

CERTIFICATE OF ANALYSIS

Work Order : **EW1900559**
Client : **WOLLONGONG CITY COUNCIL**
Contact : DELLA KUTZNER
Address : 41 BURELLI STREET
 WOLLONGONG NSW, AUSTRALIA 2500

Telephone : +61 02 4227 7111
Project : Whytes Gully Stage 3 Bores Annual
Order number : 3088330
C-O-C number : ----
Sampler : Robert DaLio
Site : ----
Quote number : WO/005/18
No. of samples received : 13
No. of samples analysed : 13

Page : 1 of 18
Laboratory : Environmental Division NSW South Coast
Contact : Glenn Davies
Address : 1/19 Ralph Black Dr, North Wollongong 2500
 4/13 Geary Pl, North Nowra 2541
 Australia NSW Australia
Telephone : 02 42253125
Date Samples Received : 11-Feb-2019 14:41
Date Analysis Commenced : 11-Feb-2019
Issue Date : 21-Feb-2019 17:35



Accreditation No. 825
 Accredited for compliance with
 ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Dian Dao		Sydney Inorganics, Smithfield, NSW
Edwandy Fadjjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Glenn Davies	Environmental Services Representative	Laboratory - Wollongong, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Wisam Marassa	Inorganics Coordinator	Sydney Inorganics, Smithfield, NSW



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP035G: Poor spike recovery for Phenol due to matrix interferences.
- Sampling and sample data supplied by ALS Wollongong.
- Sampling completed as per FWI-EN001 Groundwater Sampling.
- Field tests completed on day of sampling/receipt.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW102 (Point 9)	GMW103 (Point 10)	GMW104 (Point 11)	GMW105 (Point 12)	GMW106 (Point 13)
Client sampling date / time					11-Feb-2019 11:40	11-Feb-2019 11:45	11-Feb-2019 11:20	11-Feb-2019 12:05	11-Feb-2019 12:00
Compound	CAS Number	LOR	Unit	EW1900559-001	EW1900559-002	EW1900559-003	EW1900559-004	EW1900559-005	
				Result	Result	Result	Result	Result	
EA005FD: Field pH									
pH	----	0.1	pH Unit	----	7.1	7.2	----	----	
EA010FD: Field Conductivity									
Electrical Conductivity (Non Compensated)	----	1	µS/cm	----	1820	1260	----	----	
EA015: Total Dissolved Solids dried at 180 ± 5 °C									
Total Dissolved Solids @180°C	----	10	mg/L	----	978	655	----	----	
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	----	<1	<1	----	----	
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	----	<1	<1	----	----	
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	----	462	468	----	----	
Total Alkalinity as CaCO3	----	1	mg/L	----	462	468	----	----	
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	----	76	67	----	----	
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L	----	305	113	----	----	
ED093T: Total Major Cations									
Calcium	7440-70-2	1	mg/L	----	164	73	----	----	
Magnesium	7439-95-4	1	mg/L	----	57	46	----	----	
Sodium	7440-23-5	1	mg/L	----	163	167	----	----	
Potassium	7440-09-7	1	mg/L	----	1	2	----	----	
EG020T: Total Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L	----	3.19	12.6	----	----	
Arsenic	7440-38-2	0.001	mg/L	----	<0.001	<0.001	----	----	
Barium	7440-39-3	0.001	mg/L	----	0.026	0.038	----	----	
Cadmium	7440-43-9	0.0001	mg/L	----	<0.0001	<0.0001	----	----	
Cobalt	7440-48-4	0.001	mg/L	----	0.006	0.010	----	----	
Chromium	7440-47-3	0.001	mg/L	----	0.004	0.007	----	----	
Copper	7440-50-8	0.001	mg/L	----	0.011	0.026	----	----	
Manganese	7439-96-5	0.001	mg/L	----	0.141	0.624	----	----	
Lead	7439-92-1	0.001	mg/L	----	0.006	0.007	----	----	
Zinc	7440-66-6	0.005	mg/L	----	0.027	0.044	----	----	
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	<0.0001	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW102 (Point 9)	GMW103 (Point 10)	GMW104 (Point 11)	GMW105 (Point 12)	GMW106 (Point 13)
Client sampling date / time					11-Feb-2019 11:40	11-Feb-2019 11:45	11-Feb-2019 11:20	11-Feb-2019 12:05	11-Feb-2019 12:00
Compound	CAS Number	LOR	Unit	EW1900559-001	EW1900559-002	EW1900559-003	EW1900559-004	EW1900559-005	
				Result	Result	Result	Result	Result	
EG050T: Total Hexavalent Chromium									
Hexavalent Chromium	18540-29-9	0.01	mg/L	----	<0.01	<0.01	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	----	0.4	0.8	----	----	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L	----	0.03	0.03	----	----	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	----	<0.01	<0.01	----	----	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	----	0.26	0.03	----	----	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	----	0.26	0.03	----	----	
EN67 PK: Field Tests									
Field Observations	----	0.01	--	DRY	----	----	DRY	DRY	
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L	----	1	3	----	----	
EP035G: Total Phenol by Discrete Analyser									
Phenols (Total)	----	0.05	mg/L	----	<0.05	<0.05	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L	----	<0.5	<0.5	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	----	<0.5	<0.5	----	----	
beta-BHC	319-85-7	0.5	µg/L	----	<0.5	<0.5	----	----	
gamma-BHC	58-89-9	0.5	µg/L	----	<0.5	<0.5	----	----	
delta-BHC	319-86-8	0.5	µg/L	----	<0.5	<0.5	----	----	
Heptachlor	76-44-8	0.5	µg/L	----	<0.5	<0.5	----	----	
Aldrin	309-00-2	0.5	µg/L	----	<0.5	<0.5	----	----	
Heptachlor epoxide	1024-57-3	0.5	µg/L	----	<0.5	<0.5	----	----	
trans-Chlordane	5103-74-2	0.5	µg/L	----	<0.5	<0.5	----	----	
alpha-Endosulfan	959-98-8	0.5	µg/L	----	<0.5	<0.5	----	----	
cis-Chlordane	5103-71-9	0.5	µg/L	----	<0.5	<0.5	----	----	
Dieldrin	60-57-1	0.5	µg/L	----	<0.5	<0.5	----	----	
4,4'-DDE	72-55-9	0.5	µg/L	----	<0.5	<0.5	----	----	
Endrin	72-20-8	0.5	µg/L	----	<0.5	<0.5	----	----	
beta-Endosulfan	33213-65-9	0.5	µg/L	----	<0.5	<0.5	----	----	



