Carbon Based Environmental
Pty Limited
ABN 74 102 920 285

30 May 2014

Rocla Quarry Products
Rocla Calga Quarry
Mr Pat McCue
PO Box 36
GUILDFORD NSW 2161

Dear Pat,

Six Monthly Rocla Calga Quarry Major Cations and Dissolved Metals Environmental Monitoring Report – April 2014

Please find enclosed the six monthly detailed groundwater monitoring report for 24 groundwaters at the Rocla Calga site. This report contains the six monthly detailed water analysis for major cations and dissolved metals that is required by the Site Water Management Plan.

20 sites were able to be collected and analysed on the 2 April 2014, while 4 samples could not be collected. Groundwater site CP4 pump was out of service and MW10, MW13 and MW16 were inaccessible due to a bad track. Comparison of results between the 1 October 2013 and the 4 April 2014 shows little apparent change in water quality.

Please do not hesitate to contact me if further information is required.

Yours Faithfully

Colin Davies
Environmental Scientist / Company Director

Table 1: Comparison of analysis results between October 2013 and April 2014 sampling events.

Species	Units	CQ3	CQ4	CQ5	CQ6	CQ7	CQ8	CQ9	CQ10	CQ11S	CQ11D	CQ12	CQ13
pH Value	pH units	0.35	-0.04	0.14	0.30	0.02	0.35	0.25	-0.36	-0.02	-0.13	-0.09	-0.17
Electrical Conductivity @ 25°C	µS/cm	10	10	-16	-22	-13	-20	10	6	-5	-1	-4	0
Hydroxide Alkalinity as $CaCO_3$	ppm	0	0	0	0	0	0	0	0	0	0	0	0
Carbonate Alkalinity as $CaCO_3$	ppm	0	0	0	0	0	0	0	0	0	0	0	0
Bicarbonate Alkalinity as $CaCO_3$	ppm	5	-1	0	0	0	1	0	0	0	0	0	0
Total Alkalinity as $CaCO_3$	ppm	5	-1	0	0	0	1	0	0	0	0	0	0
Sulphate as SO_4^{2-}	ppm	0.0	1.0	0.0	-2.0	2.0	2.0	1.0	3.0	-2.0	0.0	-1.0	0.0
Chloride	ppm	3.0	3.0	-3.0	3.0	-2.0	-1.0	0.0	-2.0	2.0	2.0	6.0	2.0
Calcium	ppm	0	0	1	-1	0	0	0	0	0	0	0	0
Magnesium	ppm	0	0	-1	0	-1	-1	0	0	-1	0	-1	0
Sodium	ppm	2	2	-3	2	0	-1	1	-2	0	0	1	0
Potassium	ppm	1	0	-2	0	0	0	0	0	0	1	0	1
Aluminium	ppm	0.50	0.16	0.09	1.30	0.00	-0.02	0.46	1.01	-0.22	-0.02	0.09	-0.06
Arsenic	ppm	0	0	0	0	0	0	0	0	0	0	0	0
Cadmium	ppm	0	0	0	0.003	0	0	0	0	0	0	0	0
Chromium	ppm	0	0	0	-0.001	0	0	0	0.016	0	-0.003	0	0
Copper	ppm	0.002	0.003	0.009	0.009	0.001	0	0.006	0.026	-0.001	-0.001	0.003	0
Lead	ppm	-0.003	0.002	0.003	-0.001	0	0	0	0.001	0	0	0	0
Manganese	ppm	0.001	0.002	0.002	0.003	0	0	0.001	-0.002	-0.003	0.002	0.002	0
Nickel	ppm	0.071	0.055	0.087	0.077	0.016	0.005	0.041	-0.086	-0.018	-0.051	0.046	0
Selenium	ppm	0.22	0.014	0.016	0.001	0.004	0.002	0.012	0.009	0.003	-0.001	0.005	0
Zinc	ppm	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Boron	ppm	0	0	0	0	0	0	0	0	0	0	0	0
Iron	ppm	-1.00	0.14	0.29	0.47	0.00	0.01	0.11	0.77	0.07	-0.11	0.1	-0.03
Mercury	ppm	0	0	0	0	0	0	0	0	0	0	0	0
Fluoride	ppm	0	0	0	0	0	0	0	0	0	0	0	0
Nitrite as N	ppm	0	0	0	0.04	-0.09	0.01	0	0	0	0	0	0
Nitrate as N	ppm	-0.65	0.86	-0.13	0.90	0.13	-1	-0.97	0.4	0.19	0.05	0.36	1.10
Nitrite + Nitrate as N	ppm	-0.71	0.86	-0.13	1.00	0.13	-0.98	-0.97	0.4	0.19	0.05	0.37	1.10

Note: Results shown as below the limit of detection (<) have been taken as zero for the purposes of the comparison.

