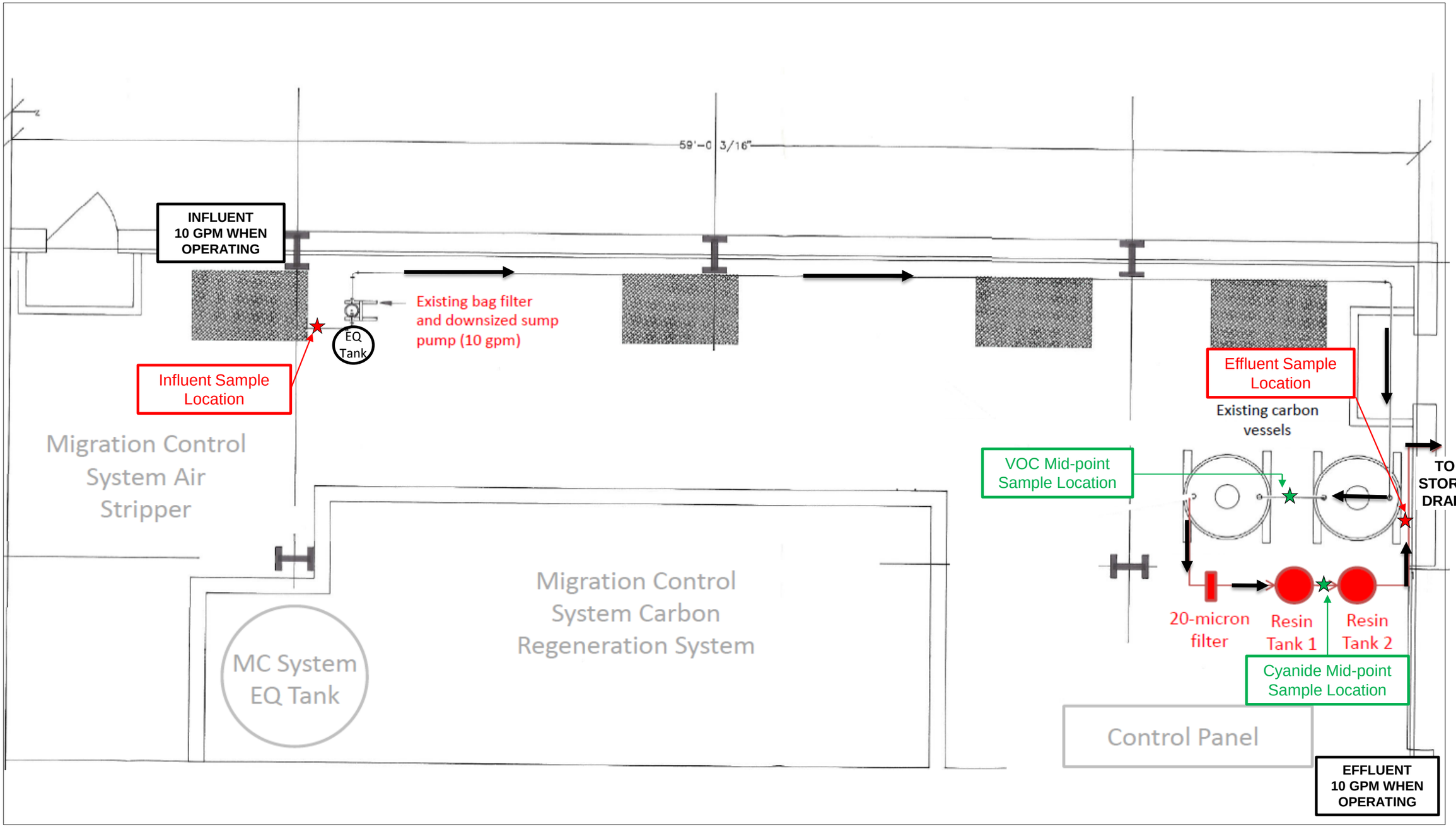
↓

Category VII— Collection Structure Dewatering / Remediation (Sub-category G [A, B and C])		Influent Carbon Tetrachloride	Effluent Carbon Tetrachloride	Influent 1,2 DCB	Effluent 1,2 DCB	Influent 1,3 DCB	Effluent 1,3 DCB	Influent 1,4 DCB	Effluent 1,4 DCB	Influent Total DCBs	Effluent Total DCBs	Influent 1,1 DCA	Effluent 1,1 DCA	Influent 1,2 DCA	Effluent 1,2 DCA	Influent 1,1 DCE	Effluent 1,1 DCE	Influent EDB	Effluent EDB	Influent Methylene Chloride	Effluent Methylene Chloride	Influent 1,1,1 TCA	Effluent 1,1,1 TCA	Influent 1,1,2 TCA	Effluent 1,1,2 TCA	Influent TCE	Effluent TCE	Influent PCE	Effluent PCE	Influent cis-1,2 DCE	Effluent cis-1,2 DCE	Influent Vinyl Chloride	Effluent Vinyl Chloride
Check units	→	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Enter test method	→	EPA624		EPA624		EPA624		EPA624		EPA624		EPA624		EPA624		EPA624		SW846-8011		EPA624		EPA624		EPA624		EPA624		EPA624		EPA624		EPA624	
Enter permit limit	→																																
Min		0	0	0	0	0	0	0	0	0	0	27.4	0	0.51	0	5.1	0	0	0	0	0	2.4	0	0	0	18.8	0	0	0	81.5	0	0	0
Max		0	0	0	0	0	0	0	0	0	0	27.4	0	0.51	0	5.1	0	0	0	0	0	2.4	0	0	0	18.8	0	0	0	81.5	0	0	0
Avg		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	27.4	#DIV/0!	0.51	#DIV/0!	5.1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.4	#DIV/0!	#DIV/0!	#DIV/0!	18.8	#DIV/0!	#DIV/0!	#DIV/0!	81.5	#DIV/0!	#DIV/0!	#DIV/0!
# of measurements		1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
Enter sample date		Enter results; parameters that are not applicable can be left blank																															
↓		↓																															
5/16/2017		NA		NA		NA		NA		NA		27.4		0.51		5.1		NA		NA		2.4		NA		18.8		NA		81.5		NA	

ND = Not detected above method detection limit

NA = Not Applicable due to Activity Category

Exhibit 3
Footer Drain System Flow Schematic



Note: Storm drain discharges to Charles River via stormwater outfall.

EXHIBIT 3
Footer Drain System Flow Schematic
Former Bull HN Information Systems Facility

ch2m

Exhibit 4
Endangered Species Act Supporting Information

From: Holt, Emily (FWE)
To: Essuman, Ama/BOS
Cc: Greenberg, Matthew/BOS
Subject: RE: Confirmation for no listed Endangered Species at Brighton site [EXTERNAL]
Date: Wednesday, March 01, 2017 2:18:29 PM

Ama,

I have reviewed the submitted location map and determined that this site **does not occur within Estimated Habitat of Rare Wildlife or Priority Habitat of State-listed Rare Species** as indicated in the *Massachusetts Natural Heritage Atlas* (13th Edition). Therefore, the project is not required to be reviewed for compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.37, 10.59 & 10.58(4)(b)) or the MA Endangered Species Act Regulations (321 CMR 10.18).

Best,

Emily Holt
Endangered Species Review Assistant
Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries & Wildlife
1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6385 | f: (508) 389-7890
mass.gov/nhesp

From: Ama.Essuman@ch2m.com [mailto:Ama.Essuman@ch2m.com]
Sent: Thursday, February 16, 2017 2:15 PM
To: Holt, Emily (FWE)
Cc: Matthew.Greenberg@CH2M.com
Subject: Confirmation for no listed Endangered Species at Brighton site

Hi Emily,

Good afternoon! My name is Ama Essuman and I am reaching out to you on the behalf of Matt Greenberg at CH2M. We are preparing documentation for our Notice of Intent under the upcoming NPDES Remediation General Permit. We want to confirm that there are no listed endangered species in the area of our site location at 38-40 Life Street in Brighton, MA. The location is shown in the attached figure.

Thank you in advance for your help, and let me know if you need any additional information.

Ama Essuman

Ama Essuman
Geologist/Environmental Engineer

D 1 617 626 7075
M 1 347 551 5816
UPCOMING PTO from 2/24 to 2/28
CH2M
18 Tremont Street, Suite 700
Boston, MA 02108
www.ch2m.com | LinkedIn | Twitter | Facebook

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

January 22, 2016

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm (accessed January 2016)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

Exhibit 5
National Historic Preservation Act
Supporting Information

H. National Historic Preservation Act eligibility determination

NOI Section H – Historic Property Determination Rationale

This brief narrative summarizes the assessment of the presence of historic properties affected by the discharge and discharge-related activities referenced in this Notice of Intent, associated with the Bull HN Information Systems, Inc. facility, located in Brighton, Massachusetts. This summary has been prepared to provide rationale that the established treatment system, contained in a facility constructed in the timeframe between 1999 and 2001, is not adversely affecting any historic properties. A visual inspection was performed to confirm this, and a search of the National Register of Historic Places revealed no historic properties at the site address. This status was confirmed previously in the 2010 Remediation General Permit Notice of Intent.

Exhibit 6
Laboratory Analytical Reports and Chain-of-Custody Forms

e-Hardcopy 2.0
Automated Report

Technical Report for

Honeywell International Inc. OMM work

CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

R35116

SGS Accutest Job Number: JC43459

Sampling Date: 05/16/17

Report to:

CH2M
18 Tremont Street
Boston, MA 02108
HTS-RES-LAB@Honeywell.com; kyle.block@ch2m.com;
matthew.greenberg@ch2m.com; ama.essuman@ch2m.com;
ATTN: Kyle Block

Total number of pages in report: **84**

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.

Nancy Cole
Laboratory Director

Client Service contact: Rocus Peters 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, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

SGS ACCUTEST

June 15, 2017

Mr. Kyle Block
CH2M
18 Tremont Street
Boston, MA 02108

Re: SGS Accutest –Dayton, Jobs # JC44930, JC43459, and JC42600 – Reissue

Dear Mr. Block,

The final report for SGS Accutest jobs number JC44930, JC43459, and JC42600 have edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, the MDL (Method Detention Limit) has been added to the lab result pages per the request of Matt Greenberg.

Moving forward, all reports for this site / project wil have this type of reporting.

Please contact me at (732) 355-4551 if I can be of further assistance in this matter.

Sincerely,

Marty Vitanza

Sr. Project Manager

SGS Accutest

SGS ACCUTEST

June 27, 2017

Mr. Kyle Block
CH2M
18 Tremont Street
Boston, MA 02108

Re: SGS Accutest –Dayton, Jobs # JC43459– Reissues #2

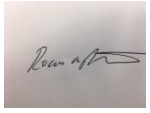
Dear Mr. Block,

The final reports for SGS Accutest job number JC43459 has edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, the Cyanide's Method Detention Limits have been evaluated and adjusted for samples JC43459-2R and -3R to meet client's requirement. The attached revised report incorporates these revisions.

Please contact me at (732) 329-0200 if I can be of further assistance in this matter.

Sincerely



SGS Accutest

Sections: 1 2 3 4 5 6 7 8 9 10

Table of Contents

Sample Summary

Honeywell International Inc. OMM work

Job No: JC43459

CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA
Project No: R35116

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC43459-1	05/16/17	12:17	AE/TB	05/17/17	AQ	Water	REC WATER-051617
JC43459-2	05/16/17	11:33	AE/TB	05/17/17	AQ	Influent	INF-RECERT-051617-FD
JC43459-2R	05/16/17	11:33	AE/TB	05/17/17	AQ	Influent	INF-RECERT-051617-FD
JC43459-3	05/16/17	11:01	AE/TB	05/17/17	AQ	Influent	INF-RECERT-051617-MC
JC43459-3R	05/16/17	11:01	AE/TB	05/17/17	AQ	Influent	INF-RECERT-051617-MC

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Honeywell International Inc. OMM work	**Job No**	JC43459
Site:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA	**Report Date**	6/9/2017 11:06:20 AM

On 05/17/2017, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 3.3 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC43459 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.

Please refer to certification exceptions summary for additional certification information.

Volatiles by GCMS By Method EPA 524.2 REV 4.1

Matrix: AQ **Batch ID:** V1B5221

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC43812-5MS, JC43812-6DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC43459-3: Diluted due to high concentration of non-target compound.

Volatiles by GCMS By Method EPA 624

Matrix: AQ **Batch ID:** VT9219

- All samples were analyzed within the recommended method holding time.
- Sample(s) JC44121-3DUP, JC44121-4MS, JC44121-3DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC44121-3DUP have surrogates outside control limits. Probable cause due to matrix interference.
- JC44121-4MS: (pH=5) Sample is not acid preserved per method/client criteria. Sample analyzed within 3 days holding time as required for acrolein and acrylonitrile. Other compounds within 7 days as required by the method.
- JC44121-3DUP: (pH=5) Sample is not acid preserved per method/client criteria. Sample analyzed within 3 days holding time as required for acrolein and acrylonitrile. Other compounds within 7 days as required by the method.
- JC44121-3DUP for Dibromofluoromethane (S): Outside control limits due to matrix interference.