Analytical Results

Sub-Matrix: WATER
 (Matrix: WATER)

Client sample ID

				GMW102 (Point 9)	GMW103 (Point 10)	GMW104 (Point 11)	GMW105 (Point 12)	GMW106 (Point 13)
Client sampling date / time				11-Feb-2019 11:40	11-Feb-2019 11:45	11-Feb-2019 11:20	11-Feb-2019 12:05	11-Feb-2019 12:00
Compound	CAS Number	LOR	Unit	EW1900559-001	EW1900559-002	EW1900559-003	EW1900559-004	EW1900559-005
				Result	Result	Result	Result	Result
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4'-DDD	72-54-8	0.5	µg/L	----	<0.5	<0.5	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L	----	<0.5	<0.5	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	----	<0.5	<0.5	----	----
4.4'-DDT	50-29-3	2.0	µg/L	----	<2.0	<2.0	----	----
Endrin ketone	53494-70-5	0.5	µg/L	----	<0.5	<0.5	----	----
Methoxychlor	72-43-5	2.0	µg/L	----	<2.0	<2.0	----	----
^ Total Chlordane (sum)	----	0.5	µg/L	----	<0.5	<0.5	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.5	µg/L	----	<0.5	<0.5	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	----	<0.5	<0.5	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.5	µg/L	----	<0.5	<0.5	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L	----	<0.5	<0.5	----	----
Monocrotophos	6923-22-4	2.0	µg/L	----	<2.0	<2.0	----	----
Dimethoate	60-51-5	0.5	µg/L	----	<0.5	<0.5	----	----
Diazinon	333-41-5	0.5	µg/L	----	<0.5	<0.5	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	----	<0.5	<0.5	----	----
Parathion-methyl	298-00-0	2.0	µg/L	----	<2.0	<2.0	----	----
Malathion	121-75-5	0.5	µg/L	----	<0.5	<0.5	----	----
Fenthion	55-38-9	0.5	µg/L	----	<0.5	<0.5	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L	----	<0.5	<0.5	----	----
Parathion	56-38-2	2.0	µg/L	----	<2.0	<2.0	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L	----	<0.5	<0.5	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L	----	<0.5	<0.5	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L	----	<0.5	<0.5	----	----
Fenamiphos	22224-92-6	0.5	µg/L	----	<0.5	<0.5	----	----
Prothiofos	34643-46-4	0.5	µg/L	----	<0.5	<0.5	----	----
Ethion	563-12-2	0.5	µg/L	----	<0.5	<0.5	----	----
Carbophenothion	786-19-6	0.5	µg/L	----	<0.5	<0.5	----	----
Azinphos Methyl	86-50-0	0.5	µg/L	----	<0.5	<0.5	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	1.0	µg/L	----	<1.0	<1.0	----	----
Acenaphthylene	208-96-8	1.0	µg/L	----	<1.0	<1.0	----	----
Acenaphthene	83-32-9	1.0	µg/L	----	<1.0	<1.0	----	----