Table 1 continued.

Species	Units	CP3	CP4	CP5	CP6	CP7	CP8	MW7	MW8	MW9	MW10	MW13	MW16
pH Value	pH units	0.01		-0.07	0.43	0.45	-0.10	-0.12	-0.18	-0.09			
Electrical Conductivity @ 25°C	µS/cm	0		-2	-8	-53	-2	-4	6	-1			
Hydroxide Alkalinity as $CaCO_3$	ppm	0		0	0	0	0	0	0	0			
Carbonate Alkalinity as $CaCO_3$	ppm	0		0	0	0	0	0	0	0			
Bicarbonate Alkalinity as $CaCO_3$	ppm	0		0	0	2	0	0	0	0			
Total Alkalinity as $CaCO_3$	ppm	0		0	0	2	0	0	0	0			
Sulphate as SO_4^{2-}	ppm	1.0		0.0	-3.0	-2.0	0.0	0.0	1.0	1.0			
Chloride	ppm	1.0		0.0	2.0	-10.0	0.0	2.0	3.0	2.0			
Calcium	ppm	0		0	0	-3	0	0	0	0			
Magnesium	ppm	0		-1	2	-3	0	-1	-1	0			
Sodium	ppm	1		1	-2	-1	1	1	1	1			
Potassium	ppm	0		0	0	0	0	0	0	0			
Aluminium	ppm	-0.07		-0.02	0.28	-0.18	0.17	0.08	0.13	0.24			
Arsenic	ppm	0		0	0	0	0	0	0	0			
Cadmium	ppm	0		-0.0001	0	0	0	0	0	0			
Chromium	ppm	0		-0.001	0.005	0	0	0	0	0.001			
Copper	ppm	0.277		-0.038	-0.024	0.01	0.001	0.002	0.005	0			
Lead	ppm	0.002		-0.007	-0.007	0	0	0	0.001	0			
Manganese	ppm	0.011		-0.005	-0.001	0.001	0	0	0	-0.003			
Nickel	ppm	0.188		-0.474	-0.357	0.149	0.018	0.016	0.033	-0.013			
Selenium	ppm	0.007		0	-0.006	0.237	0.002	0.003	0.005	0.005			
Zinc	ppm	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Boron	ppm	0		0	0	0	0	0	0	0			
Iron	ppm	0.24		0.00	-0.04	-0.50	0.08	0.05	0.09	0.30			
Mercury	ppm	0		0	0	0	0	0	0	0			
Fluoride	ppm	0		0	0	0	0	0	0	0			
Nitrite as N	ppm	0		0	0	0	0	0	0	0			
Nitrate as N	ppm	0.35		2.30	1.59	-2.86	0.39	0.08	0.21	0.19			
Nitrite + Nitrate as N	ppm	0.35		2.30	1.59	-2.86	0.39	0.08	0.21	0.19			

Note: Results shown as below the limit of detection (<) have been taken as zero for the purposes of the comparison.

CARBON BASED ENVIRONMENTAL PTY LIMITED

Todays Collection	
Time Start:	9:00
Time Finish:	2:45

Date: 4.4.14

Client : Rocla Calga

Project :