Extractables by GCMS By Method EPA 625

Matrix: AQ **Batch ID:** OP3046

- All samples were extracted within the recommended method holding time.
- Sample(s) JC43417-1MS, JC43417-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846-8011

Matrix: AQ **Batch ID:** OP2993

- All samples were extracted within the recommended method holding time.
- Sample(s) JC43542-1MS, JC43563-5DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method EPA 200.8

Matrix:	AQ	Batch ID:	MP863

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC43590-1MS, JC43590-1MSD were used as the QC samples for metals.

Metals By Method EPA 245.1

Matrix:	AQ	Batch ID:	MP951

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC43417-1MS, JC43417-1MSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 218.7

Matrix:	AQ	Batch ID:	GP5594

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC43459-1DUP, JC43459-1MS were used as the QC samples for Chromium, Hexavalent.
- JC43459-1 for Chromium, Hexavalent: Method EPA 218.7 is not a certified method for non-potable water samples.Received at pH < 8 (6.61). Adjusted to pH >8 prior to analysis within 24 h from collection time.
- JC43459-3 for Chromium, Hexavalent: Method EPA 218.7 is not a certified method for non-potable water samples.Received at pH < 8 (6.37). Adjusted to pH >8 prior to analysis within 24 h from collection time.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix:	AQ	Batch ID:	GP5540

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC43444-1DUP, JC43444-1MS were used as the QC samples for Chloride.

Wet Chemistry By Method EPA 335.4/LACHAT

Matrix:	AQ	Batch ID:	GP5834

- All method blanks for this batch meet method specific criteria.
- Sample(s) JC44479-7ADUP, JC44479-7AMS were used as the QC samples for Cyanide.
- The following samples were prepared outside of holding time for method EPA 335.4/LACHAT: JC43459-2R, JC43459-3R Analysis done out of holding time.

Wet Chemistry By Method SM2340 C-11

Matrix:	AQ	Batch ID:	GN64392

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC43591-1DUP, JC43591-1MS were used as the QC samples for Hardness, Total as CaCO3.

Wet Chemistry By Method SM2540 D-11

Matrix: AQ	Batch ID: GN64357

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC43472-2DUP were used as the QC samples for Solids, Total Suspended.
- JC43459-3 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 960 mL of sample. Volume was reduced from 1 liter due to limited volume.

Wet Chemistry By Method SM4500CL F-11

Matrix: AQ	Batch ID: GN63850

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC42307-1QDUP were used as the QC samples for Total Residual Chlorine.
- JC43459-3 for Total Residual Chlorine: Field analysis required. Received out of hold time and analyzed by request.

Wet Chemistry By Method SM4500CN I-2011

Matrix: AQ	Batch ID: GP5475

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC43604-1DUP, JC43604-1MS were used as the QC samples for Weak Acid Dissociable Cn.
- Matrix Spike Recovery(s) for Weak Acid Dissociable Cn are outside control limits. Spike recovery indicates possible matrix interference.
- RPD(s) for Duplicate for Weak Acid Dissociable Cn are outside control limits for sample GP5475-D1. RPD acceptable due to low duplicate and sample concentrations.

Wet Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ	Batch ID: GP5527

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC43618-1DUP, JC43618-1MS, JC43618-1MSD were used as the QC samples for Nitrogen, Ammonia.

Wet Chemistry By Method SW846 6010/7196A M

Matrix: AQ	Batch ID: R163554

- The data for SW846 6010/7196A M meets quality control requirements.
- JC43459-3 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

Matrix: AQ	Batch ID: R163555

- The data for SW846 6010/7196A M meets quality control requirements.
- JC43459-1 for Chromium, Trivalent: Calculated as: (Chromium) - (Chromium, Hexavalent)

SGS Accutest 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 Accutest 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 Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC43459
Account: Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA
Collected: 05/16/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC43459-1	**REC WATER-051617**					
Antimony		0.30 B	2.0	0.26	ug/l	EPA 200.8
Arsenic		0.50 B	1.0	0.034	ug/l	EPA 200.8
Chromium		0.69 B	4.0	0.10	ug/l	EPA 200.8
Copper		3.0 B	4.0	0.14	ug/l	EPA 200.8
Iron		620	50	2.0	ug/l	EPA 200.8
Lead		2.1	0.50	0.011	ug/l	EPA 200.8
Nickel		0.90 B	4.0	0.11	ug/l	EPA 200.8
Zinc		9.1 B	10	1.2	ug/l	EPA 200.8
Chromium, Hexavalent [a]		0.093	0.025	0.014	ug/l	EPA 218.7
Chromium, Trivalent [b]		0.00060 B	0.0040	0.00011	mg/l	SW846 6010/7196A M
Hardness, Total as CaCO3		66.3	4.0	2.5	mg/l	SM2340 C-11
JC43459-2	**INF-RECERT-051617-FD**					
1,1-Dichloroethane		27.4	1.0	0.32	ug/l	EPA 624
1,2-Dichloroethane		0.51 J	1.0	0.32	ug/l	EPA 624
1,1-Dichloroethene		5.1	1.0	0.57	ug/l	EPA 624
cis-1,2-Dichloroethene		81.5	1.0	0.54	ug/l	EPA 624
1,4-Dioxane		29.1 J	130	27	ug/l	EPA 624
1,1,1-Trichloroethane		2.4	1.0	0.36	ug/l	EPA 624
Trichloroethene		18.8	1.0	0.24	ug/l	EPA 624
Copper		2.3 B	4.0	0.14	ug/l	EPA 200.8
Iron		188	50	2.0	ug/l	EPA 200.8
Nickel		19.3	4.0	0.11	ug/l	EPA 200.8
Zinc		7.7 B	10	1.2	ug/l	EPA 200.8
Chloride		1320	10	0.35	mg/l	EPA 300/SW846 9056A
Hardness, Total as CaCO3		683	4.0	2.5	mg/l	SM2340 C-11
Weak Acid Dissociable Cn		0.044	0.010	0.0067	mg/l	SM4500CN I-2011
JC43459-2R	**INF-RECERT-051617-FD**					
Cyanide [c]		0.18	0.010	0.0063	mg/l	EPA 335.4/LACHAT
JC43459-3	**INF-RECERT-051617-MC**					
1,1-Dichloroethane		34.1	5.0	1.6	ug/l	EPA 624
1,1-Dichloroethene		149	5.0	2.9	ug/l	EPA 624
cis-1,2-Dichloroethene		17.9	5.0	2.7	ug/l	EPA 624
Tetrachloroethene		6.3	5.0	4.1	ug/l	EPA 624
1,1,1-Trichloroethane		926	5.0	1.8	ug/l	EPA 624
Trichloroethene		756	5.0	1.2	ug/l	EPA 624
Arsenic		0.085 B	1.0	0.034	ug/l	EPA 200.8
Chromium		1.7 B	4.0	0.10	ug/l	EPA 200.8

Summary of Hits

Job Number: JC43459
Account: Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA
Collected: 05/16/17

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Copper		8.3	4.0	0.14	ug/l	EPA 200.8
Iron		32.0 B	50	2.0	ug/l	EPA 200.8
Lead		0.051 B	0.50	0.011	ug/l	EPA 200.8
Nickel		20.8	4.0	0.11	ug/l	EPA 200.8
Selenium		0.53 B	1.0	0.12	ug/l	EPA 200.8
Silver		0.12 B	2.0	0.041	ug/l	EPA 200.8
Zinc		4.5 B	10	1.2	ug/l	EPA 200.8
Chloride		737	8.0	0.28	mg/l	EPA 300/SW846 9056A
Chromium, Hexavalent [d]		0.54	0.025	0.014	ug/l	EPA 218.7
Chromium, Trivalent [b]		0.0012 B	0.0040	0.00011	mg/l	SW846 6010/7196A M
Hardness, Total as CaCO3		449	4.0	2.5	mg/l	SM2340 C-11
Solids, Total Suspended [e]		0.94 B	4.0	0.57	mg/l	SM2540 D-11
Total Residual Chlorine [f]		0.090 B	0.10	0.036	mg/l	SM4500CL F-11
Weak Acid Dissociable Cn		0.0080 B	0.010	0.0067	mg/l	SM4500CN I-2011

JC43459-3R INF-RECERT-051617-MC

No hits reported in this sample.

(a) Method EPA 218.7 is not a certified method for non-potable water samples. Received at pH < 8 (6.61). Adjusted to pH > 8 prior to analysis within 24 h from collection time.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)
(c) Analysis done out of holding time. Instrument specific MDL shown.
(d) Method EPA 218.7 is not a certified method for non-potable water samples. Received at pH < 8 (6.37). Adjusted to pH > 8 prior to analysis within 24 h from collection time.
(e) Reported sample aliquot obtained from filtration of 960 mL of sample. Volume was reduced from 1 liter due to limited volume.
(f) Field analysis required. Received out of hold time and analyzed by request.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: REC WATER-051617
Lab Sample ID: JC43459-1
Matrix: AQ - Water
Date Sampled: 05/16/17
Date Received: 05/17/17
Percent Solids: n/a
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	0.30 B	2.0	0.26	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Arsenic	0.50 B	1.0	0.034	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Cadmium	0.12 U	0.50	0.12	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Chromium	0.69 B	4.0	0.10	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Copper	3.0 B	4.0	0.14	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Iron	620	50	2.0	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Lead	2.1	0.50	0.011	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Mercury	0.055 U	0.20	0.055	ug/l	1	05/22/17	05/22/17	JPM	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	0.90 B	4.0	0.11	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Selenium	0.12 U	1.0	0.12	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Silver	0.041 U	2.0	0.041	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Zinc	9.1 B	10	1.2	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]

(1) Instrument QC Batch: MA42075
(2) Instrument QC Batch: MA42078
(3) Prep QC Batch: MP863
(4) Prep QC Batch: MP951

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	REC WATER-051617		
Lab Sample ID:	JC43459-1	**Date Sampled:**	05/16/17
Matrix:	AQ - Water	**Date Received:**	05/17/17
		Percent Solids:	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent [a]	0.093	0.025	0.014	ug/l	1	05/25/17 17:31	TT	EPA 218.7
Chromium, Trivalent [b]	0.00060 B	0.0040	0.00011	mg/l	1	05/25/17 17:31	TT	SW846 6010/7196A M
Hardness, Total as CaCO3	66.3	4.0	2.5	mg/l	1	05/19/17 10:33	MP	SM2340 C-11
Nitrogen, Ammonia	0.14 U	0.20	0.14	mg/l	1	05/23/17 15:26	BM	SM4500NH3 H-11LACHAT

(a) Method EPA 218.7 is not a certified method for non-potable water samples. Received at pH < 8 (6.61). Adjusted to pH > 8 prior to analysis within 24 h from collection time.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	INF-RECERT-051617-FD		
Lab Sample ID:	JC43459-2	**Date Sampled:**	05/16/17
Matrix:	AQ - Influent	**Date Received:**	05/17/17
Method:	EPA 624	**Percent Solids:**	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T224425.D	1	05/26/17 14:54	SC	n/a	n/a	VT9219
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	27.4	1.0	0.32	ug/l	
107-06-2	1,2-Dichloroethane	0.51	1.0	0.32	ug/l	J
75-35-4	1,1-Dichloroethene	5.1	1.0	0.57	ug/l	
156-59-2	cis-1,2-Dichloroethene	81.5	1.0	0.54	ug/l	
123-91-1	1,4-Dioxane	29.1	130	27	ug/l	J
71-55-6	1,1,1-Trichloroethane	2.4	1.0	0.36	ug/l	
79-01-6	Trichloroethene	18.8	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	117%		72-125%
2037-26-5	Toluene-D8 (SUR)	92%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	110%		74-115%
1868-53-7	Dibromofluoromethane (S)	118%		79-120%

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: INF-RECERT-051617-FD
Lab Sample ID: JC43459-2
Matrix: AQ - Influent
Date Sampled: 05/16/17
Date Received: 05/17/17
Percent Solids: n/a
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Copper	2.3 B	4.0	0.14	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [2]
Iron	188	50	2.0	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [2]
Nickel	19.3	4.0	0.11	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [2]
Zinc	7.7 B	10	1.2	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [2]

(1) Instrument QC Batch: MA42075
(2) Prep QC Batch: MP863

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	INF-RECERT-051617-FD		
Lab Sample ID:	JC43459-2	**Date Sampled:**	05/16/17
Matrix:	AQ - Influent	**Date Received:**	05/17/17
		Percent Solids:	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chloride	1320	10	0.35	mg/l	5	05/24/17 12:06	TG	EPA 300/SW846 9056A
Hardness, Total as CaCO3	683	4.0	2.5	mg/l	1	05/19/17 10:33	MP	SM2340 C-11
Weak Acid Dissociable Cn	0.044	0.010	0.0067	mg/l	1	05/22/17 13:28	BM	SM4500CN I-2011