Analytical Results

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Client sampling date / time					11-Feb-2019 11:40	11-Feb-2019 11:45	11-Feb-2019 11:20	11-Feb-2019 12:05	11-Feb-2019 12:00
Compound	CAS Number	LOR	Unit	EW1900559-001	EW1900559-002	EW1900559-003	EW1900559-004	EW1900559-005	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluorene	86-73-7	1.0	µg/L	----	<1.0	<1.0	----	----	
Phenanthrene	85-01-8	1.0	µg/L	----	<1.0	<1.0	----	----	
Anthracene	120-12-7	1.0	µg/L	----	<1.0	<1.0	----	----	
Fluoranthene	206-44-0	1.0	µg/L	----	<1.0	<1.0	----	----	
Pyrene	129-00-0	1.0	µg/L	----	<1.0	<1.0	----	----	
Benz(a)anthracene	56-55-3	1.0	µg/L	----	<1.0	<1.0	----	----	
Chrysene	218-01-9	1.0	µg/L	----	<1.0	<1.0	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	----	<1.0	<1.0	----	----	
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	----	<1.0	<1.0	----	----	
Benzo(a)pyrene	50-32-8	0.5	µg/L	----	<0.5	<0.5	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	----	<1.0	<1.0	----	----	
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	----	<1.0	<1.0	----	----	
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	----	<1.0	<1.0	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	----	<0.5	<0.5	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	----	<0.5	<0.5	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L	----	<20	<20	----	----	
C10 - C14 Fraction	----	50	µg/L	----	<50	<50	----	----	
C15 - C28 Fraction	----	100	µg/L	----	<100	<100	----	----	
C29 - C36 Fraction	----	50	µg/L	----	<50	<50	----	----	
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	<50	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L	----	<20	<20	----	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	----	<20	<20	----	----	
>C10 - C16 Fraction	----	100	µg/L	----	<100	<100	----	----	
>C16 - C34 Fraction	----	100	µg/L	----	<100	<100	----	----	
>C34 - C40 Fraction	----	100	µg/L	----	<100	<100	----	----	
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	<100	----	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	<100	----	----	
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	----	<1	<1	----	----	
Toluene	108-88-3	2	µg/L	----	<2	<2	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW102 (Point 9)	GMW103 (Point 10)	GMW104 (Point 11)	GMW105 (Point 12)	GMW106 (Point 13)
Client sampling date / time					11-Feb-2019 11:40	11-Feb-2019 11:45	11-Feb-2019 11:20	11-Feb-2019 12:05	11-Feb-2019 12:00
Compound	CAS Number	LOR	Unit	EW1900559-001	EW1900559-002	EW1900559-003	EW1900559-004	EW1900559-005	
				Result	Result	Result	Result	Result	
EP080: BTEXN - Continued									
Ethylbenzene	100-41-4	2	µg/L	----	<2	<2	----	----	
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	----	<2	<2	----	----	
ortho-Xylene	95-47-6	2	µg/L	----	<2	<2	----	----	
[^] Total Xylenes	----	2	µg/L	----	<2	<2	----	----	
[^] Sum of BTEX	----	1	µg/L	----	<1	<1	----	----	
Naphthalene	91-20-3	5	µg/L	----	<5	<5	----	----	
FWI-EN/001: Groundwater Sampling - Depth									
Depth	----	0.01	m	----	7.52	7.95	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%	----	109	120	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%	----	105	112	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%	----	26.6	28.2	----	----	
2-Chlorophenol-D4	93951-73-6	1.0	%	----	65.6	67.9	----	----	
2,4,6-Tribromophenol	118-79-6	1.0	%	----	90.0	95.1	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%	----	85.6	90.8	----	----	
Anthracene-d10	1719-06-8	1.0	%	----	96.0	101	----	----	
4-Terphenyl-d14	1718-51-0	1.0	%	----	92.0	95.9	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%	----	106	95.8	----	----	
Toluene-D8	2037-26-5	2	%	----	92.5	88.8	----	----	
4-Bromofluorobenzene	460-00-4	2	%	----	87.6	83.7	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID				
				GMW108S (Point 14)	GMW108D (Point 15)	GMW109S (Point 16)	GMW109D (Point 19)	GMW110 (Point 17)
Client sampling date / time				11-Feb-2019 10:45	11-Feb-2019 01:55	11-Feb-2019 09:30	11-Feb-2019 10:00	11-Feb-2019 09:10
Compound	CAS Number	LOR	Unit	EW1900559-006	EW1900559-007	EW1900559-008	EW1900559-009	EW1900559-010
				Result	Result	Result	Result	Result
EA005FD: Field pH								
pH	----	0.1	pH Unit	6.9	6.9	6.3	6.9	6.8
EA010FD: Field Conductivity								
Electrical Conductivity (Non Compensated)	----	1	µS/cm	1800	3170	1460	1840	4380
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	982	1810	814	994	2350
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	379	490	223	233	618
Total Alkalinity as CaCO3	----	1	mg/L	379	490	223	233	618
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	99	197	109	24	286
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	350	729	299	485	996
ED093T: Total Major Cations								
Calcium	7440-70-2	1	mg/L	89	129	28	95	211
Magnesium	7439-95-4	1	mg/L	54	88	18	50	160
Sodium	7440-23-5	1	mg/L	203	408	61	188	466
Potassium	7440-09-7	1	mg/L	6	1	1	1	2