GROUNDWATERS

Site	DEPTH	Odour	Water Turbidity	Water Colour	1 pH	1 EC	2 pH	2 EC	Bottles (Apr/Oct)	Downloaded Logger? (Y/N)
CQ3	10.08	NO	C S T	C LO O B G	7.56	235.7us	7.52	232.4us	1x 250ml GP, 1x 1L GP, 1RP	yes
CQ4	10.91	N	C S T	C LO O B G	5.90	139.7us	5.86	139.9us	1x 250ml GP, 1x 1L GP, 1RP	N
CQ5	7.30	N	C S T	C LO O B G	5.05	188.3us	5.08	187.4us	1x 250ml GP, 1x 1L GP, 1RP	
CQ6	10.62	Y	C S T	C LO O B G	5.21	211.7us	5.22	211.6us	~~1x 250ml GP, 1x 1L GP, 1RP~~	AUD
CQ7	6.00	N	C S T	C LO O B G	5.16	118.6us	5.18	118.2us	1x 250ml GP, 1x 1L GP, 1RP	
CQ8	5.66	NO	C S T	C LO O B G	5.27	146.3us	5.33	146.8us	1x 250ml GP, 1x 1L GP, 1RP	NO
CQ9	8.53	Y	C S T	C LO O B G	5.46	130.4us	5.51	130.6us	1x 250ml GP, 1x 1L GP, 1RP	
CQ10	23.78	N	C S T	C LO O B G	4.68	188.4uS	4.51	184.6uS	1x 250ml GP, 1x 1L GP, 1RP	NO
CQ11S	11.67	NO	C S T	C LO O B G	5.14	170.5us	5.10	171.2us	1x 250ml GP, 1x 1L GP, 1RP	Y
CQ11D	12.36	N	C S T	C LO O B G	5.17	176.6us	5.20	177.0us	1x 250ml GP, 1x 1L GP, 1RP	NO
CQ12	4.37	N	C S T	C LO O B G	4.96	150.8us	5.02	150.8us	1x 250ml GP, 1x 1L GP, 1RP	Y
CQ13	14.19	NO	C S T	C LO O B G	4.48	239.7us	4.52	241.6us	1x 250ml GP, 1x 1L GP, 1RP	NO
CP3	9.63	N	C S T	C LO O B G	5.30	165.7us	5.41	165.4us	1x 250ml GP, 1x 1L GP, 1RP	
CP4	11.40		~~C S T~~	~~C LO O B G~~					~~1x 250ml GP, 1x 1L GP, 1RP~~	Pump Not Working
CP5	8.92	NO	C S T	C LO O B G	4.92	245.9us	4.93	245.8us	1x 250ml GP, 1x 1L GP, 1RP	
CP6	10.95	NO	C S T	C LO O B G	4.81	197.7us	4.81	198.1us	1x 250ml GP, 1x 1L GP, 1RP	
CP7	2.46	NO	C S T	C LO O B G	5.55	136.5us	5.66	136.0us	1x 250ml GP, 1x 1L GP, 1RP	
CP8	11.62	N	C S T	C LO O B G	5.24	152.8us	5.21	153.6us	1x 250ml GP, 1x 1L GP, 1RP	
MW7	15.43	NO	C S T	C LO O B G	4.69	124.1us	4.64	124.2us	1x 250ml GP, 1x 1L GP, 1RP	yes
MW8	7.87	NO	C S T	C LO O B G	4.69	96.7us	4.72	96.4us	1x 250ml GP, 1x 1L GP, 1RP	yes
MW9	22.61	NO	C S T	C LO O B G	4.77	97.7us	4.75	105.6us	1x 250ml GP, 1x 1L GP, 1RP	yes
MW10			~~C S T~~	~~C LO O B G~~					~~1x 250ml GP, 1x 1L GP, 1RP~~	NO ACCESS
MW13			~~C S T~~	~~C LO O B G~~					~~1x 250ml GP, 1x 1L GP, 1RP~~	
MW16			~~C S T~~	~~C LO O B G~~					~~1x 250ml GP, 1x 1L GP, 1RP~~	

Turbidity: C=Clear, S= Slight, T=Turbid (CIRCLE)

Colour: C=Clear, LO=Light Orange, O=Orange, B=Brown, G=Green (CIRCLE)

pH/EC meter #: 6

Signed: L Kig

Sampled by: HAMISH & LEESA

CHAIN OF CUSTODY DOCUMENTATION

Australian Laboratory Services Pty Ltd

CLIENT: Carbon Based Environmental Pty Ltd
POSTAL ADDRESS: 47 Boomerang St CESSNOCK NSW 2325
SEND REPORT TO: Colin Davies, Renae Mikka SEND INVOICE TO: Carbon Based Environmental
DATA NEEDED BY: 7 working days REPORT NEEDED BY: 7 working days
PROJECT ID: Rocla G Waters QUOTE NO.: SY 428/12
P.O. NO.: COMMENTS/SPECIAL HANDLING/STORAGE OR DIPOSAL:
also email results to cbased1@bigpond.com
Total unless specified

FOR LAB USE ONLY
COOLER SEAL
Yes ..... No .....
Broken ..... Intact ....
COOLER TEMP: deg.C