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	INF-RECERT-051617-FD		
Lab Sample ID:	JC43459-2R	**Date Sampled:**	05/16/17
Matrix:	AQ - Influent	**Date Received:**	05/17/17
		Percent Solids:	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide [a]	0.18	0.010	0.0063	mg/l	1	06/07/17 17:17	BM	EPA 335.4/LACHAT

(a) Analysis done out of holding time. Instrument specific MDL shown.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	INF-RECERT-051617-MC		
Lab Sample ID:	JC43459-3	**Date Sampled:**	05/16/17
Matrix:	AQ - Influent	**Date Received:**	05/17/17
Method:	EPA 624	**Percent Solids:**	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T224426.D	5	05/26/17 15:24	SC	n/a	n/a	VT9219
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	5.0	1.2	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	1.6	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.2	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.2	ug/l	
75-34-3	1,1-Dichloroethane	34.1	5.0	1.6	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.6	ug/l	
75-35-4	1,1-Dichloroethene	149	5.0	2.9	ug/l	
156-59-2	cis-1,2-Dichloroethene	17.9	5.0	2.7	ug/l	
123-91-1	1,4-Dioxane	ND	630	140	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.1	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.7	ug/l	
127-18-4	Tetrachloroethene	6.3	5.0	4.1	ug/l	
108-88-3	Toluene	ND	5.0	1.2	ug/l	
71-55-6	1,1,1-Trichloroethane	926	5.0	1.8	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.7	ug/l	
79-01-6	Trichloroethene	756	5.0	1.2	ug/l	
75-01-4	Vinyl chloride	ND	5.0	1.4	ug/l	
1330-20-7	Xylenes (total)	ND	5.0	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	116%		72-125%
2037-26-5	Toluene-D8 (SUR)	91%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	110%		74-115%
1868-53-7	Dibromofluoromethane (S)	119%		79-120%

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:	INF-RECERT-051617-MC		
Lab Sample ID:	JC43459-3	**Date Sampled:**	05/16/17
Matrix:	AQ - Influent	**Date Received:**	05/17/17
Method:	EPA 524.2 REV 4.1	**Percent Solids:**	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1B109720.D	2	05/27/17 16:11	BK	n/a	n/a	V1B5221
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	7.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2199-69-1	1,2-Dichlorobenzene-d4	95%		70-130%
460-00-4	4-Bromofluorobenzene	83%		70-130%

(a) Diluted due to high concentration of non-target compound.

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: INF-RECERT-051617-MC
Lab Sample ID: JC43459-3 **Date Sampled:** 05/16/17
Matrix: AQ - Influent **Date Received:** 05/17/17
Method: EPA 625 EPA 625 **Percent Solids:** n/a
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2P70109.D	1	05/24/17 12:35	FW	05/22/17	OP3046	E2P3092
Run #2							

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
108-95-2	Phenol	ND	2.2	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		10-110%
4165-62-2	Phenol-d5	33%		10-110%
118-79-6	2,4,6-Tribromophenol	112%		35-147%

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: INF-RECERT-051617-MC
Lab Sample ID: JC43459-3 **Date Sampled:** 05/16/17
Matrix: AQ - Influent **Date Received:** 05/17/17
Method: SW846-8011 SW846 8011 **Percent Solids:** n/a
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7G22291.D	1	05/24/17 17:49	VDT	05/19/17	OP2993	G7G795
Run #2							

	Initial Volume	Final Volume
Run #1	36 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0059	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3017-95-6	2-Bromo-1-chloropropane	84%		20-144%
3017-95-6	2-Bromo-1-chloropropane	80%		20-144%

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: INF-RECERT-051617-MC
Lab Sample ID: JC43459-3
Matrix: AQ - Influent
Date Sampled: 05/16/17
Date Received: 05/17/17
Percent Solids: n/a
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	0.26 U	2.0	0.26	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Arsenic	0.085 B	1.0	0.034	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Cadmium	0.12 U	0.50	0.12	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Chromium	1.7 B	4.0	0.10	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Copper	8.3	4.0	0.14	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Iron	32.0 B	50	2.0	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Lead	0.051 B	0.50	0.011	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Mercury	0.055 U	0.20	0.055	ug/l	1	05/22/17	05/22/17	JPM	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	20.8	4.0	0.11	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Selenium	0.53 B	1.0	0.12	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Silver	0.12 B	2.0	0.041	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]
Zinc	4.5 B	10	1.2	ug/l	1	05/19/17	05/20/17	MA	EPA 200.8 [1]	EPA 200.8 [3]

(1) Instrument QC Batch: MA42075
(2) Instrument QC Batch: MA42078
(3) Prep QC Batch: MP863
(4) Prep QC Batch: MP951

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	INF-RECERT-051617-MC		
Lab Sample ID:	JC43459-3	**Date Sampled:**	05/16/17
Matrix:	AQ - Influent	**Date Received:**	05/17/17
		Percent Solids:	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Chloride	737	8.0	0.28	mg/l	4	05/24/17 12:30	TG	EPA 300/SW846 9056A
Chromium, Hexavalent [a]	0.54	0.025	0.014	ug/l	1	05/25/17 17:45	TT	EPA 218.7
Chromium, Trivalent [b]	0.0012 B	0.0040	0.00011	mg/l	1	05/25/17 17:45	TT	SW846 6010/7196A M
Hardness, Total as CaCO3	449	4.0	2.5	mg/l	1	05/19/17 10:33	MP	SM2340 C-11
Nitrogen, Ammonia	0.14 U	0.20	0.14	mg/l	1	05/23/17 15:27	BM	SM4500NH3 H-11LACHAT
Solids, Total Suspended [c]	0.94 B	4.0	0.57	mg/l	1	05/18/17 18:35	TZ	WSM2540 D-11
Total Residual Chlorine [d]	0.090 B	0.10	0.036	mg/l	1	05/17/17 16:52	SA	SM4500CL F-11
Weak Acid Dissociable Cn	0.0080 B	0.010	0.0067	mg/l	1	05/22/17 13:29	BM	SM4500CN I-2011

(a) Method EPA 218.7 is not a certified method for non-potable water samples. Received at pH < 8 (6.37). Adjusted to pH > 8 prior to analysis within 24 h from collection time.
(b) Calculated as: (Chromium) - (Chromium, Hexavalent)
(c) Reported sample aliquot obtained from filtration of 960 mL of sample. Volume was reduced from 1 liter due to limited volume.
(d) Field analysis required. Received out of hold time and analyzed by request.

RL = Reporting Limit
MDL = Method Detection Limit
U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	INF-RECERT-051617-MC		
Lab Sample ID:	JC43459-3R	**Date Sampled:**	05/16/17
Matrix:	AQ - Influent	**Date Received:**	05/17/17
		Percent Solids:	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide [a]	0.0063 U	0.010	0.0063	mg/l	1	06/07/17 17:18	BM	EPA 335.4/LACHAT

(a) Analysis done out of holding time. Instrument specific MDL shown.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

Parameter Certification Exceptions

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Chromium, Hexavalent	18540-29-9	**EPA 218.7**	AQ	Accutest is not certified for this parameter. [a]
Chromium, Trivalent		**SW846 6010/7196A M**	AQ	Accutest is not certified for this parameter. [b]
Weak Acid Dissociable Cn		**SM4500CN I-2011**	AQ	Accutest is not certified for this parameter. [b]

(a) Analyte is certified with NJDEP for this reference method for DW only. Lab cert for AQ matrix for this analyte not supported by NJDEP, OQA. Only methods/analytes required for reporting by the State of NJ can be certified in NJ.
(b) Lab cert for analyte not supported by NJDEP, OQA. Only methods/analytes required for reporting by the State of NJ can be certified in NJ. Use of this analyte for compliance must be verified through the appropriate regulatory office.

Certification exceptions shown are based on the New Jersey DEP certifications. Applicability in other states may vary. Please contact your laboratory representative if additional information is required for a specific regulatory program.

SGS ACCUTEST

CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking # 7273 7516 2390 | Bottle Order Control #
SGS Accutest Project # HWINJOMM73531 | SGS Accutest Job # JC43459

Client / Reporting Information	Project Information
Company Name: CH2M Hill	Project Name: Honeywell Brighton #37558
Street Address: 18 Tremont St	Street: Guest St
City: Boston State: MA Zip: 02108	City: Brighton State: MA
Project Contact: Matthew Greenberg E-mail:	Project #: 693091
Phone #: 617-626-7030 Fax #:	Client Purchase Order #:
Sampler(s) Name(s): Ama Essuman/ Tim Bakey Phone #:	Project Manager: Matthew Greenberg

Billing Information (if different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet): Ammonia, 4500; Metals* 200.8; Chromium III (calculation); Chromium VI, 218.7; Mercury, 245.1; Hardness

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	[illegible]	Ammonia, 4500	Metals* 200.8	Chromium III (calculation)	Chromium VI, 218.7	Mercury, 245.1	Hardness	LAB USE ONLY
1	REC WATER-051617		5/16/17	1217	AE/TB	WW	3			1	1					1	X	X	X	X	X	X	E42, G55, G14T2, V993

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other ______

Approved By (SGS Accutest PM): / Date:

INITIAL ASSESSMENT 3/5
LABEL VERIFICATION 5

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] *NJ Data of Known Quality Protocol Reporting*
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format ________
- [ ] Other ________

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions
*Metals include Antimony, Arsenic, Cadmium, Copper, Iron, Lead, Nickel, Selenium, Silver, and Zinc

Sample inventory is verified upon receipt in the Laboratory

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	5/16/17 1300	1 Will Chidl	2 Will Chidl	5/16/17 1400	2 Will Chidl
3 [signature]	5/16/17 1800	3 FedEx	4 FedEx	5/17/17 0800	4 [signature]
5		5	Custody Seal # 517 ☑ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 1.4°C

2.0°C IR

JC43459: Chain of Custody
Page 1 of 7

SGS ACCUTEST

CHAIN OF CUSTODY

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking # | Bottle Order Control #
SGS Accutest Project # HWINJOMM73531 | SGS Accutest Job # JC43459

Client / Reporting Information

Company Name: CH2M Hill
Street Address: 18 Tremont St
City: Boston State: MA Zip: 02108
Project Contact: Matthew Greenberg E-mail:
Phone #: 617-626-7030 Fax #:
Sampler(s) Name(s): Ama Essuman/ Tim Bakey Phone #:

Project Information

Project Name: Honeywell Brighton #37558
Street: Guest St
City: Brighton State: MA
Project #: 693091
Client Purchase Order #:
Project Manager: Matthew Greenberg

Billing Information (if different from Report to)

Company Name:
Street Address:
City State Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH + ZnAc	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Chloride, 300.0	Metals* (See comments section) 200.8	Cyanide, 4500CN	VOCs* (See comments section) 624	Hardness	LAB USE ONLY
1	INF-RECERT-051617-FD		5/16/17	1133	AE/TB	WW	6	3	1	1		1				X	X	X	X	X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NJ Data of Known Quality Protocol Reporting
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

*Metals are Copper, Iron, Nickel, and Zinc
*VOCs are 1,1-DCA, 1,2-DCA, 1,1-DCE, 1,1,1-TCA, TCE, cis-1,2-DCE and 1,4, dioxane

Sample inventory is verified upon receipt in the Laboratory

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	5/16/17 0900	1	2	5/16/17 1400	2
3		3 FEDEX	4 FEDEX	5/17/17 0830	4
5		5	Custody Seal #	Intact / Not Intact	Preserved where applicable / On Ice / Cooler Temp.