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	11.9	0.09	2.31	0.05	2.29
Arsenic	7440-38-2	0.001	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Barium	7440-39-3	0.001	mg/L	0.209	0.017	0.068	0.146	0.008
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cobalt	7440-48-4	0.001	mg/L	0.009	<0.001	0.016	<0.001	0.002
Chromium	7440-47-3	0.001	mg/L	0.010	<0.001	0.003	<0.001	0.002
Copper	7440-50-8	0.001	mg/L	0.039	<0.001	0.009	0.003	0.011
Manganese	7439-96-5	0.001	mg/L	0.442	0.031	1.33	0.053	0.098
Lead	7439-92-1	0.001	mg/L	0.012	<0.001	0.004	<0.001	0.003
Zinc	7440-66-6	0.005	mg/L	0.047	<0.005	0.023	0.006	0.021
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW108S (Point 14)	GMW108D (Point 15)	GMW109S (Point 16)	GMW109D (Point 19)	GMW110 (Point 17)
Client sampling date / time				11-Feb-2019 10:45	11-Feb-2019 01:55	11-Feb-2019 09:30	11-Feb-2019 10:00	11-Feb-2019 09:10	
Compound	CAS Number	LOR	Unit	EW1900559-006	EW1900559-007	EW1900559-008	EW1900559-009	EW1900559-010	
				Result	Result	Result	Result	Result	
EG050T: Total Hexavalent Chromium									
Hexavalent Chromium	18540-29-9	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	0.4	0.7	<0.1	0.4	0.5	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L	0.12	0.03	0.38	0.03	0.02	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	<0.01	0.01	<0.01	0.71	0.57	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.01	<0.01	0.71	0.57	
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L	12	2	8	<1	7	
EP035G: Total Phenol by Discrete Analyser									
Phenols (Total)	----	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
4,4`-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
4,4`-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW108S (Point 14)	GMW108D (Point 15)	GMW109S (Point 16)	GMW109D (Point 19)	GMW110 (Point 17)
Client sampling date / time					11-Feb-2019 10:45	11-Feb-2019 01:55	11-Feb-2019 09:30	11-Feb-2019 10:00	11-Feb-2019 09:10
Compound	CAS Number	LOR	Unit	EW1900559-006	EW1900559-007	EW1900559-008	EW1900559-009	EW1900559-010	
				Result	Result	Result	Result	Result	
EP068A: Organochlorine Pesticides (OC) - Continued									
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
4.4'-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW108S (Point 14)	GMW108D (Point 15)	GMW109S (Point 16)	GMW109D (Point 19)	GMW110 (Point 17)
Client sampling date / time				11-Feb-2019 10:45	11-Feb-2019 01:55	11-Feb-2019 09:30	11-Feb-2019 10:00	11-Feb-2019 09:10	
Compound	CAS Number	LOR	Unit	EW1900559-006	EW1900559-007	EW1900559-008	EW1900559-009	EW1900559-010	
				Result	Result	Result	Result	Result	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benz(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Benzo(g,h,i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	<0.5	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20	
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50	
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100	
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50	
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20	
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100	
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100	
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100	
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100	
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1	
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2	
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2	
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW108S (Point 14)	GMW108D (Point 15)	GMW109S (Point 16)	GMW109D (Point 19)	GMW110 (Point 17)
Client sampling date / time					11-Feb-2019 10:45	11-Feb-2019 01:55	11-Feb-2019 09:30	11-Feb-2019 10:00	11-Feb-2019 09:10
Compound	CAS Number	LOR	Unit	EW1900559-006	EW1900559-007	EW1900559-008	EW1900559-009	EW1900559-010	EW1900559-010
				Result	Result	Result	Result	Result	Result
EP080: BTEXN - Continued									
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5	<5
FWI-EN/001: Groundwater Sampling - Depth									
Depth	----	0.01	m	2.94	2.51	3.44	3.25	4.25	4.25
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%	104	110	96.9	106	108	108
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%	101	110	104	105	106	106
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%	24.3	28.6	25.9	26.2	28.0	28.0
2-Chlorophenol-D4	93951-73-6	1.0	%	59.5	67.0	63.9	64.0	68.3	68.3
2,4,6-Tribromophenol	118-79-6	1.0	%	86.8	92.8	90.1	80.5	81.8	81.8
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%	96.6	82.5	83.5	82.8	86.3	86.3
Anthracene-d10	1719-06-8	1.0	%	89.3	85.0	89.8	96.8	87.4	87.4
4-Terphenyl-d14	1718-51-0	1.0	%	89.4	88.8	91.8	87.3	89.4	89.4
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%	103	107	110	106	108	108
Toluene-D8	2037-26-5	2	%	93.1	89.1	91.6	90.0	90.8	90.8
4-Bromofluorobenzene	460-00-4	2	%	87.3	84.2	86.3	85.4	86.6	86.6