LABORATORY BATCH NO.:
SAMPLERS: Carbon Based Environmental Pty Ltd
PHONE: 0439604443 FAX: 0249904442 E-MAIL: cbased@bigpond.com, cbased1@bigpond.com
REPORT FORMAT: HARD: Yes FAX: DISK: BULLETIN BOARD: E-MAIL: Yes
QC LEVEL: QCS1: QCS2: QCS3: Yes QCS4:

ANALYSIS REQUIRED

SAMPLE DATA				CONTAINER DATA		pH	EC	Ca, Mg, K, Na	Alkalinity	Sulfate	Chloride	Fluoride	Nitrate	Al, As, B, Cd	Cr, Cu, Fe, Hg	Mn, Ni, Pb, Se, Zn	NOTES
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	NO.												
CQ3	Water	4.4.14		2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ4	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ5	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ6	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ7	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ8	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ9	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ10	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ11s	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ11d	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ12	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CQ13	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CP3	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
~~CP4~~	~~Water~~			~~2xGP, 1xRP~~		~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	
CP5	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CP6	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CP7	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
CP8	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
MW7	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
MW8	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
MW9	Water			2xGP, 1xRP		x	x	x	x	x	x	x	x	x	x	x	
~~MW10~~	~~Water~~			~~2xGP, 1xRP~~		~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	
~~MW13~~	~~Water~~			~~2xGP, 1xRP~~		~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	
~~MW16~~	~~Water~~			~~2xGP, 1xRP~~		~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	

Environmental Division
Sydney
Work Order
ES1407466
Telephone : +61-2-8784 8555

RELINQUISHED BY:		RECEIVED BY	
NAME : Colin Davies	DATE: 4-4-14	NAME : CL	DATE: 4.4.14
OF: Carbon Based Environmental	TIME: 4-30	OF: ALS	TIME: 16.30
NAME :	DATE:	NAME :	DATE:
OF:	TIME:	OF:	TIME:

METHOD OF SHIPMENT
CONSIGNMENT NOTE NO.
TRANSPORT CO. NAME.

*Container Type and Preservative Codes: P = Neutral Plastic; N = Nitric Acid Preserved; C = Sodium Hydroxide Preserved; J = Solvent Washed Acid Rinced Jar; S = Solvent Washed Acid Rinced Glass Bottle; VC = Hydrochloric Acid Preserved Vial; VS = Sulfuric Acid Preserved Vial; BS = Sulfuric Acid Preserved Glass Bottle; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; O = Other.

AUSTRALIAN LABORATORY SERVICES P/L

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1407466**	Page	: 1 of 10
Client	: **CARBON BASED ENVIRONMENTAL**	Laboratory	: Environmental Division Sydney
Contact	: MR COLIN DAVIES (cbased)	Contact	: Client Services
Address	: 47 BOOMERANG ST CESSNOCK NSW, AUSTRALIA 2325	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: cbased@bigpond.com	E-mail	: sydney@alsglobal.com
Telephone	: +61 49904443	Telephone	: +61-2-8784 8555
Facsimile	: +61 02 49904442	Facsimile	: +61-2-8784 8500
Project	: ROCIA G WATERS	QC Level	: NEPM 2013 Schedule B(3) and ALS QCS3 requirement
Order number	: ----		
C-O-C number	: ----	Date Samples Received	: 04-APR-2014
Sampler	: CBE	Issue Date	: 11-APR-2014
Site	: ----		
		No. of samples received	: 21
Quote number	: SY/428/12	No. of samples analysed	: 20

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

NATA

WORLD RECOGNISED ACCREDITATION

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
Merrin Avery	Supervisor - Inorganic	Newcastle - Inorganics
Shobhna Chandra	Metals Coordinator	Sydney Inorganics