CHAIN OF CUSTODY

SGS ACCUTEST

SGS Accutest - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

PAGE 3 OF 3

FED-EX Tracking #: | Bottle Order Control #:
SGS Accutest Project #: HWINJOMM73531 | SGS Accutest Job #: JC43459

Client / Reporting Information

Company Name: CH2M Hill
Street Address: 18 Tremont St
City: Boston State: MA Zip: 02108
Project Contact: Matthew Greenberg E-mail:
Phone #: 617-626-7030 Fax #:
Sampler(s) Name(s): Ama Essuman/ Tim Bakey Phone #:

Project Information

Project Name: Honeywell Brighton #37558
Street: Guest St
City: Brighton State: MA
Project #: 693091
Client Purchase Order #:
Project Manager: Matthew Greenberg

Billing Information (if different from Report to)

Company Name:
Street Address:
City State Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Preserved: HCl	NaOH + ZnAc	HNO3	H2SO4	NONE	DI Water	MEOH	NaHSO4	Chloride, 300.0	Metals* (See comments section) 200.8	Cyanide, 4500CN	VOCs* (See comments section) 8260 624	Hardness	Ammonia, 4500	Total Residual Chlorine, 4500Cl G and E	TSS, 2540 D	Chromium III (calculation)	Chromium VI, 218.7	Mercury, 245.1	Phenol, 625	EDD, 8011 Acetone*	LAB USE ONLY
1	INF-RECERT-051617-MC		5/16/17	1101	AE/TB	WW	16	6	1	1	7					X	X	X	X	X	X	X	X	X	X	X	X	X	

Turnaround Time (Business days)

Approved By (SGS Accutest PM): / Date:

- [x] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day RUSH
- [ ] other

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other
- [ ] NJ Data of Known Quality Protocol Reporting

Commercial "A" = Results Only, Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

*Metals are Antimony, Arsenic, Cadmium, Copper, Iron, Lead, Nickel, [redacted], Selenium, Silver, and Zinc

*VOCs are Total BTEX, Benzene, [redacted], 1,1-DCA, 1,2-DCA, 1,1-DCE, Carbon Tetrachloride, 1,2-DCB, 1,3-DCB, 1,4-DCB, Total DCB, [redacted] VC Methylene Chloride, 1,1,1-TCA, 1,1,2-TCA, TCE, PCE, cis-1,2-DCE, 1,4 Dioxane

*For acetone analytical method please contact Marty Vitoza

Sample inventory is verified upon receipt in the Laboratory

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	5/16/17 1320	1	2	5/16/17 1420	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4	5/17/17 0900	4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp.
5		5					

SGS Accutest Sample Receipt Summary

Job Number: JC43459 **Client:** CH2M Hill **Project:** Honeywell Brighton

Date / Time Received: 5/17/2017 8:00:00 AM **Delivery Method:** FedEx **Airbill #'s:** 727375162390

Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.3);

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:	☐		☐	☑

Comments

1) -1,-3: XCR218.7 rec'd unpreserved.

SM089-02
Rev. Date 12/1/16

Responded to by: MV

Response Date: 5/18

Response:

Proceed
Add comment : " Lab footnote the final data on this that it was preserved within 24 hours of collection on receipt in the lab"

Job Change Order: JC43459

Requested Date:	5/30/2017	**Received Date:**	5/17/2017
Account Name:	Honeywell International Inc. OMM	**Due Date:**	5/31/2017
Project Description:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Bri	**Deliverable:**	COMMBN
CSR:	Rocus.Peters	**TAT (Days):**	14

==========

Sample #: JC43459-1,3

Dept:

TAT: 14

Change:
Add for CRMS

==========

Above Changes Per: Eugenia Casino **Date/Time:** 5/30/2017 4:45:19 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

Job Change Order: JC43459

Requested Date:	6/6/2017	**Received Date:**	5/17/2017
Account Name:	Honeywell International Inc. OMM	**Due Date:**	5/31/2017
Project Description:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Bri	**Deliverable:**	COMMBN
CSR:	martyv	**TAT (Days):**	2

==========

Sample #: JC43459-2, 3

Dept:

TAT: 2

Change:
Relog for CN. Lab to use unpreserved source. Add NaOH+ preservative prior to analyses

==========

Above Changes Per: Marie Vidal **Date/Time:** 6/6/2017 4:39:38 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

JC43459: Chain of Custody
Page 7 of 7

GC/MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5221-MB	1B109716.D	1	05/27/17	BK	n/a	n/a	V1B5221

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JC43459-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	5.0	3.8	ug/l	

CAS No.	Surrogate Recoveries		Limits
2199-69-1	1,2-Dichlorobenzene-d4	99%	70-130%
460-00-4	4-Bromofluorobenzene	85%	70-130%

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

Method Blank Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VT9219-MB	T224415.D	1	05/26/17	SC	n/a	n/a	VT9219

The QC reported here applies to the following samples: **Method:** EPA 624

JC43459-2, JC43459-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.23	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.31	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.21	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.24	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.32	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.32	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.57	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.54	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.21	ug/l	
75-09-2	Methylene chloride	ND	1.0	0.55	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.82	ug/l	
108-88-3	Toluene	ND	1.0	0.24	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.36	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.24	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.29	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	110%	72-125%
2037-26-5	Toluene-D8 (SUR)	92%	78-119%
460-00-4	4-Bromofluorobenzene (SUR)	110%	74-115%
1868-53-7	Dibromofluoromethane (S)	115%	79-120%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.83	41	ug/l	J
	system artifact	3.98	210	ug/l	J
	system artifact	4.09	140	ug/l	J
	system artifact	4.73	4.1	ug/l	J
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1B5221-BS	1B109717.D	1	05/27/17	BK	n/a	n/a	V1B5221

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JC43459-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	20	22.2	111	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
2199-69-1	1,2-Dichlorobenzene-d4	105%	70-130%
460-00-4	4-Bromofluorobenzene	91%	70-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VT9219-BS	T224416.D	1	05/26/17	SC	n/a	n/a	VT9219

The QC reported here applies to the following samples: **Method:** EPA 624

JC43459-2, JC43459-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	18.4	92	78-122
56-23-5	Carbon tetrachloride	20	22.1	111	71-138
95-50-1	1,2-Dichlorobenzene	20	20.3	102	78-120
541-73-1	1,3-Dichlorobenzene	20	20.8	104	76-119
106-46-7	1,4-Dichlorobenzene	20	20.6	103	77-118
75-34-3	1,1-Dichloroethane	20	20.5	103	75-129
107-06-2	1,2-Dichloroethane	20	19.9	100	76-132
75-35-4	1,1-Dichloroethene	20	16.7	84	57-128
156-59-2	cis-1,2-Dichloroethene	20	19.2	96	73-124
123-91-1	1,4-Dioxane	500	544	109	56-139
100-41-4	Ethylbenzene	20	19.3	97	77-120
75-09-2	Methylene chloride	20	19.1	96	68-122
127-18-4	Tetrachloroethene	20	17.4	87	61-152
108-88-3	Toluene	20	17.7	89	78-121
71-55-6	1,1,1-Trichloroethane	20	20.4	102	72-131
79-00-5	1,1,2-Trichloroethane	20	17.4	87	78-124
79-01-6	Trichloroethene	20	19.5	98	78-123
75-01-4	Vinyl chloride	20	16.6	83	57-134
1330-20-7	Xylenes (total)	60	56.9	95	79-122

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	110%	72-125%
2037-26-5	Toluene-D8 (SUR)	91%	78-119%
460-00-4	4-Bromofluorobenzene (SUR)	107%	74-115%
1868-53-7	Dibromofluoromethane (S)	115%	79-120%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC43812-5MS	1B109722.D	1	05/27/17	BK	n/a	n/a	V1B5221
JC43812-5	1B109718.D	1	05/27/17	BK	n/a	n/a	V1B5221

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JC43459-3

CAS No.	Compound	JC43812-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
67-64-1	Acetone	ND		20	21.6	108	41-142

CAS No.	Surrogate Recoveries	MS	JC43812-5	Limits
2199-69-1	1,2-Dichlorobenzene-d4	103%	100%	70-130%
460-00-4	4-Bromofluorobenzene	91%	86%	70-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC44121-4MS [a]	T224428.D	1	05/26/17	SC	n/a	n/a	VT9219
JC44121-4 [a]	T224418.D	1	05/26/17	SC	n/a	n/a	VT9219

The QC reported here applies to the following samples: **Method:** EPA 624

JC43459-2, JC43459-3

CAS No.	Compound	JC44121-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
71-43-2	Benzene	ND		20	22.1	111	47-140
56-23-5	Carbon tetrachloride	ND		20	26.8	134	43-155
95-50-1	1,2-Dichlorobenzene	ND		20	20.6	103	67-130
541-73-1	1,3-Dichlorobenzene	ND		20	21.2	106	65-131
106-46-7	1,4-Dichlorobenzene	ND		20	20.9	105	65-128
75-34-3	1,1-Dichloroethane	ND		20	23.8	119	58-137
107-06-2	1,2-Dichloroethane	ND		20	22.5	113	63-144
75-35-4	1,1-Dichloroethene	ND		20	22.1	111	32-139
156-59-2	cis-1,2-Dichloroethene	ND		20	22.4	112	53-138
123-91-1	1,4-Dioxane	ND		500	587	117	45-147
100-41-4	Ethylbenzene	ND		20	21.1	106	45-141
75-09-2	Methylene chloride	ND		20	22.2	111	58-129
127-18-4	Tetrachloroethene	ND		20	20.6	103	49-145
108-88-3	Toluene	ND		20	20.1	101	52-139
71-55-6	1,1,1-Trichloroethane	ND		20	24.4	122	44-148
79-00-5	1,1,2-Trichloroethane	ND		20	18.4	92	71-131
79-01-6	Trichloroethene	ND		20	23.1	116	48-143
75-01-4	Vinyl chloride	ND		20	21.0	105	31-158
1330-20-7	Xylenes (total)	ND		60	62.3	104	46-144

CAS No.	Surrogate Recoveries	MS	JC44121-4	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	113%	113%	72-125%
2037-26-5	Toluene-D8 (SUR)	93%	93%	78-119%
460-00-4	4-Bromofluorobenzene (SUR)	104%	106%	74-115%
1868-53-7	Dibromofluoromethane (S)	114%	114%	79-120%

(a) (pH= 5) Sample is not acid preserved per method/client criteria. Sample analyzed within 3 days holding time as required for acrolein and acrylonitrile. Other compounds within 7 days as required by the method.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC43812-6DUP	1B109723.D	1	05/27/17	BK	n/a	n/a	V1B5221
JC43812-6	1B109719.D	1	05/27/17	BK	n/a	n/a	V1B5221

The QC reported here applies to the following samples: **Method:** EPA 524.2 REV 4.1

JC43459-3

CAS No.	Compound	JC43812-6 ug/l	Q	DUP ug/l	Q	RPD	Limits
67-64-1	Acetone	ND		ND		nc	10

CAS No.	Surrogate Recoveries	DUP	JC43812-6	Limits
2199-69-1	1,2-Dichlorobenzene-d4	100%	100%	70-130%
460-00-4	4-Bromofluorobenzene	82%	84%	70-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC44121-3DUP [a]	T224429.D	1	05/26/17	SC	n/a	n/a	VT9219
JC44121-3 [a]	T224419.D	1	05/26/17	SC	n/a	n/a	VT9219

The QC reported here applies to the following samples: **Method:** EPA 624

JC43459-2, JC43459-3

CAS No.	Compound	JC44121-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
71-43-2	Benzene	ND		ND		nc	10
56-23-5	Carbon tetrachloride	ND		ND		nc	10
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	10
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	10
106-46-7	1,4-Dichlorobenzene	ND		ND		nc	10
75-34-3	1,1-Dichloroethane	ND		ND		nc	10
107-06-2	1,2-Dichloroethane	ND		ND		nc	10
75-35-4	1,1-Dichloroethene	ND		ND		nc	10
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	10
123-91-1	1,4-Dioxane	ND		ND		nc	10
100-41-4	Ethylbenzene	ND		ND		nc	12
75-09-2	Methylene chloride	ND		ND		nc	10
127-18-4	Tetrachloroethene	ND		ND		nc	10
108-88-3	Toluene	ND		ND		nc	17
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	10
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	10
79-01-6	Trichloroethene	ND		ND		nc	10
75-01-4	Vinyl chloride	ND		ND		nc	10
1330-20-7	Xylenes (total)	ND		ND		nc	14

CAS No.	Surrogate Recoveries	DUP	JC44121-3	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	111%	114%	72-125%
2037-26-5	Toluene-D8 (SUR)	93%	92%	78-119%
460-00-4	4-Bromofluorobenzene (SUR)	106%	110%	74-115%
1868-53-7	Dibromofluoromethane (S)	122%* [b]	115%	79-120%

(a) (pH= 5) Sample is not acid preserved per method/client criteria. Sample analyzed within 3 days holding time as required for acrolein and acrylonitrile. Other compounds within 7 days as required by the method.
(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: V1B5213-BFB
Lab File ID: 1B109560.D
Instrument ID: GCMS1B
Injection Date: 05/22/17
Injection Time: 10:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	4058	20.8		Pass
75	30.0 - 80.0% of mass 95	10186	52.3		Pass
95	Base peak, 100% relative abundance	19493	100.0		Pass
96	5.0 - 9.0% of mass 95	1430	7.34		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	15890	81.5		Pass
175	5.0 - 9.0% of mass 174	1209	6.20	(7.61) [a]	Pass
176	95.0 - 101.0% of mass 174	15615	80.1	(98.3) [a]	Pass
177	5.0 - 9.0% of mass 176	1028	5.27	(6.58) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