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID		GMW111 (Point 18)	GABH02 (Point 5)	BH6 (Point 20)	----	----
Client sampling date / time				11-Feb-2019 08:50	11-Feb-2019 12:15	11-Feb-2019 10:25	----	----
Compound	CAS Number	LOR	Unit	EW1900559-011	EW1900559-012	EW1900559-013	-----	-----
				Result	Result	Result	----	----
EA005FD: Field pH								
pH	----	0.1	pH Unit	6.8	6.6	7.0	----	----
EA010FD: Field Conductivity								
Electrical Conductivity (Non Compensated)	----	1	µS/cm	3230	5430	1180	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	1650	2870	744	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	560	1130	426	----	----
Total Alkalinity as CaCO3	----	1	mg/L	560	1130	426	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	108	174	117	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	700	1220	66	----	----
ED093T: Total Major Cations								
Calcium	7440-70-2	1	mg/L	125	310	101	----	----
Magnesium	7439-95-4	1	mg/L	99	188	33	----	----
Sodium	7440-23-5	1	mg/L	409	584	119	----	----
Potassium	7440-09-7	1	mg/L	1	3	9	----	----
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	6.29	6.61	0.65	----	----
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.005	----	----
Barium	7440-39-3	0.001	mg/L	0.031	0.015	0.090	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	----	----
Cobalt	7440-48-4	0.001	mg/L	0.007	0.002	0.008	----	----
Chromium	7440-47-3	0.001	mg/L	0.004	0.005	0.002	----	----
Copper	7440-50-8	0.001	mg/L	0.016	0.015	0.011	----	----
Manganese	7439-96-5	0.001	mg/L	0.369	0.082	0.870	----	----
Lead	7439-92-1	0.001	mg/L	0.007	0.004	0.009	----	----
Zinc	7440-66-6	0.005	mg/L	0.036	0.035	0.017	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	----	----



