

## CERTIFICATE OF ANALYSIS

<p><b>Work Order</b> : <b>EW1302412</b></p> <p><b>Client</b> : <b>WOLLONGONG CITY COUNCIL</b></p> <p><b>Contact</b> : <b>MR WAYDE PETERSON</b></p> <p><b>Address</b> : <b>41 BURELLI STREET</b> <b>WOLLONGONG NSW, AUSTRALIA 2500</b></p> <p><b>E-mail</b> : <b>wpeterson@wollongong.nsw.gov.au</b></p> <p><b>Telephone</b> : <b>+61 02 4227 7111</b></p> <p><b>Facsimile</b> : <b>+61 02 4227 7277</b></p> <p><b>Project</b> : <b>Helensburgh Groundwater Annual</b></p> <p><b>Order number</b> : <b>3015425</b></p> <p><b>C-O-C number</b> : <b>----</b></p> <p><b>Sampler</b> : <b>Craig Wilson</b></p> <p><b>Site</b> : <b>----</b></p> <p><b>Quote number</b> : <b>WL/001/11 Helensburgh Groundwater Annual</b></p>	<p><b>Page</b> : 1 of 11</p> <p><b>Laboratory</b> : Environmental Division NSW South Coast</p> <p><b>Contact</b> : Glenn Davies</p> <p><b>Address</b> : 99 Kenny Street, Wollongong 2500 Unit 4 / 13 Geary Place, PO Box 3105, North Nowra 2541 AUSTRALIA</p> <p><b>E-mail</b> : glenn.davies@alsglobal.com</p> <p><b>Telephone</b> : 02 4225 3125</p> <p><b>Facsimile</b> : 02 4225 3128</p> <p><b>QC Level</b> : NEPM 2013 Schedule B(3) and ALS QCS3 requirement</p> <p><b>Date Samples Received</b> : 22-AUG-2013</p> <p><b>Issue Date</b> : 30-AUG-2013</p> <p><b>No. of samples received</b> : 9</p> <p><b>No. of samples analysed</b> : 9</p>
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits



NATA Accredited Laboratory 825

Accredited for compliance with  
ISO/IEC 17025.

### Signatories

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

Signatories	Position	Accreditation Category
Ankit Joshi	Inorganic Chemist	Sydney Inorganics
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics
Phalak Inthaksone	Laboratory Manager - Organics	Sydney Organics
Phalak Inthaksone	Laboratory Manager - Organics	Sydney Organics
Sanjeshni Jyoti Mala	Senior Chemist Volatile	Sydney Organics



## **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.

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



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	BH 1	BH 2	BH 4	BH 5	BH 6
				22-AUG-2013 12:30	22-AUG-2013 14:10	22-AUG-2013 13:10	22-AUG-2013 12:45	22-AUG-2013 13:20
				EW1302412-001	EW1302412-002	EW1302412-003	EW1302412-004	EW1302412-005
<b>EG020T: Total Metals by ICP-MS</b>								
Aluminium	7429-90-5	0.01	mg/L	0.98	0.02	2.58	0.67	0.24
Arsenic	7440-38-2	0.001	mg/L	0.008	0.001	<0.001	<0.001	0.005
Barium	7440-39-3	0.001	mg/L	0.027	0.024	0.019	0.009	0.034
Cadmium	7440-43-9	0.0001	mg/L	0.0003	<0.0001	0.0003	0.0007	0.0001
Cobalt	7440-48-4	0.001	mg/L	0.005	<0.001	<0.001	0.015	0.003
Chromium	7440-47-3	0.001	mg/L	0.001	<0.001	<0.001	<0.001	0.002
Copper	7440-50-8	0.001	mg/L	0.006	0.005	0.008	0.012	0.011
Manganese	7439-96-5	0.001	mg/L	0.063	0.041	0.046	0.053	0.173
Lead	7439-92-1	0.001	mg/L	0.008	<0.001	0.003	0.001	0.001
Zinc	7440-66-6	0.005	mg/L	0.541	0.017	0.051	0.039	0.028
<b>EG035T: Total Recoverable Mercury by FIMS</b>								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
<b>EG050T: Total Hexavalent Chromium</b>								
Hexavalent Chromium	18540-29-9	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
<b>EK040P: Fluoride by PC Titrator</b>								
Fluoride	16984-48-8	0.1	mg/L	0.2	<0.1	<0.1	<0.1	<0.1
<b>EK057G: Nitrite as N by Discrete Analyser</b>								
Nitrite as N	----	0.01	mg/L	<0.01	0.07	<0.01	<0.01	<0.01
<b>EK058G: Nitrate as N by Discrete Analyser</b>								
Nitrate as N	14797-55-8	0.01	mg/L	<0.01	4.53	0.66	0.41	0.01
<b>EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser</b>								
Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	4.60	0.66	0.41	0.01
<b>EP035G: Total Phenol by Discrete Analyser</b>								
Phenols (Total)	----	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
<b>EP068A: Organochlorine Pesticides (OC)</b>								
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