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
V1B5213-IC5213	1B109561.D	05/22/17	11:22	00:35	Initial cal 0.2
V1B5213-IC5213	1B109564.D	05/22/17	12:57	02:10	Initial cal 2
V1B5213-IC5213	1B109565.D	05/22/17	13:28	02:41	Initial cal 5
V1B5213-ICC5213	1B109566.D	05/22/17	13:59	03:12	Initial cal 10
V1B5213-IC5213	1B109567.D	05/22/17	14:31	03:44	Initial cal 20
V1B5213-IC5213	1B109568.D	05/22/17	15:02	04:15	Initial cal 40
V1B5213-IC5213	1B109569.D	05/22/17	15:33	04:46	Initial cal 80
V1B5213-IC5213	1B109572.D	05/22/17	17:07	06:20	Initial cal 0.5
V1B5213-IC5213	1B109573.D	05/22/17	17:39	06:52	Initial cal 1
V1B5213-ICV5213	1B109574.D	05/22/17	18:11	07:24	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: V1B5221-BFB
Lab File ID: 1B109714.D
Instrument ID: GCMS1B
Injection Date: 05/27/17
Injection Time: 12:28

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	14.99 - 40.0% of mass 95	2385	20.0		Pass
75	30.0 - 80.0% of mass 95	6162	51.6		Pass
95	Base peak, 100% relative abundance	11951	100.0		Pass
96	5.0 - 9.0% of mass 95	789	6.60		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	10396	87.0		Pass
175	5.0 - 9.0% of mass 174	744	6.23	(7.16) [a]	Pass
176	95.0 - 101.0% of mass 174	10073	84.3	(96.9) [a]	Pass
177	5.0 - 9.0% of mass 176	665	5.56	(6.60) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

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
V1B5221-CC5213	1B109715.D	05/27/17	13:07	00:39	Continuing cal 5
V1B5221-MB	1B109716.D	05/27/17	13:39	01:11	Method Blank
V1B5221-BS	1B109717.D	05/27/17	14:24	01:56	Blank Spike
JC43812-5	1B109718.D	05/27/17	15:08	02:40	(used for QC only; not part of job JC43459)
JC43812-6	1B109719.D	05/27/17	15:40	03:12	(used for QC only; not part of job JC43459)
JC43459-3	1B109720.D	05/27/17	16:11	03:43	INF-RECERT-051617-MC
JC43812-5MS	1B109722.D	05/27/17	17:14	04:46	Matrix Spike
JC43812-6DUP	1B109723.D	05/27/17	17:46	05:18	Duplicate
ZZZZZZ	1B109724.D	05/27/17	18:17	05:49	(unrelated sample)
ZZZZZZ	1B109725.D	05/27/17	18:49	06:21	(unrelated sample)
ZZZZZZ	1B109726.D	05/27/17	19:20	06:52	(unrelated sample)
ZZZZZZ	1B109727.D	05/27/17	19:51	07:23	(unrelated sample)
ZZZZZZ	1B109728.D	05/27/17	20:23	07:55	(unrelated sample)
ZZZZZZ	1B109729.D	05/27/17	20:54	08:26	(unrelated sample)
ZZZZZZ	1B109730.D	05/27/17	21:26	08:58	(unrelated sample)
ZZZZZZ	1B109731.D	05/27/17	21:58	09:30	(unrelated sample)
ZZZZZZ	1B109732.D	05/27/17	22:29	10:01	(unrelated sample)
ZZZZZZ	1B109733.D	05/27/17	23:00	10:32	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: VT9203-BFB
Lab File ID: T224057.D
Instrument ID: GCMST
Injection Date: 05/12/17
Injection Time: 11:37

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	15280	16.1		Pass
75	30.0 - 60.0% of mass 95	42650	45.0		Pass
95	Base peak, 100% relative abundance	94833	100.0		Pass
96	5.0 - 9.0% of mass 95	6748	7.12		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	78634	82.9		Pass
175	5.0 - 9.0% of mass 174	5782	6.10	(7.35) [a]	Pass
176	95.0 - 101.0% of mass 174	76386	80.5	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	5129	5.41	(6.71) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

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
VT9203-IC9203	T224058.D	05/12/17	12:25	00:48	Initial cal 0.5
VT9203-IC9203	T224059.D	05/12/17	13:10	01:33	Initial cal 0.2
VT9203-IC9203	T224060.D	05/12/17	13:40	02:03	Initial cal 1.0
VT9203-IC9203	T224061.D	05/12/17	14:10	02:33	Initial cal 2.0
VT9203-IC9203	T224062.D	05/12/17	14:40	03:03	Initial cal 5.0
VT9203-ICC9203	T224063.D	05/12/17	15:11	03:34	Initial cal 20
VT9203-IC9203	T224064.D	05/12/17	15:41	04:04	Initial cal 50
VT9203-IC9203	T224065.D	05/12/17	16:11	04:34	Initial cal 100
VT9203-IC9203	T224066.D	05/12/17	16:41	05:04	Initial cal 200
VT9203-ICV9203	T224069.D	05/12/17	18:11	06:34	Initial cal verification 20
VT9203-ICV9203	T224070.D	05/12/17	18:41	07:04	Initial cal verification 20

Instrument Performance Check (BFB)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: VT9219-BFB
Lab File ID: T224413.D
Instrument ID: GCMST
Injection Date: 05/26/17
Injection Time: 08:33

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	19447	18.5		Pass
75	30.0 - 60.0% of mass 95	50456	48.0		Pass
95	Base peak, 100% relative abundance	105107	100.0		Pass
96	5.0 - 9.0% of mass 95	7277	6.92		Pass
173	Less than 2.0% of mass 174	862	0.82	(0.95) [a]	Pass
174	50.0 - 120.0% of mass 95	90853	86.4		Pass
175	5.0 - 9.0% of mass 174	7342	6.99	(8.08) [a]	Pass
176	95.0 - 101.0% of mass 174	86437	82.2	(95.1) [a]	Pass
177	5.0 - 9.0% of mass 176	5863	5.58	(6.78) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

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
VT9219-CC9203	T224414.D	05/26/17	09:03	00:30	Continuing cal 20
VT9219-MB	T224415.D	05/26/17	09:44	01:11	Method Blank
VT9219-BS	T224416.D	05/26/17	10:14	01:41	Blank Spike
ZZZZZZ	T224417.D	05/26/17	10:54	02:21	(unrelated sample)
JC44121-4	T224418.D	05/26/17	11:24	02:51	(used for QC only; not part of job JC43459)
JC44121-3	T224419.D	05/26/17	11:54	03:21	(used for QC only; not part of job JC43459)
ZZZZZZ	T224420.D	05/26/17	12:24	03:51	(unrelated sample)
ZZZZZZ	T224421.D	05/26/17	12:54	04:21	(unrelated sample)
ZZZZZZ	T224422.D	05/26/17	13:24	04:51	(unrelated sample)
ZZZZZZ	T224423.D	05/26/17	13:54	05:21	(unrelated sample)
ZZZZZZ	T224424.D	05/26/17	14:24	05:51	(unrelated sample)
JC43459-2	T224425.D	05/26/17	14:54	06:21	INF-RECERT-051617-FD
JC43459-3	T224426.D	05/26/17	15:24	06:51	INF-RECERT-051617-MC
ZZZZZZ	T224427.D	05/26/17	15:54	07:21	(unrelated sample)
JC44121-4MS	T224428.D	05/26/17	16:25	07:52	Matrix Spike
JC44121-3DUP	T224429.D	05/26/17	16:55	08:22	Duplicate
ZZZZZZ	T224429A.D	05/26/17	17:25	08:52	(unrelated sample)
ZZZZZZ	T224430.D	05/26/17	17:55	09:22	(unrelated sample)
ZZZZZZ	T224431.D	05/26/17	18:25	09:52	(unrelated sample)
ZZZZZZ	T224432.D	05/26/17	18:55	10:22	(unrelated sample)
ZZZZZZ	T224433.D	05/26/17	19:25	10:52	(unrelated sample)
ZZZZZZ	T224434.D	05/26/17	19:55	11:22	(unrelated sample)
ZZZZZZ	T224435.D	05/26/17	20:25	11:52	(unrelated sample)
ZZZZZZ	T224436.D	05/26/17	20:56	12:23	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample:	VT9219-BFB	**Injection Date:**	05/26/17
Lab File ID:	T224413.D	**Injection Time:**	08:33
Instrument ID:	GCMST		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	T224438.D	05/26/17	21:26	12:53	(unrelated sample)
VT9220-MB	T224440.D	05/26/17	22:26	13:53	Method Blank
VT9220-BS	T224441.D	05/26/17	22:56	14:23	Blank Spike
JC44029-1MS	T224442.D	05/26/17	23:25	14:52	Matrix Spike
JC44029-1MSD	T224443.D	05/26/17	23:55	15:22	Matrix Spike Duplicate
ZZZZZZ	T224445.D	05/27/17	00:56	16:23	(unrelated sample)
ZZZZZZ	T224446.D	05/27/17	01:25	16:52	(unrelated sample)
JC44029-1	T224447.D	05/27/17	01:56	17:23	(used for QC only; not part of job JC43459)
ZZZZZZ	T224448.D	05/27/17	02:26	17:53	(unrelated sample)
ZZZZZZ	T224449.D	05/27/17	02:56	18:23	(unrelated sample)
ZZZZZZ	T224451.D	05/27/17	03:56	19:23	(unrelated sample)
ZZZZZZ	T224452.D	05/27/17	04:26	19:53	(unrelated sample)
ZZZZZZ	T224454.D	05/27/17	05:27	20:54	(unrelated sample)
ZZZZZZ	T224455.D	05/27/17	05:57	21:24	(unrelated sample)
ZZZZZZ	T224456.D	05/27/17	06:27	21:54	(unrelated sample)

Volatile Surrogate Recovery Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Method: EPA 624 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC43459-2	T224425.D	117	92	110	118
JC43459-3	T224426.D	116	91	110	119
JC44121-3DUP	T224429.D	111	93	106	122* [a]
JC44121-4MS	T224428.D	113	93	104	114
VT9219-BS	T224416.D	110	91	107	115
VT9219-MB	T224415.D	110	92	110	115

Surrogate Compounds	Recovery Limits
S1 = 1,2-Dichloroethane-D4 (SUR)	72-125%
S2 = Toluene-D8 (SUR)	78-119%
S3 = 4-Bromofluorobenzene (SUR)	74-115%
S4 = Dibromofluoromethane (S)	79-120%

(a) Outside control limits due to matrix interference.

Volatile Surrogate Recovery Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Method: EPA 524.2 REV 4.1 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
JC43459-3	1B109720.D	95	83
JC43812-5MS	1B109722.D	103	91
JC43812-6DUP	1B109723.D	100	82
V1B5221-BS	1B109717.D	105	91
V1B5221-MB	1B109716.D	99	85

Surrogate Compounds	Recovery Limits
S1 = 1,2-Dichlorobenzene-d4	70-130%
S2 = 4-Bromofluorobenzene	70-130%

GC/MS Semi-volatiles

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: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3046-MB1	2P70106.D	1	05/24/17	FW	05/22/17	OP3046	E2P3092

The QC reported here applies to the following samples: **Method:** EPA 625

JC43459-3

CAS No.	Compound	Result	RL	MDL	Units	Q
108-95-2	Phenol	ND	2.0	0.39	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	43%	10-110%
4165-62-2	Phenol-d5	30%	10-110%
118-79-6	2,4,6-Tribromophenol	111%	35-147%
4165-60-0	Nitrobenzene-d5	74%	32-132%
321-60-8	2-Fluorobiphenyl	78%	40-117%
1718-51-0	Terphenyl-d14	102%	33-126%

Method Blank Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3046-MB1	P114319.D	1	05/30/17	RL	05/22/17	OP3046	EP5101

The QC reported here applies to the following samples: **Method:** EPA 625

JC43459-3

CAS No.	Compound	Result	RL	MDL	Units	Q
108-95-2	Phenol	ND	2.0	0.39	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	47%	10-110%
4165-62-2	Phenol-d5	30%	10-110%
118-79-6	2,4,6-Tribromophenol	95%	35-147%
4165-60-0	Nitrobenzene-d5	79%	32-132%
321-60-8	2-Fluorobiphenyl	77%	40-117%
1718-51-0	Terphenyl-d14	91%	33-126%

Blank Spike Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3046-BS1	2P70107.D	1	05/24/17	FW	05/22/17	OP3046	E2P3092

The QC reported here applies to the following samples: **Method:** EPA 625

JC43459-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
108-95-2	Phenol	50	16.5	33	20-110

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	51%	10-110%
4165-62-2	Phenol-d5	36%	10-110%
118-79-6	2,4,6-Tribromophenol	102%	35-147%
4165-60-0	Nitrobenzene-d5	70%	32-132%
321-60-8	2-Fluorobiphenyl	80%	40-117%
1718-51-0	Terphenyl-d14	103%	33-126%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3046-MS	P114328.D	1	05/30/17	RL	05/22/17	OP3046	EP5101
OP3046-MSD	P114329.D	1	05/30/17	RL	05/22/17	OP3046	EP5101
JC43417-1	P114327.D	1	05/30/17	RL	05/22/17	OP3046	EP5101