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW111 (Point 18)	GABH02 (Point 5)	BH6 (Point 20)	----	----
Client sampling date / time				11-Feb-2019 08:50	11-Feb-2019 12:15	11-Feb-2019 10:25	----	----	
Compound	CAS Number	LOR	Unit	EW1900559-011	EW1900559-012	EW1900559-013	-----	-----	
				Result	Result	Result	----	----	
EG050T: Total Hexavalent Chromium									
Hexavalent Chromium	18540-29-9	0.01	mg/L	<0.01	<0.01	<0.01	----	----	
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L	0.5	0.6	0.6	----	----	
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L	0.03	0.04	0.28	----	----	
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.02	----	----	
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L	0.01	<0.01	0.02	----	----	
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L	0.01	<0.01	0.04	----	----	
EP005: Total Organic Carbon (TOC)									
Total Organic Carbon	----	1	mg/L	2	8	28	----	----	
EP035G: Total Phenol by Discrete Analyser									
Phenols (Total)	----	0.05	mg/L	<0.05	<0.05	<0.05	----	----	
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
beta-BHC	319-85-7	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
gamma-BHC	58-89-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Aldrin	309-00-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Dieldrin	60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
4,4'-DDE	72-55-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Endrin	72-20-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
4,4'-DDD	72-54-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	<0.5	<0.5	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW111 (Point 18)	GABH02 (Point 5)	BH6 (Point 20)	----	----
Client sampling date / time					11-Feb-2019 08:50	11-Feb-2019 12:15	11-Feb-2019 10:25	----	----
Compound	CAS Number	LOR	Unit	EW1900559-011	EW1900559-012	EW1900559-013	-----	-----	
				Result	Result	Result	----	----	
EP068A: Organochlorine Pesticides (OC) - Continued									
Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
4,4`-DDT	50-29-3	2.0	µg/L	<2.0	<2.0	<2.0	----	----	
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	<2.0	----	----	
^ Total Chlordane (sum)	----	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/5 0-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	<2.0	----	----	
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Diazinon	333-41-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	<2.0	----	----	
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Parathion	56-38-2	2.0	µg/L	<2.0	<2.0	<2.0	----	----	
Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Carbophenothion	786-19-6	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW111 (Point 18)	GABH02 (Point 5)	BH6 (Point 20)	----	----
Client sampling date / time					11-Feb-2019 08:50	11-Feb-2019 12:15	11-Feb-2019 10:25	----	----
Compound	CAS Number	LOR	Unit	EW1900559-011	EW1900559-012	EW1900559-013	-----	-----	
				Result	Result	Result	----	----	
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Pyrene	129-00-0	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Benzo(a)anthracene	56-55-3	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Benzo(k)fluoranthene	207-08-9	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L	<1.0	<1.0	<1.0	----	----	
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L	<0.5	<0.5	<0.5	----	----	
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	----	----	
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	----	----	
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	----	----	
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	----	----	
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	----	----	
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	----	----	
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	----	----	
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	----	----	
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	----	----	
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	----	----	
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	----	----	
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	----	----	
EP080: BTEXN									
Benzene	71-43-2	1	µg/L	<1	<1	<1	----	----	
Toluene	108-88-3	2	µg/L	<2	<2	<2	----	----	
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	----	----	
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	----	----	



Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	GMW111 (Point 18)	GABH02 (Point 5)	BH6 (Point 20)	----	----
Client sampling date / time				11-Feb-2019 08:50	11-Feb-2019 12:15	11-Feb-2019 10:25	----	----	
Compound	CAS Number	LOR	Unit	EW1900559-011	EW1900559-012	EW1900559-013	-----	-----	
				Result	Result	Result	----	----	
EP080: BTEXN - Continued									
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	----	----	
^ Total Xylenes	----	2	µg/L	<2	<2	<2	----	----	
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	----	----	
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	----	----	
FWI-EN/001: Groundwater Sampling - Depth									
Depth	----	0.01	m	6.45	5.37	1.63	----	----	
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%	98.6	110	103	----	----	
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%	93.1	112	97.8	----	----	
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%	22.4	28.2	25.9	----	----	
2-Chlorophenol-D4	93951-73-6	1.0	%	55.0	67.9	60.6	----	----	
2,4,6-Tribromophenol	118-79-6	1.0	%	67.3	93.0	98.4	----	----	
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%	95.0	90.4	85.5	----	----	
Anthracene-d10	1719-06-8	1.0	%	90.0	90.1	90.1	----	----	
4-Terphenyl-d14	1718-51-0	1.0	%	88.7	85.5	93.3	----	----	
EP080S: TPH(V)/BTEX Surrogates									
1,2-Dichloroethane-D4	17060-07-0	2	%	106	110	116	----	----	
Toluene-D8	2037-26-5	2	%	91.5	89.8	102	----	----	
4-Bromofluorobenzene	460-00-4	2	%	86.0	84.9	94.0	----	----	



Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2,4,6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1,2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128