



CERTIFICATE OF ANALYSIS

Client	: CLP POWER HONG KONG LTD	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR FRANCIS CHUNG	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1124358
Address	: EC PROJECT CASTLE PEAK POWER STATION, 1 LUNG YIU STREET, TUEN MUN, N.T., HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: francisc@clp.com.hk	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2678 5506	Telephone	: +852 2610 1044	Date Samples Received	: 13-OCT-2011
Facsimile	: +852 2678 5473	Facsimile	: +852 2610 2021	Issue Date	: 25-OCT-2011
Project	: RBRG TEST FOR PFA	Quote number	: ----	No. of samples received	: 5
Order number	: 4500706507			No. of samples analysed	: 5
C-O-C number	: ----				
Site	: ----				

General Comments

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. 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. The completion date of analysis is: 25-OCT-2011

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific comments for Work Order: **HK1124358**

Sample(s) were picked up from client by ALS Technichem (HK) staff in an ambient condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories

Position

Authorised results for

Fung Lim Chee, Richard

General Manager

Inorganics

ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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Analytical Results

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

				11016749	11016750	11016751	11016752	11016753
				[11-OCT-2011]	[11-OCT-2011]	[11-OCT-2011]	[11-OCT-2011]	[11-OCT-2011]
Compound	CAS Number	LOR	Unit	HK1124358-001	HK1124358-002	HK1124358-003	HK1124358-004	HK1124358-005
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	----	0.1	%	<0.1	<0.1	<0.1	<0.1	0.2
EG: Metals and Major Cations								
EG020: Antimony	7440-36-0	1	mg/kg	2	1	<1	<1	1
EG020: Arsenic	7440-38-2	1	mg/kg	50	44	44	30	41
EG020: Barium	7440-39-3	1	mg/kg	1540	1400	1530	1890	1820
EG020: Cadmium	7440-43-9	0.2	mg/kg	0.5	0.3	<0.2	<0.2	0.2
EG020: Cobalt	7440-48-4	1	mg/kg	77	36	28	45	46
EG020: Copper	7440-50-8	1	mg/kg	664	337	103	226	282
EG020: Lead	7439-92-1	1	mg/kg	44	29	15	23	30
EG020: Manganese	7439-96-5	1	mg/kg	1220	499	510	759	370
EG020: Molybdenum	7439-98-7	1	mg/kg	8	9	8	6	24
EG020: Nickel	7440-02-0	1	mg/kg	114	186	62	73	75
EG020: Tin	7440-31-5	1	mg/kg	32	23	7	15	16
EG020: Zinc	7440-66-6	1	mg/kg	222	128	82	86	86
EG036: Mercury	7439-97-6	0.2	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
EG049: Trivalent Chromium	16065-83-1	1	mg/kg	56	70	61	56	77
EG3060: Hexavalent Chromium	18540-29-9	1	mg/kg	15	12	5	8	13



Laboratory Duplicate (DUP) Report

Matrix: SOIL				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 2003792)								
HK1124337-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	----	0.1	%	32.5	32.1	1.2
EG: Metals and Major Cations (QC Lot: 2003819)								
HK1124296-003	Anonymous	EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.0
		EG020: Antimony	7440-36-0	1	mg/kg	<1	<1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	9	10	12.5
		EG020: Barium	7440-39-3	1	mg/kg	165	159	3.5
		EG020: Cobalt	7440-48-4	1	mg/kg	6	6	0.0
		EG020: Copper	7440-50-8	1	mg/kg	25	26	5.0
		EG020: Lead	7439-92-1	1	mg/kg	121	137	12.2
		EG020: Manganese	7439-96-5	1	mg/kg	360	395	9.3
		EG020: Molybdenum	7439-98-7	1	mg/kg	3	3	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	13	12	0.0
		EG020: Tin	7440-31-5	1	mg/kg	7	6	0.0
		EG020: Zinc	7440-66-6	1	mg/kg	78	87	11.6
HK1124358-004	11016752	EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	<0.2	0.0
		EG020: Antimony	7440-36-0	1	mg/kg	<1	1	0.0
		EG020: Arsenic	7440-38-2	1	mg/kg	30	31	0.0
		EG020: Barium	7440-39-3	1	mg/kg	1890	1920	1.8
		EG020: Cobalt	7440-48-4	1	mg/kg	45	47	4.2
		EG020: Copper	7440-50-8	1	mg/kg	226	231	2.5
		EG020: Lead	7439-92-1	1	mg/kg	23	23	0.0
		EG020: Manganese	7439-96-5	1	mg/kg	759	774	2.0
		EG020: Molybdenum	7439-98-7	1	mg/kg	6	6	0.0
		EG020: Nickel	7440-02-0	1	mg/kg	73	77	5.2
		EG020: Tin	7440-31-5	1	mg/kg	15	15	0.0
		EG020: Zinc	7440-66-6	1	mg/kg	86	93	7.9
EG: Metals and Major Cations (QC Lot: 2003822)								
HK1124358-001	11016749	EG3060: Hexavalent Chromium	18540-29-9	1	mg/kg	15	16	0.0
EG: Metals and Major Cations (QC Lot: 2003827)								
HK1124296-003	Anonymous	EG036: Mercury	7439-97-6	0.2	mg/kg	0.7	0.8	19.0

Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report

Matrix: SOIL					Method Blank (MB) Report							Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)						
						LCS	DCS	Low	High	Value	Control Limit					
EG: Metals and Major Cations (QC Lot: 2003819)																
EG020: Antimony	7440-36-0	1	mg/kg	<1	5 mg/kg	94.5	----	85	115	----	----					
EG020: Arsenic	7440-38-2	1	mg/kg	<1	5 mg/kg	93.5	----	85	115	----	----					
EG020: Barium	7440-39-3	1	mg/kg	<1	5 mg/kg	110	----	85	115	----	----					



Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2003819) - Continued											
EG020: Cadmium	7440-43-9	0.2	mg/kg	<0.2	5 mg/kg	100	----	85	115	----	----
EG020: Cobalt	7440-48-4	1	mg/kg	<1	5 mg/kg	104	----	85	115	----	----
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	96.5	----	85	115	----	----
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	97.7	----	85	115	----	----
EG020: Manganese	7439-96-5	1	mg/kg	<1	5 mg/kg	111	----	85	115	----	----
EG020: Molybdenum	7439-98-7	1	mg/kg	<1	5 mg/kg	99.1	----	85	115	----	----
EG020: Nickel	7440-02-0	1	mg/kg	<1	5 mg/kg	102	----	85	115	----	----
EG020: Tin	7440-31-5	1	mg/kg	<1	5 mg/kg	98.2	----	85	115	----	----
EG020: Zinc	7440-66-6	1	mg/kg	<1	5 mg/kg	107	----	85	115	----	----
EG: Metals and Major Cations (QC Lot: 2003822)											
EG3060: Hexavalent Chromium	18540-29-9	0.5	mg/kg	<0.5	40 mg/kg	109	----	85	115	----	----
EG: Metals and Major Cations (QC Lot: 2003827)											
EG036: Mercury	7439-97-6	0.02	mg/kg	<0.02	0.1 mg/kg	98.0	----	85	115	----	----

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
					MS	MSD	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 2003819)										
HK1124296-002	Anonymous	EG020: Antimony	7440-36-0	5 mg/kg	98.2	----	75	125	----	----
		EG020: Arsenic	7440-38-2	5 mg/kg	91.7	----	75	125	----	----
		EG020: Barium	7440-39-3	5 mg/kg	93.8	----	75	125	----	----
		EG020: Cadmium	7440-43-9	5 mg/kg	102	----	75	125	----	----
		EG020: Cobalt	7440-48-4	5 mg/kg	104	----	75	125	----	----
		EG020: Copper	7440-50-8	5 mg/kg	76.0	----	75	125	----	----
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	----	75	125	----	----
		EG020: Manganese	7439-96-5	5 mg/kg	# Not Determined	----	75	125	----	----
		EG020: Molybdenum	7439-98-7	5 mg/kg	102	----	75	125	----	----
		EG020: Nickel	7440-02-0	5 mg/kg	96.2	----	75	125	----	----
		EG020: Tin	7440-31-5	5 mg/kg	88.4	----	75	125	----	----
		EG020: Zinc	7440-66-6	5 mg/kg	# Not Determined	----	75	125	----	----
EG: Metals and Major Cations (QC Lot: 2003822)										
HK1124299-001	Anonymous	EG3060: Hexavalent Chromium	18540-29-9	40 mg/kg	112	----	75	125	----	----
EG: Metals and Major Cations (QC Lot: 2003827)										
HK1124296-002	Anonymous	EG036: Mercury	7439-97-6	0.1 mg/kg	97.0	----	75	125	----	----