The QC reported here applies to the following samples: **Method:** EPA 625

JC43459-3

CAS No.	Compound	JC43417-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-95-2	Phenol	ND		100	39.9	40	100	44.8	45	12	10-110/27

CAS No.	Surrogate Recoveries	MS	MSD	JC43417-1	Limits
367-12-4	2-Fluorophenol	58%	65%	47%	10-110%
4165-62-2	Phenol-d5	38%	45%	31%	10-110%
118-79-6	2,4,6-Tribromophenol	99%	98%	92%	35-147%
4165-60-0	Nitrobenzene-d5	74%	76%	80%	32-132%
321-60-8	2-Fluorobiphenyl	79%	81%	83%	40-117%
1718-51-0	Terphenyl-d14	97%	98%	62%	33-126%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: E2P3068-DFTPP
Lab File ID: 2P69555.D
Instrument ID: GCMS2P
Injection Date: 05/08/17
Injection Time: 22:15

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	96993	50.9		Pass
68	Less than 2.0% of mass 69	1773	0.93	(1.76) [a]	Pass
69	Mass 69 relative abundance	100925	53.0		Pass
70	Less than 2.0% of mass 69	202	0.11	(0.20) [a]	Pass
127	40.0 - 60.0% of mass 198	104931	55.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	190501	100.0		Pass
199	5.0 - 9.0% of mass 198	13143	6.90		Pass
275	10.0 - 30.0% of mass 198	50696	26.6		Pass
365	1.0 - 100.0% of mass 198	6475	3.40		Pass
441	Present, but less than mass 443	18471	9.70	(78.4) [b]	Pass
442	40.0 - 100.0% of mass 198	117699	61.8		Pass
443	17.0 - 23.0% of mass 442	23550	12.4	(20.0) [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
E2P3068-IC3068	2P69556.D	05/08/17	22:29	00:14	Initial cal 100
E2P3068-IC3068	2P69557.D	05/08/17	22:51	00:36	Initial cal 80
E2P3068-ICC3068	2P69558.D	05/08/17	23:13	00:58	Initial cal 50
E2P3068-IC3068	2P69559.D	05/08/17	23:35	01:20	Initial cal 25
E2P3068-IC3068	2P69560.D	05/08/17	23:57	01:42	Initial cal 10
E2P3068-IC3068	2P69561.D	05/09/17	00:18	02:03	Initial cal 5
E2P3068-IC3068	2P69562.D	05/09/17	00:40	02:25	Initial cal 2
E2P3068-IC3068	2P69563.D	05/09/17	01:02	02:47	Initial cal 1
E2P3068-ICV3068	2P69564.D	05/09/17	01:24	03:09	Initial cal verification 50
E2P3068-ICV3068	2P69565.D	05/09/17	01:45	03:30	Initial cal verification 50
E2P3068-ICV3068	2P69566.D	05/09/17	02:07	03:52	Initial cal verification 50
E2P3068-ICV3068	2P69567.D	05/09/17	02:29	04:14	Initial cal verification 50
E2P3068-ICV3068	2P69568.D	05/09/17	02:50	04:35	Initial cal verification 50
E2P3068-ICV3068	2P69569.D	05/09/17	03:12	04:57	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: E2P3071-DFTPP
Lab File ID: 2P69612.D
Instrument ID: GCMS2P
Injection Date: 05/10/17
Injection Time: 01:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	52200	46.2		Pass
68	Less than 2.0% of mass 69	606	0.54	(1.05) [a]	Pass
69	Mass 69 relative abundance	57980	51.4		Pass
70	Less than 2.0% of mass 69	242	0.21	(0.42) [a]	Pass
127	40.0 - 60.0% of mass 198	62167	55.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	112867	100.0		Pass
199	5.0 - 9.0% of mass 198	7659	6.79		Pass
275	10.0 - 30.0% of mass 198	30040	26.6		Pass
365	1.0 - 100.0% of mass 198	3920	3.47		Pass
441	Present, but less than mass 443	10859	9.62	(76.0) [b]	Pass
442	40.0 - 100.0% of mass 198	71157	63.0		Pass
443	17.0 - 23.0% of mass 442	14297	12.7	(20.1) [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
E2P3071-IC3071	2P69613.D	05/10/17	01:30	00:13	Initial cal 100
E2P3071-IC3071	2P69614.D	05/10/17	01:52	00:35	Initial cal 80
E2P3071-ICC3071	2P69615.D	05/10/17	02:14	00:57	Initial cal 50
E2P3071-IC3071	2P69616.D	05/10/17	02:36	01:19	Initial cal 25
E2P3071-IC3071	2P69617.D	05/10/17	02:57	01:40	Initial cal 10
E2P3071-IC3071	2P69618.D	05/10/17	03:19	02:02	Initial cal 5
E2P3071-IC3071	2P69619.D	05/10/17	03:41	02:24	Initial cal 2
E2P3071-IC3071	2P69620.D	05/10/17	04:02	02:45	Initial cal 1
E2P3071-ICV3071	2P69621.D	05/10/17	04:24	03:07	Initial cal verification 50
E2P3071-ICV3071	2P69622.D	05/10/17	04:46	03:29	Initial cal verification 50
E2P3071-ICV3071	2P69623.D	05/10/17	05:07	03:50	Initial cal verification 50
E2P3071-ICV3071	2P69624.D	05/10/17	05:29	04:12	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: E2P3092-DFTPP
Lab File ID: 2P70101.D
Instrument ID: GCMS2P
Injection Date: 05/24/17
Injection Time: 09:24

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	83049	40.5		Pass
68	Less than 2.0% of mass 69	492	0.24	(0.53) [a]	Pass
69	Mass 69 relative abundance	93021	45.4		Pass
70	Less than 2.0% of mass 69	301	0.15	(0.32) [a]	Pass
127	40.0 - 60.0% of mass 198	100976	49.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	204821	100.0		Pass
199	5.0 - 9.0% of mass 198	14484	7.07		Pass
275	10.0 - 30.0% of mass 198	54931	26.8		Pass
365	1.0 - 100.0% of mass 198	6087	2.97		Pass
441	Present, but less than mass 443	27317	13.3	(78.8) [b]	Pass
442	40.0 - 100.0% of mass 198	178632	87.2		Pass
443	17.0 - 23.0% of mass 442	34667	16.9	(19.4) [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
E2P3092-CC3068	2P70102.D	05/24/17	09:33	00:09	Continuing cal 50
E2P3092-CC3071	2P70103.D	05/24/17	09:56	00:32	Continuing cal 50
E2P3092-CC3068	2P70105.D	05/24/17	10:43	01:19	Continuing cal 5
OP3046-MB1	2P70106.D	05/24/17	11:05	01:41	Method Blank
OP3046-BS1	2P70107.D	05/24/17	11:28	02:04	Blank Spike
ZZZZZZ	2P70115.D	05/24/17	11:50	02:26	(unrelated sample)
ZZZZZZ	2P70108.D	05/24/17	12:12	02:48	(unrelated sample)
JC43459-3	2P70109.D	05/24/17	12:35	03:11	INF-RECERT-051617-MC
OP3013-MB1	2P70116A.D	05/24/17	12:57	03:33	Method Blank
ZZZZZZ	2P70117.D	05/24/17	13:19	03:55	(unrelated sample)
ZZZZZZ	2P70118.D	05/24/17	14:04	04:40	(unrelated sample)
ZZZZZZ	2P70113.D	05/24/17	15:11	05:47	(unrelated sample)
ZZZZZZ	2P70114.D	05/24/17	15:34	06:10	(unrelated sample)
ZZZZZZ	2P70119.D	05/24/17	15:56	06:32	(unrelated sample)
ZZZZZZ	2P70120.D	05/24/17	16:19	06:55	(unrelated sample)
ZZZZZZ	2P70121.D	05/24/17	16:41	07:17	(unrelated sample)
ZZZZZZ	2P70122.D	05/24/17	17:04	07:40	(unrelated sample)
ZZZZZZ	2P70123.D	05/24/17	17:26	08:02	(unrelated sample)
ZZZZZZ	2P70124.D	05/24/17	17:49	08:25	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample:	E2P3092-DFTPP	**Injection Date:**	05/24/17
Lab File ID:	2P70101.D	**Injection Time:**	09:24
Instrument ID:	GCMS2P		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	2P70125.D	05/24/17	18:11	08:47	(unrelated sample)
ZZZZZZ	2P70126.D	05/24/17	18:34	09:10	(unrelated sample)
ZZZZZZ	2P70127.D	05/24/17	18:56	09:32	(unrelated sample)
ZZZZZZ	2P70128.D	05/24/17	19:19	09:55	(unrelated sample)
ZZZZZZ	2P70129.D	05/24/17	19:41	10:17	(unrelated sample)
ZZZZZZ	2P70130.D	05/24/17	20:04	10:40	(unrelated sample)
ZZZZZZ	2P70131.D	05/24/17	20:26	11:02	(unrelated sample)
ZZZZZZ	2P70132.D	05/24/17	20:49	11:25	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: EP5078-DFTPP
Lab File ID: P113755.D
Instrument ID: GCMSP
Injection Date: 05/12/17
Injection Time: 09:56

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	6713	35.1		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	8140	42.6		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	8537	44.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	19126	100.0		Pass
199	5.0 - 9.0% of mass 198	1277	6.68		Pass
275	10.0 - 30.0% of mass 198	5236	27.4		Pass
365	1.0 - 100.0% of mass 198	670	3.50		Pass
441	Present, but less than mass 443	2023	10.6	(83.7) [b]	Pass
442	40.0 - 100.0% of mass 198	12565	65.7		Pass
443	17.0 - 23.0% of mass 442	2417	12.6	(19.2) [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
EP5078-IC5078	P113756.D	05/12/17	10:36	00:40	Initial cal 2
EP5078-IC5078	P113757.D	05/12/17	11:05	01:09	Initial cal 1
EP5078-IC5078	P113758.D	05/12/17	11:34	01:38	Initial cal 100
EP5078-ICC5078	P113759.D	05/12/17	12:04	02:08	Initial cal 50
EP5078-IC5078	P113760.D	05/12/17	12:33	02:37	Initial cal 80
EP5078-IC5078	P113761.D	05/12/17	13:01	03:05	Initial cal 25
EP5078-IC5078	P113762.D	05/12/17	13:31	03:35	Initial cal 10
EP5078-IC5078	P113763.D	05/12/17	14:00	04:04	Initial cal 5

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: EP5079-DFTPP
Lab File ID: P113764.D
Instrument ID: GCMSP
Injection Date: 05/12/17
Injection Time: 14:24

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	6979	35.1		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	9052	45.5		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	8959	45.0		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	19894	100.0		Pass
199	5.0 - 9.0% of mass 198	1374	6.91		Pass
275	10.0 - 30.0% of mass 198	5277	26.5		Pass
365	1.0 - 100.0% of mass 198	660	3.32		Pass
441	Present, but less than mass 443	1996	10.0	(87.9) [b]	Pass
442	40.0 - 100.0% of mass 198	11722	58.9		Pass
443	17.0 - 23.0% of mass 442	2270	11.4	(19.4) [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
EP5079-IC5079	P113765.D	05/12/17	14:44	00:20	Initial cal 100
EP5079-IC5079	P113766.D	05/12/17	15:13	00:49	Initial cal 80
EP5079-ICC5079	P113767.D	05/12/17	15:42	01:18	Initial cal 50
EP5079-IC5079	P113768.D	05/12/17	16:11	01:47	Initial cal 25
EP5079-IC5079	P113769.D	05/12/17	16:40	02:16	Initial cal 10
EP5079-IC5079	P113770.D	05/12/17	17:09	02:45	Initial cal 5
EP5079-IC5079	P113771.D	05/12/17	17:38	03:14	Initial cal 2
EP5079-IC5079	P113772.D	05/12/17	18:07	03:43	Initial cal 1
EP5079-ICV5078	P113773.D	05/12/17	18:37	04:13	Initial cal verification 50
EP5079-ICV5078	P113774.D	05/12/17	19:06	04:42	Initial cal verification 50
EP5079-ICV5079	P113775A.D	05/12/17	19:35	05:11	Initial cal verification 50
EP5079-ICV5078	P113775.D	05/12/17	19:35	05:11	Initial cal verification 50
EP5079-ICV5079	P113776A.D	05/12/17	20:04	05:40	Initial cal verification 50
EP5079-ICV5078	P113776.D	05/12/17	20:04	05:40	Initial cal verification 50
EP5079-ICV5078	P113777.D	05/12/17	20:33	06:09	Initial cal verification 50
EP5079-ICV5079	P113778A.D	05/12/17	21:58	07:34	Initial cal verification 50
EP5079-ICV5078	P113778AA.D	05/12/17	21:58	07:34	Initial cal verification 50
EP5079-ICV5079	P113779.D	05/12/17	22:27	08:03	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: EP5080-DFTPP
Lab File ID: P113780.D
Instrument ID: GCMSP
Injection Date: 05/12/17
Injection Time: 22:51