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

				BH 1	BH 2	BH 4	BH 5	BH 6
				22-AUG-2013 12:30	22-AUG-2013 14:10	22-AUG-2013 13:10	22-AUG-2013 12:45	22-AUG-2013 13:20
Compound	CAS Number	LOR	Unit	EW1302412-001	EW1302412-002	EW1302412-003	EW1302412-004	EW1302412-005
<b>EP068A: Organochlorine Pesticides (OC) - Continued</b>								
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
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
<b>EP068B: Organophosphorus Pesticides (OP)</b>								
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



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				22-AUG-2013 12:30	22-AUG-2013 14:10	22-AUG-2013 13:10	22-AUG-2013 12:45	22-AUG-2013 13:20
Compound	CAS Number	LOR	Unit	EW1302412-001	EW1302412-002	EW1302412-003	EW1302412-004	EW1302412-005
<b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b>								
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
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)fluoranthene	205-99-2	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
<b>EP080/071: Total Petroleum Hydrocarbons</b>								
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
<b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013</b>								
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	>C10_C16	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
<b>EP080: BTEXN</b>								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

				BH 1	BH 2	BH 4	BH 5	BH 6
				22-AUG-2013 12:30	22-AUG-2013 14:10	22-AUG-2013 13:10	22-AUG-2013 12:45	22-AUG-2013 13:20
Compound	CAS Number	LOR	Unit	EW1302412-001	EW1302412-002	EW1302412-003	EW1302412-004	EW1302412-005
<b>EP080: BTEXN - Continued</b>								
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
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	1330-20-7	2	µg/L	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
<b>EP068S: Organochlorine Pesticide Surrogate</b>								
Dibromo-DDE	21655-73-2	0.1	%	58.6	68.0	66.9	66.9	68.8
<b>EP068T: Organophosphorus Pesticide Surrogate</b>								
DEF	78-48-8	0.1	%	66.6	79.6	78.1	82.2	80.2
<b>EP075(SIM)S: Phenolic Compound Surrogates</b>								
Phenol-d6	13127-88-3	0.1	%	24.9	31.2	29.5	24.4	23.8
2-Chlorophenol-D4	93951-73-6	0.1	%	52.7	68.5	62.2	52.3	50.6
2,4,6-Tribromophenol	118-79-6	0.1	%	52.6	81.3	69.2	57.7	57.4
<b>EP075(SIM)T: PAH Surrogates</b>								
2-Fluorobiphenyl	321-60-8	0.1	%	53.0	74.9	73.1	58.2	56.7
Anthracene-d10	1719-06-8	0.1	%	72.1	82.5	84.9	77.7	84.5
4-Terphenyl-d14	1718-51-0	0.1	%	66.6	77.0	78.1	76.2	78.9
<b>EP080S: TPH(V)/BTEX Surrogates</b>								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	91.2	102	112	91.7	101
Toluene-D8	2037-26-5	0.1	%	94.2	110	94.3	98.1	89.5
4-Bromofluorobenzene	460-00-4	0.1	%	94.3	99.5	99.9	93.3	93.6