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

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	CQ3	CQ4	CQ5	CQ6	CQ7
			Client sampling date / time	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]
Compound	CAS Number	LOR	Unit	ES1407466-001	ES1407466-002	ES1407466-003	ES1407466-004	ES1407466-005
EA005: pH								
pH Value	----	0.01	pH Unit	6.41	5.26	4.71	5.05	5.01
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	128	116	184	204	103
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	26	<1	<1	<1	<1
Total Alkalinity as CaCO3	----	1	mg/L	26	<1	<1	<1	<1
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	7	25	6	3
ED045G: Chloride Discrete analyser								
Chloride	16887-00-6	1	mg/L	27	28	29	26	26
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	2	<1	2	2	<1
Magnesium	7439-95-4	1	mg/L	4	1	5	11	1
Sodium	7440-23-5	1	mg/L	15	19	17	14	15
Potassium	7440-09-7	1	mg/L	2	<1	1	1	<1
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	0.64	0.47	1.90	2.56	0.19
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	0.0004	<0.0001
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L	0.007	0.007	0.010	0.012	0.002
Nickel	7440-02-0	0.001	mg/L	0.011	0.005	0.004	0.001	<0.001
Lead	7439-92-1	0.001	mg/L	0.003	0.004	0.003	0.004	<0.001
Zinc	7440-66-6	0.005	mg/L	0.103	0.119	0.111	0.134	0.022
Manganese	7439-96-5	0.001	mg/L	1.69	0.020	0.021	0.009	0.005
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	7439-89-6	0.05	mg/L	16.5	0.37	0.45	0.59	<0.05
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK040P: Fluoride by PC Titrator								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	CQ3	CQ4	CQ5	CQ6	CQ7
			Client sampling date / time	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]
Compound	CAS Number	LOR	Unit	ES1407466-001	ES1407466-002	ES1407466-003	ES1407466-004	ES1407466-005
EK040P: Fluoride by PC Titrator - Continued								
Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	<0.01	<0.01	<0.01	0.07	<0.01
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	0.01	1.74	2.45	13.9	1.71
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.01	1.74	2.45	14.0	1.71
EN055: Ionic Balance								
Total Anions	----	0.01	meq/L	1.28	0.94	1.34	----	0.80
Total Anions	----	0.01	meq/L	----	----	----	1.85	----
Total Cations	----	0.01	meq/L	1.13	0.91	1.28	1.64	0.73

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	CQ8	CQ9	CQ10	CQ11S	CQ11D
			Client sampling date / time	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]
Compound	CAS Number	LOR	Unit	ES1407466-006	ES1407466-007	ES1407466-008	ES1407466-009	ES1407466-010
EA005: pH								
pH Value	----	0.01	pH Unit	5.18	5.20	4.60	4.97	4.82
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	136	131	188	163	168
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	2	<1	<1	<1	<1
Total Alkalinity as CaCO3	----	1	mg/L	2	<1	<1	<1	<1
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	6	3	34	32	38
ED045G: Chloride Discrete analyser								
Chloride	16887-00-6	1	mg/L	24	32	29	27	25
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	<1	<1	3	<1	<1
Magnesium	7439-95-4	1	mg/L	4	2	4	4	5
Sodium	7440-23-5	1	mg/L	17	18	19	20	20
Potassium	7440-09-7	1	mg/L	<1	1	<1	4	2
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	0.54	0.70	2.62	0.77	1.56
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.017	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L	0.003	0.007	0.040	0.004	0.001
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.005	0.002	0.002
Lead	7439-92-1	0.001	mg/L	<0.001	0.002	0.004	0.005	0.008
Zinc	7440-66-6	0.005	mg/L	0.027	0.059	0.051	0.096	0.148
Manganese	7439-96-5	0.001	mg/L	0.004	0.015	0.040	0.018	0.014
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	7439-89-6	0.05	mg/L	0.07	0.14	0.90	0.27	0.11
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK040P: Fluoride by PC Titrator								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	CQ8	CQ9	CQ10	CQ11S	CQ11D
			Client sampling date / time	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]
Compound	CAS Number	LOR	Unit	ES1407466-006	ES1407466-007	ES1407466-008	ES1407466-009	ES1407466-010
EK040P: Fluoride by PC Titrator - Continued								
Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	0.01	mg/L	0.02	<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	6.12	0.01	0.95	0.26	0.06
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	6.14	0.01	0.95	0.26	0.06
EN055: Ionic Balance								
Total Anions	----	0.01	meq/L	----	0.97	1.53	1.43	1.50
Total Anions	----	0.01	meq/L	1.27	----	----	----	----
Total Cations	----	0.01	meq/L	1.07	0.97	1.31	1.30	1.33

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	CQ12	CQ13	CP3	CP5	CP6
			Client sampling date / time	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]
Compound	CAS Number	LOR	Unit	ES1407466-011	ES1407466-012	ES1407466-013	ES1407466-014	ES1407466-015
EA005: pH								
pH Value	----	0.01	pH Unit	4.72	4.60	5.04	4.68	4.63
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	142	240	154	247	188
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	<1	<1	<1	<1	<1
Total Alkalinity as CaCO3	----	1	mg/L	<1	<1	<1	<1	<1
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	25	1	18	1	6
ED045G: Chloride Discrete analyser								
Chloride	16887-00-6	1	mg/L	24	41	28	25	30
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	<1	<1	<1	1	<1
Magnesium	7439-95-4	1	mg/L	5	8	3	15	8
Sodium	7440-23-5	1	mg/L	13	27	24	14	18
Potassium	7440-09-7	1	mg/L	<1	2	1	2	<1
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	1.06	1.08	0.38	0.84	1.04
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	0.006
Copper	7440-50-8	0.001	mg/L	0.004	0.002	0.540	0.016	0.014
Nickel	7440-02-0	0.001	mg/L	0.001	<0.001	0.003	0.002	0.001
Lead	7439-92-1	0.001	mg/L	0.003	0.003	0.026	0.002	0.003
Zinc	7440-66-6	0.005	mg/L	0.056	0.024	0.266	0.110	0.062
Manganese	7439-96-5	0.001	mg/L	0.007	0.003	0.010	0.002	0.005
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	7439-89-6	0.05	mg/L	0.15	<0.05	0.70	<0.05	<0.05
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK040P: Fluoride by PC Titrator								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	CQ12	CQ13	CP3	CP5	CP6
			Client sampling date / time	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]
Compound	CAS Number	LOR	Unit	ES1407466-011	ES1407466-012	ES1407466-013	ES1407466-014	ES1407466-015
EK040P: Fluoride by PC Titrator - Continued								
Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	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	0.93	12.6	2.82	21.2	9.77
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	0.94	12.6	2.82	21.2	9.77
EN055: Ionic Balance								
Total Anions	----	0.01	meq/L	1.20	----	1.16	----	----
Total Anions	----	0.01	meq/L	----	2.08	----	2.23	1.69
Total Cations	----	0.01	meq/L	0.98	1.88	1.32	----	----
Total Cations	----	0.01	meq/L	----	----	----	2.02	1.49

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	CP7	CP8	MW7	MW8	MW9
			Client sampling date / time	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]
Compound	CAS Number	LOR	Unit	ES1407466-016	ES1407466-017	ES1407466-018	ES1407466-019	ES1407466-020
EA005: pH								
pH Value	----	0.01	pH Unit	5.49	4.68	4.75	4.91	4.92
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	124	154	120	92	96
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	2	<1	<1	<1	<1
Total Alkalinity as CaCO3	----	1	mg/L	2	<1	<1	<1	<1
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	24	6	3	5	3
ED045G: Chloride Discrete analyser								
Chloride	16887-00-6	1	mg/L	7	35	33	25	28
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	5	<1	<1	<1	<1
Magnesium	7439-95-4	1	mg/L	3	3	1	1	1
Sodium	7440-23-5	1	mg/L	7	22	18	13	14
Potassium	7440-09-7	1	mg/L	9	<1	<1	<1	<1
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	0.20	0.74	0.36	0.33	0.47
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
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	0.011	0.002	0.003	0.006	0.004
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.001	0.002	0.002
Lead	7439-92-1	0.001	mg/L	0.002	0.001	0.001	0.001	0.002
Zinc	7440-66-6	0.005	mg/L	0.177	0.024	0.028	0.066	0.043
Manganese	7439-96-5	0.001	mg/L	0.257	0.004	0.008	0.009	0.012
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Iron	7439-89-6	0.05	mg/L	2.52	0.13	0.11	0.14	0.36
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK040P: Fluoride by PC Titrator								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	CP7	CP8	MW7	MW8	MW9
			Client sampling date / time	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]	[04-APR-2014]
Compound	CAS Number	LOR	Unit	ES1407466-016	ES1407466-017	ES1407466-018	ES1407466-019	ES1407466-020
EK040P: Fluoride by PC Titrator - Continued								
Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	----	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	2.92	2.28	0.16	0.31	0.41
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	2.92	2.28	0.16	0.31	0.41
EN055: Ionic Balance								
Total Anions	----	0.01	meq/L	----	1.11	0.99	0.81	0.85
Total Anions	----	0.01	meq/L	0.95	----	----	----	----
Total Cations	----	0.01	meq/L	1.03	1.20	0.87	0.65	0.69