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	6346	31.2		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	8276	40.7		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	8733	43.0		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	20322	100.0		Pass
199	5.0 - 9.0% of mass 198	1353	6.66		Pass
275	10.0 - 30.0% of mass 198	5517	27.1		Pass
365	1.0 - 100.0% of mass 198	644	3.17		Pass
441	Present, but less than mass 443	2262	11.1	(88.8) [b]	Pass
442	40.0 - 100.0% of mass 198	13227	65.1		Pass
443	17.0 - 23.0% of mass 442	2548	12.5	(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
EP5080-IC5080	P113781.D	05/12/17	23:03	00:12	Initial cal 100
EP5080-IC5080	P113782.D	05/12/17	23:32	00:41	Initial cal 80
EP5080-ICC5080	P113783.D	05/13/17	00:01	01:10	Initial cal 50
EP5080-IC5080	P113784.D	05/13/17	00:30	01:39	Initial cal 25
EP5080-IC5080	P113785.D	05/13/17	00:59	02:08	Initial cal 10
EP5080-IC5080	P113786.D	05/13/17	01:27	02:36	Initial cal 5
EP5080-IC5080	P113787.D	05/13/17	01:56	03:05	Initial cal 2
EP5080-IC5080	P113788.D	05/13/17	02:25	03:34	Initial cal 1
EP5080-ICV5080	P113789.D	05/13/17	02:54	04:03	Initial cal verification 50
EP5080-ICV5078	P113789A.D	05/13/17	02:54	04:03	Initial cal verification 50
EP5080-ICV5080	P113790.D	05/13/17	03:23	04:32	Initial cal verification 50
EP5080-ICV5080	P113791.D	05/13/17	03:51	05:00	Initial cal verification 50
EP5080-ICV5080	P113792.D	05/13/17	04:20	05:29	Initial cal verification 50
EP5080-ICV5078	P113792A.D	05/13/17	04:20	05:29	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample: EP5101-DFTPP
Lab File ID: P114313.D
Instrument ID: GCMSP
Injection Date: 05/30/17
Injection Time: 09:42

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	7377	31.4		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	9615	40.9		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	10169	43.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	23499	100.0		Pass
199	5.0 - 9.0% of mass 198	1480	6.30		Pass
275	10.0 - 30.0% of mass 198	6440	27.4		Pass
365	1.0 - 100.0% of mass 198	821	3.49		Pass
441	Present, but less than mass 443	2593	11.0	(81.4) [b]	Pass
442	40.0 - 100.0% of mass 198	16131	68.6		Pass
443	17.0 - 23.0% of mass 442	3186	13.6	(19.8) [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
EP5101-CC5078	P114315.D	05/30/17	10:25	00:43	Continuing cal 50
EP5101-CC5079	P114316.D	05/30/17	10:54	01:12	Continuing cal 50
EP5101-CC5080	P114317.D	05/30/17	11:33	01:51	Continuing cal 50
EP5101-CC5078	P114318.D	05/30/17	12:03	02:21	Continuing cal 5
OP3046-MB1	P114319.D	05/30/17	12:38	02:56	Method Blank
OP3046-BS13	P114320.D	05/30/17	13:07	03:25	Blank Spike
OP3184-MB1	P114321.D	05/30/17	13:36	03:54	Method Blank
ZZZZZZ	P114323.D	05/30/17	14:34	04:52	(unrelated sample)
ZZZZZZ	P114324.D	05/30/17	15:03	05:21	(unrelated sample)
ZZZZZZ	P114326.D	05/30/17	16:01	06:19	(unrelated sample)
JC43417-1	P114327.D	05/30/17	16:30	06:48	(used for QC only; not part of job JC43459)
OP3046-MS	P114328.D	05/30/17	16:59	07:17	Matrix Spike
OP3046-MSD	P114329.D	05/30/17	17:28	07:46	Matrix Spike Duplicate
OP3184-MS	P114330.D	05/30/17	17:58	08:16	Matrix Spike
OP3184-MSD	P114331.D	05/30/17	18:27	08:45	Matrix Spike Duplicate
JC43783-8	P114332.D	05/30/17	18:56	09:14	(used for QC only; not part of job JC43459)
ZZZZZZ	P114333.D	05/30/17	19:25	09:43	(unrelated sample)
ZZZZZZ	P114334.D	05/30/17	19:54	10:12	(unrelated sample)
ZZZZZZ	P114335.D	05/30/17	20:23	10:41	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample:	EP5101-DFTPP	**Injection Date:**	05/30/17
Lab File ID:	P114313.D	**Injection Time:**	09:42
Instrument ID:	GCMSP		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	P114336.D	05/30/17	20:53	11:11	(unrelated sample)

Semivolatile Surrogate Recovery Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Method: EPA 625 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
JC43459-3	2P70109.D	45	33	112
OP3046-BS1	2P70107.D	51	36	102
OP3046-MB1	2P70106.D	43	30	111
OP3046-MB1	P114319.D	47	30	95
OP3046-MS	P114328.D	58	38	99
OP3046-MSD	P114329.D	65	45	98

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	10-110%
S2 = Phenol-d5	10-110%
S3 = 2,4,6-Tribromophenol	35-147%

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2993-MB1	7G22234.D	1	05/23/17	VDT	05/19/17	OP2993	G7G794

The QC reported here applies to the following samples: **Method:** SW846-8011

JC43459-3

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	0.0061	ug/l	

CAS No.	Surrogate Recoveries		Limits
3017-95-6	2-Bromo-1-chloropropane	89%	20-144%
3017-95-6	2-Bromo-1-chloropropane	79%	20-144%

Blank Spike/Blank Spike Duplicate Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2993-BS1	7G22235.D	1	05/23/17	VDT	05/19/17	OP2993	G7G794
OP2993-BSD	7G22236.D	1	05/23/17	VDT	05/20/17	OP2993	G7G794

The QC reported here applies to the following samples: **Method:** SW846-8011

JC43459-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	0.5	0.39	78	0.40	80	3	60-140/32

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
3017-95-6	2-Bromo-1-chloropropane	97%	92%	20-144%
3017-95-6	2-Bromo-1-chloropropane	81%	76%	20-144%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2993-MS	7G22237.D	1	05/23/17	VDT	05/19/17	OP2993	G7G794
JC43542-1	7G22239.D	1	05/23/17	VDT	05/19/17	OP2993	G7G794

The QC reported here applies to the following samples: **Method:** SW846-8011

JC43459-3

CAS No.	Compound	JC43542-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
106-93-4	1,2-Dibromoethane	ND		0.5	0.35	70	60-140

CAS No.	Surrogate Recoveries	MS	JC43542-1	Limits
3017-95-6	2-Bromo-1-chloropropane	71%	62%	20-144%
3017-95-6	2-Bromo-1-chloropropane	60%	55%	20-144%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2993-DUP	7G22238.D	1	05/23/17	VDT	05/20/17	OP2993	G7G794
JC43563-5	7G22240.D	1	05/23/17	VDT	05/19/17	OP2993	G7G794

The QC reported here applies to the following samples: **Method:** SW846-8011

JC43459-3

CAS No.	Compound	JC43563-5 ug/l	Q	DUP ug/l	Q	RPD	Limits
106-93-4	1,2-Dibromoethane	ND		ND		nc	30

CAS No.	Surrogate Recoveries	DUP	JC43563-5	Limits
3017-95-6	2-Bromo-1-chloropropane	79%	75%	20-144%
3017-95-6	2-Bromo-1-chloropropane	68%	66%	20-144%

8.4.1

8

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: JC43459
Account: HWINJOMM Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Method: SW846-8011 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
JC43459-3	7G22291.D	84	80
OP2993-BS1	7G22235.D	97	81
OP2993-BSD	7G22236.D	92	76
OP2993-DUP	7G22238.D	79	68
OP2993-MB1	7G22234.D	89	79
OP2993-MS	7G22237.D	71	60

Surrogate Compounds	Recovery Limits
S1 = 2-Bromo-1-chloropropane	20-144%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

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: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

QC Batch ID: MP863
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 05/19/17

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.19	1.3		
Antimony	2.0	.062	.26	0.014	<2.0
Arsenic	1.0	.0096	.034	0.0089	<1.0
Barium	1.0	.0023	.028		
Beryllium	0.50	.0026	.013		
Boron	50	.53			
Cadmium	0.50	.003	.12	0.0067	<0.50
Calcium	250	1.4	3.7		
Chromium	4.0	.016	.1	0.020	<4.0
Cobalt	0.50	.002	.018		
Copper	4.0	.016	.14	0.095	<4.0
Iron	50	.13	2	1.4	<50
Lead	0.50	.0043	.011	0.011	<0.50
Magnesium	250	.14	3.6		
Manganese	1.0	.011	.095		
Molybdenum	1.0	.021	.23		
Nickel	4.0	.017	.11	0.018	<4.0
Potassium	250	1.5	8.8		
Selenium	1.0	.011	.12	0.0047	<1.0
Silver	2.0	.0044	.041	0.0042	<2.0
Sodium	250	.89	2.5		
Strontium	5.0	.004	.015		
Thallium	0.50	.002	.013		
Tin	5.0	.038	.38		
Titanium	1.0	.022	.56		
Vanadium	4.0	.015	.2		
Zinc	10	.06	1.2	0.68	<10

Associated samples MP863: JC43459-1, JC43459-2, JC43459-3

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: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

QC Batch ID: MP863
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 05/19/17

Metal	JC43590-1 Original	MS	Spikelot MPX200.8	% Rec	QC Limits
Aluminum	anr				
Antimony	0.066	98.0	100	97.9	70-130
Arsenic	0.41	88.2	100	87.8	70-130
Barium	anr				
Beryllium					
Boron					
Cadmium	0.0065	88.8	100	88.8	70-130
Calcium					
Chromium	0.16	91.4	100	91.2	70-130
Cobalt					
Copper	0.43	81.1	100	80.7	70-130
Iron	2750	4520	2000	88.5	70-130
Lead	0.040	101	100	101.0	70-130
Magnesium					
Manganese	anr				
Molybdenum					
Nickel	7.7	91.2	100	83.5	70-130
Potassium					
Selenium	0.065	193	200	96.5	70-130
Silver	0.0095	74.8	76.5	97.8	70-130
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc	2.2	79.8	100	77.6	70-130

Associated samples MP863: JC43459-1, JC43459-2, JC43459-3

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: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

QC Batch ID: MP863
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 05/19/17

Metal	JC43590-1 Original	MSD	Spikelot MPX200.8	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	0.066	98.9	100	98.8	0.9	10
Arsenic	0.41	88.2	100	87.8	0.0	10
Barium	anr					
Beryllium						
Boron						
Cadmium	0.0065	89.7	100	89.7	1.0	10
Calcium						
Chromium	0.16	93.0	100	92.8	1.7	10
Cobalt						
Copper	0.43	82.3	100	81.9	1.5	11
Iron	2750	4520	2000	88.5	0.0	10
Lead	0.040	101	100	101.0	0.0	10
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	7.7	92.4	100	84.7	1.3	10
Potassium						
Selenium	0.065	191	200	95.5	1.0	10
Silver	0.0095	75.1	76.5	98.2	0.4	10
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	2.2	81.0	100	78.8	1.5	10

Associated samples MP863: JC43459-1, JC43459-2, JC43459-3

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: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

QC Batch ID: MP863
Matrix Type: AQUEOUS

Methods: EPA 200.8
Units: ug/l

Prep Date: 05/19/17

Metal	BSP Result	Spikelot MPX200.8	% Rec	QC Limits
Aluminum	anr			
Antimony	98.0	100	98.0	85-115
Arsenic	93.1	100	93.1	85-115
Barium	anr			
Beryllium				
Boron				
Cadmium	93.0	100	93.0	85-115
Calcium				
Chromium	94.3	100	94.3	85-115
Cobalt				
Copper	91.9	100	91.9	85-115
Iron	1960	2000	98.0	85-115
Lead	96.5	100	96.5	85-115
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	94.1	100	94.1	85-115
Potassium				
Selenium	199	200	99.5	85-115
Silver	79.2	76.5	103.5	85-115
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	93.7	100	93.7	85-115

Associated samples MP863: JC43459-1, JC43459-2, JC43459-3

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: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

QC Batch ID: MP951 Methods: EPA 245.1
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/22/17

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.012	.055	-0.0084	<0.20

Associated samples MP951: JC43459-1, JC43459-3

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: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

QC Batch ID: MP951
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 05/22/17