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

				LGMB1	LGMB2	LGMB3	LGMB4	----
				22-AUG-2013 12:35	22-AUG-2013 12:20	22-AUG-2013 14:50	22-AUG-2013 14:30	----
Compound	CAS Number	LOR	Unit	EW1302412-006	EW1302412-007	EW1302412-008	EW1302412-009	----
<b>EG020T: Total Metals by ICP-MS</b>								
Aluminium	7429-90-5	0.01	mg/L	7.76	50.4	1.05	0.07	----
Arsenic	7440-38-2	0.001	mg/L	0.002	0.003	<0.001	<0.001	----
Barium	7440-39-3	0.001	mg/L	0.008	0.024	0.006	0.006	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.0002	0.0002	<0.0001	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.005	<0.001	----
Chromium	7440-47-3	0.001	mg/L	<0.001	0.072	0.002	<0.001	----
Copper	7440-50-8	0.001	mg/L	0.004	0.016	0.010	0.001	----
Manganese	7439-96-5	0.001	mg/L	0.003	0.010	0.042	0.047	----
Lead	7439-92-1	0.001	mg/L	0.002	0.020	0.002	<0.001	----
Zinc	7440-66-6	0.005	mg/L	0.007	0.042	0.062	0.009	----
<b>EG035T: Total Recoverable Mercury by FIMS</b>								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.0001	<0.0001	<0.0001	----
<b>EG050T: Total Hexavalent Chromium</b>								
Hexavalent Chromium	18540-29-9	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	----
<b>EK040P: Fluoride by PC Titrator</b>								
Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	----
<b>EK057G: Nitrite as N by Discrete Analyser</b>								
Nitrite as N	----	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	----
<b>EK058G: Nitrate as N by Discrete Analyser</b>								
Nitrate as N	14797-55-8	0.01	mg/L	0.09	0.02	0.08	5.28	----
<b>EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser</b>								
Nitrite + Nitrate as N	----	0.01	mg/L	0.09	0.02	0.08	5.28	----
<b>EP035G: Total Phenol by Discrete Analyser</b>								
Phenols (Total)	----	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	----
<b>EP068A: Organochlorine Pesticides (OC)</b>								
alpha-BHC	319-84-6	0.5	µg/L	<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	----
beta-BHC	319-85-7	0.5	µg/L	<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	----
delta-BHC	319-86-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Heptachlor	76-44-8	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Aldrin	309-00-2	0.5	µg/L	<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	----



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

				LGMB1	LGMB2	LGMB3	LGMB4	----
				22-AUG-2013 12:35	22-AUG-2013 12:20	22-AUG-2013 14:50	22-AUG-2013 14:30	----
Compound	CAS Number	LOR	Unit	EW1302412-006	EW1302412-007	EW1302412-008	EW1302412-009	----
<b>EP068A: Organochlorine Pesticides (OC) - Continued</b>								
trans-Chlordane	5103-74-2	0.5	µg/L	<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	----
cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Dieldrin	60-57-1	0.5	µg/L	<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	----
Endrin	72-20-8	0.5	µg/L	<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	----
4,4'-DDD	72-54-8	0.5	µg/L	<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	----
Endosulfan sulfate	1031-07-8	0.5	µg/L	<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	----
Endrin ketone	53494-70-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Methoxychlor	72-43-5	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	----
<b>EP068B: Organophosphorus Pesticides (OP)</b>								
Dichlorvos	62-73-7	0.5	µg/L	<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	----
Monocrotophos	6923-22-4	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	----
Dimethoate	60-51-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Diazinon	333-41-5	0.5	µg/L	<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	----
Parathion-methyl	298-00-0	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	----
Malathion	121-75-5	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Fenthion	55-38-9	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Parathion	56-38-2	2.0	µg/L	<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	----
Chlorfenvinphos	470-90-6	0.5	µg/L	<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	----
Fenamiphos	22224-92-6	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Prothiofos	34643-46-4	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Ethion	563-12-2	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
Carbophenothion	786-19-6	0.5	µg/L	<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	----





## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

				LGMB1	LGMB2	LGMB3	LGMB4	----
				22-AUG-2013 12:35	22-AUG-2013 12:20	22-AUG-2013 14:50	22-AUG-2013 14:30	----
Compound	CAS Number	LOR	Unit	EW1302412-006	EW1302412-007	EW1302412-008	EW1302412-009	----
<b>EP075(SIM)B: Polynuclear Aromatic Hydrocarbons</b>								
Naphthalene	91-20-3	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Acenaphthylene	208-96-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Acenaphthene	83-32-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Fluorene	86-73-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Phenanthrene	85-01-8	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Anthracene	120-12-7	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Fluoranthene	206-44-0	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Pyrene	129-00-0	1.0	µg/L	<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	----
Chrysene	218-01-9	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	----
Benzo(b)fluoranthene	205-99-2	1.0	µg/L	<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	----
Benzo(a)pyrene	50-32-8	0.5	µg/L	<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	----
Dibenz(a,h)anthracene	53-70-3	1.0	µg/L	<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	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L	<0.5	<0.5	<0.5	<0.5	----
<b>EP080/071: Total Petroleum Hydrocarbons</b>								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	----
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	----
<b>EP080/071: Total Recoverable Hydrocarbons - NEPM 2013</b>								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	----
>C10 - C16 Fraction	>C10_C16	100	µg/L	<100	<100	<100	<100	----
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	----
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	----
<b>EP080: BTEXN</b>								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	----
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	----



## Analytical Results

Sub-Matrix: WATER (Matrix: WATER)

Client sample ID

Client sampling date / time

				LGMB1	LGMB2	LGMB3	LGMB4	----
				22-AUG-2013 12:35	22-AUG-2013 12:20	22-AUG-2013 14:50	22-AUG-2013 14:30	----
Compound	CAS Number	LOR	Unit	EW1302412-006	EW1302412-007	EW1302412-008	EW1302412-009	----
<b>EP080: BTEXN - Continued</b>								
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	----
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	----
^ Total Xylenes	1330-20-7	2	µg/L	<2	<2	<2	<2	----
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	----
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	----
<b>EP068S: Organochlorine Pesticide Surrogate</b>								
Dibromo-DDE	21655-73-2	0.1	%	70.4	68.6	60.7	67.0	----
<b>EP068T: Organophosphorus Pesticide Surrogate</b>								
DEF	78-48-8	0.1	%	83.5	78.3	73.4	81.3	----
<b>EP075(SIM)S: Phenolic Compound Surrogates</b>								
Phenol-d6	13127-88-3	0.1	%	26.7	32.0	29.9	26.1	----
2-Chlorophenol-D4	93951-73-6	0.1	%	54.4	62.3	62.5	57.9	----
2,4,6-Tribromophenol	118-79-6	0.1	%	59.2	67.5	60.9	67.3	----
<b>EP075(SIM)T: PAH Surrogates</b>								
2-Fluorobiphenyl	321-60-8	0.1	%	61.4	71.8	72.4	65.4	----
Anthracene-d10	1719-06-8	0.1	%	80.1	85.7	78.4	80.7	----
4-Terphenyl-d14	1718-51-0	0.1	%	81.4	79.9	72.4	77.8	----
<b>EP080S: TPH(V)/BTEX Surrogates</b>								
1,2-Dichloroethane-D4	17060-07-0	0.1	%	118	101	129	102	----
Toluene-D8	2037-26-5	0.1	%	104	98.8	98.9	106	----
4-Bromofluorobenzene	460-00-4	0.1	%	110	104	102	114	----



## Surrogate Control Limits

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
<b>EP068S: Organochlorine Pesticide Surrogate</b>			
Dibromo-DDE	21655-73-2	30	120
<b>EP068T: Organophosphorus Pesticide Surrogate</b>			
DEF	78-48-8	26.8	129
<b>EP075(SIM)S: Phenolic Compound Surrogates</b>			
Phenol-d6	13127-88-3	10.0	44
2-Chlorophenol-D4	93951-73-6	14	94
2,4,6-Tribromophenol	118-79-6	17	125
<b>EP075(SIM)T: PAH Surrogates</b>			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27.4	113
4-Terphenyl-d14	1718-51-0	32	112
<b>EP080S: TPH(V)/BTEX Surrogates</b>			
1,2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128