Metal	JC43417-1 Original	MS	Spikelot HGPW3	% Rec	QC Limits
Mercury	0.0	2.2	2	110.0	70-130

Associated samples MP951: JC43459-1, JC43459-3

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: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

QC Batch ID: MP951 Methods: EPA 245.1
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 05/22/17

Metal	JC43417-1 Original	MSD	Spikelot HGPW3	% Rec	MSD RPD	QC Limit
Mercury	0.0	2.1	2	105.0	4.7	19

Associated samples MP951: JC43459-1, JC43459-3

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: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

QC Batch ID: MP951
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 05/22/17

Metal	BSP Result	Spikelot HGPW3	% Rec	QC Limits
Mercury	2.2	2	110.0	85-115

Associated samples MP951: JC43459-1, JC43459-3

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

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP5540/GN64641	2.0	0.0	mg/l	80	82.4	103.0	90-110%
Chromium, Hexavalent	GP5594/GN64734	0.025	0.0	ug/l	1	1.05	105.0	85-115%
Cyanide	GP5834/GN65291	0.010	0.0	mg/l	0.0833	0.0800	96.0	90-110%
Cyanide	GP5834/GN65291	0.010	0.0	mg/l	0.0833	0.0845	101.4	90-110%
Hardness, Total as CaCO3	GN64392	4.0	0.0	mg/l	80	80.0	100.0	80-120%
Hardness, Total as CaCO3	GN64392			mg/l	160	158	98.8	80-120%
Hardness, Total as CaCO3	GN64392			mg/l	160	158	98.8	80-120%
Nitrogen, Ammonia	GP5527/GN64585	0.20	0.0	mg/l	1	1.02	102.0	80-120%
Solids, Total Suspended	GN64357	4.0	0.0	mg/l				
Sulfate	GP5540/GN64641	10	0.0	mg/l	80	82.3	102.9	90-110%
Total Residual Chlorine	GN63850	0.10	0.0	mg/l	1.0	0.96	96.0	90-110%
Weak Acid Dissociable Cn	GP5475/GN64522	0.010	0.0	mg/l	0.0833	0.0926	111.2	80-120%

Associated Samples:
Batch GP5475: JC43459-2, JC43459-3
Batch GP5527: JC43459-1, JC43459-3
Batch GP5540: JC43459-2, JC43459-3
Batch GP5594: JC43459-1, JC43459-3
Batch GP5834: JC43459-2R, JC43459-3R
Batch GN63850: JC43459-3
Batch GN64357: JC43459-3
Batch GN64392: JC43459-1, JC43459-2, JC43459-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP5540/GN64575	JC43444-1	mg/l	389	389	0.0	0-20%
Chromium, Hexavalent	GP5594/GN64734	JC43459-1	ug/l	0.093	0.095	2.1	0-15%
Cyanide	GP5834/GN65291	JC44479-7A	mg/l	0.0	0.0	0.0	0-32%
Hardness, Total as CaCO3	GN64392	JC43591-1	mg/l	921	926	0.5	0-10%
Nitrogen, Ammonia	GP5527/GN64585	JC43618-1	mg/l	0.0	0.0	0.0	0-33%
Solids, Total Suspended	GN64357	JC43472-2	mg/l	3860	3780	2.1	0-17%
Sulfate	GP5540/GN64575	JC43444-1	mg/l	24.3	24.4	0.4	0-20%
Total Residual Chlorine	GN63850	JC42307-1Q	mg/l	0.036 U	0.040	0.0	0-49%
Weak Acid Dissociable Cn	GP5475/GN64723	JC43604-1	mg/l	0.0	0.0	200.0*(a)	0-24%

Associated Samples:
Batch GP5475: JC43459-2, JC43459-3
Batch GP5527: JC43459-1, JC43459-3
Batch GP5540: JC43459-2, JC43459-3
Batch GP5594: JC43459-1, JC43459-3
Batch GP5834: JC43459-2R, JC43459-3R
Batch GN63850: JC43459-3
Batch GN64357: JC43459-3
Batch GN64392: JC43459-1, JC43459-2, JC43459-3
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP5540/GN64575	JC43444-1	mg/l	389	80	459	87.5	80-120%
Chromium, Hexavalent	GP5594/GN64734	JC43459-1	ug/l	0.093	1	0.99	89.7	85-115%
Cyanide	GP5834/GN65291	JC44479-7A	mg/l	0.0	0.0833	0.081	97.2	90-110%
Hardness, Total as CaCO3	GN64392	JC43591-1	mg/l	921	160	1100	111.9	67-130%
Nitrogen, Ammonia	GP5527/GN64585	JC43618-1	mg/l	0.0	1	1.1	110.0	75-131%
Sulfate	GP5540/GN64575	JC43444-1	mg/l	24.3	80	105	100.9	80-120%
Weak Acid Dissociable Cn	GP5475/GN64723	JC43604-1	mg/l	0.0	0.0833	0.015	18.0N(a)	49-121%

Associated Samples:
Batch GP5475: JC43459-2, JC43459-3
Batch GP5527: JC43459-1, JC43459-3
Batch GP5540: JC43459-2, JC43459-3
Batch GP5594: JC43459-1, JC43459-3
Batch GP5834: JC43459-2R, JC43459-3R
Batch GN64392: JC43459-1, JC43459-2, JC43459-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC43459
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Nitrogen, Ammonia	GP5527/GN64585	JC43618-1	mg/l	0.0	1	1.0	9.5	14%

Associated Samples:
Batch GP5527: JC43459-1, JC43459-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

e-Hardcopy 2.0
Automated Report

Technical Report for

Honeywell International Inc. OMM work

CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

SGS Accutest Job Number: JC44930

Sampling Date: 06/08/17

Report to:

CH2M
18 Tremont Street
Boston, MA 02108
HTS-RES-LAB@Honeywell.com; kyle.block@ch2m.com;
matthew.greenberg@ch2m.com; ama.essuman@ch2m.com;
ATTN: Kyle Block

Total number of pages in report: **18**

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.

Nancy Cole
Laboratory Director

Client Service contact: Rocus Peters 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, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

June 23, 2017

Mr. Kyle Block
CH2M
18 Tremont Street
Boston, MA 02108

Re: SGS Accutest –Dayton, Jobs # JC44699 and JC44930 – Reissues #2

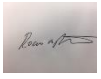
Dear Mr. Block,

The final reports for SGS Accutest jobs number JC44699 and JC44930 have edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, the revisions of Method Detention Limits for Cyanide have been made for JC44699 and JC44930. The attached revised report incorporates these revisions.

SGS Accutest apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact me at (732) 329-0200 if I can be of further assistance in this matter.

Sincerely



SGS Accutest

SGS ACCUTEST

June 15, 2017

Mr. Kyle Block
CH2M
18 Tremont Street
Boston, MA 02108

Re: SGS Accutest –Dayton, Jobs # JC44930, JC43459, and JC42600 – Reissue

Dear Mr. Block,

The final report for SGS Accutest jobs number JC44930, JC43459, and JC42600 have edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, the MDL (Method Detention Limit) has been added to the lab result pages per the request of Matt Greenberg.

Moving forward, all reports for this site / project wil have this type of reporting.

Please contact me at (732) 355-4551 if I can be of further assistance in this matter.

Sincerely,

Marty Vitanza

Sr. Project Manager

SGS Accutest

Sections: 1 2 3 4 5 6

Table of Contents

Sample Summary

Honeywell International Inc. OMM work

Job No: JC44930

CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC44930-1	06/08/17	07:11	TB	06/08/17	AQ	Water	RECERT-060817-FD
JC44930-2	06/08/17	07:55	TB	06/08/17	AQ	Water	RECERT-060817-MC

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Honeywell International Inc. OMM work	**Job No**	JC44930
Site:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA	**Report Date**	6/15/2017 9:23:44 AM

On 06/08/2017, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 5.3 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC44930 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.

Wet Chemistry By Method EPA 335.4/LACHAT

Matrix: AQ **Batch ID:** GP5928

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC44699-4DUP, JC44699-4MS were used as the QC samples for Cyanide.

SGS Accutest 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 Accutest 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 Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC44930
Account: Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA
Collected: 06/08/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC44930-1	**RECERT-060817-FD**					
Cyanide [a]		0.13	0.010	0.0047	mg/l	EPA 335.4/LACHAT
JC44930-2	**RECERT-060817-MC**					

No hits reported in this sample.

(a) Reported with instrument specific MDL.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RECERT-060817-FD		
Lab Sample ID:	JC44930-1	**Date Sampled:**	06/08/17
Matrix:	AQ - Water	**Date Received:**	06/08/17
		Percent Solids:	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide [a]	0.13	0.010	0.0047	mg/l	1	06/14/17 11:10	BM	EPA 335.4/LACHAT

(a) Reported with instrument specific MDL.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	RECERT-060817-MC		
Lab Sample ID:	JC44930-2	**Date Sampled:**	06/08/17
Matrix:	AQ - Water	**Date Received:**	06/08/17
		Percent Solids:	n/a
Project:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Cyanide [a]	0.0047 U	0.010	0.0047	mg/l	1	06/14/17 11:14	BM	EPA 335.4/LACHAT

(a) Reported with instrument specific MDL.

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

WW

COC# 37558-060817

SGS ACCUTEST

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS Accutest of New England
50 D'Angelo Drive/495 Technology Center West, Building One Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
7273 7516 3282	
SGS Accutest Quote #	SGS Accutest Job # JC44930

Client / Reporting Information	Project Information	Billing Information (If different from Report to)
Company Name: CH2M	Project Name: HW Brighton #37558	
Street Address: 18 Tremont St	Street: Guest St	Company Name:
City / State / Zip: Boston MA 02108	City: Brighton, MA	Street Address:
Project Contact: Matt Greenberg / E-mail:	Project#: 693091	City / State / Zip:
Phone #: 617-626-7000 / Fax #:	Client PO#:	
Sampler(s) Name(s): Tim Bakey / Phone #: 617-943-6970	Project Manager: Matt Greenberg	Attention: / PO#:

Requested Analysis (see TEST CODE sheet): Cyanide by 335.4

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL - Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB- Equipment Blank, RB- Rinse Blank, TB-Trip Blank

SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	Cyanide by 335.4	LAB USE ONLY
1	Recert-060817-FD		06/08/2017	0711	TB	WW	1		X								X	
2	Recert-060817-MC		↓	0755	TB	WW	1		X								X	G24

INITIAL ASSESSMENT RB
LABEL VERIFICATION TB

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions: Returned 1 extra bottle

SGS ACCUTEST MARLBOR 6/8/17

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1 (Sampler)	6/8/17 11:00	1	2	6/8/17 1412	2
3 (Sampler)	6-8-17	3 FEDX	4 FEDX	6/9/17 0948	4
5		5	Custody Seal #	Intact / Not intact; Preserved where applicable; On Ice	Cooler Temp. 4.0°C

TB 6/9/17

JC44930: Chain of Custody
Page 1 of 3

SGS Accutest Sample Receipt Summary

Job Number: JC44930 **Client:** _____ **Project:** _____

Date / Time Received: 6/8/2017 11:00:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

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

Cooler Temps (Corrected) °C: Cooler 1: (5.3);

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:	☐		☐	☑

Comments

SM089-02
Rev. Date 12/1/16

Job Change Order: JC44930

Requested Date:	6/12/2017	**Received Date:**	6/8/2017
Account Name:	Honeywell International Inc. OMM	**Due Date:**	6/22/2017
Project Description:	CHMHLMAB: 37558-Brighton, 38-40 Life Street, Bri	**Deliverable:**	COMMBN
CSR:	martyv	**TAT (Days):**	5

==========

Sample #: JC44930-1, 2

Dept:

TAT: 5

Change:
Change to 5 day. Due 6/15

==========

Above Changes Per: Ama

Date/Time: 6/12/2017 5:15:50 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

Page 1 of 1

5.1

5

JC44930: Chain of Custody
Page 3 of 3

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC44930
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide	GP5928/GN65587	0.010	0.0	mg/l	0.0833	0.0860	103.2	90-110%
Cyanide	GP5928/GN65650	0.010	0.0	mg/l	0.0833	0.0780	93.6	90-110%

Associated Samples:
Batch GP5928: JC44930-1, JC44930-2
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC44930
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Cyanide	GP5928/GN65489	JC44699-4	mg/l	0.0047 U	0.0	0.0	0-32%

Associated Samples:
Batch GP5928: JC44930-1, JC44930-2
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC44930
Account: HWINJOMM - Honeywell International Inc. OMM work
Project: CHMHLMAB: 37558-Brighton, 38-40 Life Street, Brighton, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Cyanide	GP5928/GN65489	JC44699-4	mg/l	0.0047 U	0.0833	0.087	104.4	90-110%

Associated Samples:
Batch GP5928: JC44930-1, JC44930-2
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits